

**Using Lesson Study to Develop Professional Teaching Knowledge for Problem-based
Historical Inquiry Among 4th Grade Social Studies Teachers**

by

James B. Howell

A dissertation submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Doctor of Philosophy

Auburn, Alabama
August 2, 2014

Keywords: problem-based historical inquiry, professional teaching knowledge, professional development, lesson study, elementary teacher, social studies

Copyright 2014 by James Benjamin Howell

Approved by

John Saye, Chair, Professor of Social Science Education
Jada Kohlmeier, Associate Professor of Social Science Education
Theresa McCormick, Associate Professor of Elementary Education
Tiffany Sippial, Associate Professor of History

Abstract

This study explored the use of scaffolded lesson study to develop professional teaching knowledge for problem-based historical inquiry (PBHI). Using mixed methods including extensive classroom observations, the study examined six 4th grade social studies teachers' adoption of problem-based historical inquiry in their classroom teaching following three years of lesson study professional development. Findings suggest lesson study can be used to facilitate the development of professional teaching knowledge for PBHI among elementary teachers though transfer of that knowledge to typical classroom teaching outside of lesson study is fraught with challenges. Findings also suggest that lesson study can contribute to the development of a shared professional knowledge culture that might aid elementary teachers in resisting the marginalization of social studies. The study revealed that lesson study holds promise for helping elementary social studies teachers work through the cultural obstacles they confront when trying to use innovative pedagogy in their classrooms.

Acknowledgements

It goes without saying that a project of this magnitude could not have been completed without the assistance of so many kind souls. First and foremost, I wish to thank the 4th grade social studies teachers who were the focus of this study. You graciously allowed me into your classrooms and willingly shared your hearts. You all inspired me.

I want to thank the members of my doctoral committee: Dr. Tiffany Sippial, Dr. Theresa McCormick, Dr. Jada Kohlmeier, and Dr. John Saye. Thank you Dr. Sippial for modeling outstanding history teaching and for your kindness at every step. Thank you Dr. McCormick for your warmth and sincerity and for sharing your insights about elementary social studies teaching. Thank you Dr. Kohlmeier for your friendship including the countless times you counseled me through challenging circumstances. To Dr. John Saye, my committee chair and major professor - I count it as a great blessing to have spent nearly ten years working at your side from my days on the PCTL project in undergrad through my time as a doctoral candidate. Your pursuit of excellence in every endeavor will always be my model and your intellect and integrity are unmatched.

On a personal note, I wish to thank my church family and especially my pastor, Eric Taylor. Thank you for being there at my brightest and darkest moments and for constantly reminding me of what truly matters in this life. Eric, your imprint on my life is unmistakable. To my 9th and 11th grade English teacher Ms. Elizabeth Irvine – thank you for teaching a prideful young man how to write and accept criticism. To my first-year brother-in-arms –

Brandon Thomas – thank you for always listening and for the frequent kicks in the tail. To my Mom and Dad – thank you for modeling love as verb and not as a noun. To my children, Loree and Mason – I pray you pursue your dreams with reckless abandon without losing sight of all those who are hurting in this world.

Finally, I dedicate this work to my wife, Bethany. Life threw us curve balls during my graduate school experience but we emerged more in love than ever. Your friendship, encouragement, patience, and love sustained me. Marrying you will always be my greatest achievement.

Table of Contents

Abstract.....	ii
Acknowledgements	iii
List of Tables	vii
Chapter One: Introduction	1
Statement of Problem.....	1
Study Overview	4
Definitions.....	6
Anticipated Limitations	10
Chapter Two: Literature Review	12
The Purposes of Social Studies.....	12
Professional Teaching Knowledge	13
Problem-based Historical Inquiry (PBHI) and Its Obstacles.....	16
Additional Factors Influencing Teachers’ Adoption of PBHI.....	20
Professional Development	35
Elementary Teaching and Teachers.....	48
Completed Research Studies.....	59
Importance of Study.....	60
Chapter Three: Methodology	62
Introduction.....	62
Research Questions.....	62
Design of Study.....	63
Schools Systems and Schools.....	70
Participants.....	74
Settings.....	80
Data Sources	81
Procedures.....	89
Data Analysis	91
Trustworthiness.....	93
Chapter Four: Similarities and Trends	101
Entering Conceptions of PBHI	102
Individual teacher profiles	104
Planning, Implementing and Revising Lessons.....	107
Lesson study context.....	107
The lesson study cycles.....	110
<i>Epistemology</i>	111

<i>Functions of history</i>	118
<i>Beliefs about students</i>	123
<i>Risk taking</i>	128
<i>Professional knowledge culture</i>	131
Teacher-selected Comparison Lessons	139
Comparing 4 th Grade Teachers to All PFG Teachers	141
Summary	144
Chapter Five: Individual Variations.....	145
Teacher demonstrating limited growth: Camille.	145
Teacher demonstrating moderate growth: Olivia.	167
Teacher demonstrating substantial growth: Paige.	188
Summary	207
Chapter Six: Summary, Limitations, and Implications	209
Introduction.....	209
Summary	209
Discussion.....	212
Alternative Explanations.....	224
Limitations	225
Implications and Areas for Further Study.....	227
Conclusion	229
References.....	230
Appendices.....	245
Appendix 1: Planning Scaffolds	246
Appendix 2: Observation and Debriefing Scaffolds.....	256
Appendix 3: AIW Scoring Criteria for Social Science Instruction.....	260
Appendix 4: AIW Scoring Criteria for Social Science Tasks.....	262
Appendix 5: School System Profiles	264
Appendix 6: 4 th Grade Interview Guide.....	265
Appendix 7: Field Report Examples.....	266

List of Tables

Table 1: <i>Summary of Studies Engaging Students in Inquiry</i>	54
Table 2: <i>School Demographics</i>	73
Table 3: <i>4th Grade Teacher Demographics and Professional Training</i>	76
Table 4: <i>Summary of Inter-Rater Reliability Observations</i>	84
Table 5: <i>Research Questions and Data Sources</i>	89
Table 6: <i>Summary of Procedures</i>	90
Table 7: <i>Baseline Observation AIW Instruction Scores</i>	103
Table 8: <i>Year 1 and Year 3 PIH Unit Frames</i>	109
Table 9: <i>Overview of Research Lessons</i>	110
Table 10: <i>Authentic Instruction Scores</i>	141
Table 11: <i>Year 1 and 3 Pre / Post Content Test Scores</i>	142
Table 12: <i>Year 1 Teacher-selected & Research Lesson AIW Mean Instruction Scores</i>	144
Table 13: <i>Camille’s Authentic Instruction Scores – Years 1 and 3</i>	165
Table 14: <i>Olivia’s Authentic Instruction Scores – Years 1 and 3</i>	185
Table 15: <i>Paige’s Authentic Instruction Scores – Years 1 and 3</i>	204

Chapter One: Introduction

Statement of Problem

Almost immediately upon entering graduate school as a master's student in fall 2006, I had the privilege of working along-side my major professor on a new lesson study professional development project that emerged out of his previous work mentoring history teachers to use problem-based historical inquiry in their classrooms (Saye, Kohlmeier, Brush, Mitchell, & Farmer, 2009a). For three years, I worked with historians, teacher educators, and a group of secondary history teachers to develop, implement, and improve innovative lessons that pushed students to think critically and ethically about social issues in their history classes. By fall 2008, I assumed responsibility for supervising undergraduate social studies interns. As a supervisor, my primary role was to mentor novice teachers as they attempted to implement and reflect upon complex problem-based inquiry instruction. As a result, a synergy often emerged between my work as an internship supervisor and my work within the lesson study professional development project. I found mentoring and collaborating with in-service and pre-service teachers seeking to implement problem-based inquiry immensely invigorating and fulfilling.

Numerous observations of social studies teachers trying to implement problem-based pedagogy quickly revealed the many obstacles confronted by them. I knew from the research that many prominent civic educators advocated the examination of social issues as a way to engage disinterested social studies students because it helped students develop decision-making and reasoning skills needed for effective citizenship (Evans, Newmann, & Saxe, 1996; Oliver, Newmann, & Singleton, 1992; Parker, Mueller, & Wendling, 1989; Saye & Brush, 2004a). I

also knew from the literature, as well as my experience as a classroom teacher and internship supervisor, that the adoption of problem-based historical inquiry was extremely challenging and rare (Saye & Social Studies Inquiry Research Collaborative, 2013; Shaver, 1996; Swan, Hoffer, & Locascio, 2008). I was therefore frequently confronted with a disconnect between what the literature reported was possible in social studies classrooms and what I saw actually taking place in the classrooms I observed. A desire to address this problem became a point of intrigue for me as I began considering dissertation topics.

In the third and final year of the initial lesson study professional development project, we began to see growth in the participating teachers' ability to overcome obstacles in order to implement problem-based historical inquiry effectively. We saw some teachers become more capable of handling the cognitive demands associated with implementing problem-based historical inquiry. We heard at least a few teachers begin using a common vocabulary to discuss lesson implementations and revisions. We watched a few teachers recognize and pursue a civic competence mission in their social studies teaching. All of these changes gave me hope that it was possible to help teachers implement problem-based historical inquiry in spite of the many obstacles.

Our positive impact was made even more apparent when, at the very end of our lesson study partnership, participating teachers directly appealed to us, their school administrators, and their district administrators for additional funding that might allow us to continue the lesson study professional development collaboration. When additional funds were not provided and the project officially ended, our research team considered whether we might achieve similar positive results with a different group of teachers, perhaps teachers in higher needs districts with higher concentrations of impoverished and minority students. I knew from the literature and from my

experiences with lesson study that improving social studies education broadly and history instruction specifically very often depended on multiple years of professional development and that any effort to reach a new population of teachers and students would require a sustained commitment. The opportunity to continue testing the lesson study professional development model came sooner than expected when my major professor and many other partners secured a three-year Teaching American History grant from the U.S. Department of Education. Our Teaching American History professional development project was entitled *Plowing Freedom's Ground*. The title, chosen by my major professor, comes from a quote by Frederick Douglass: "If there is no struggle, there is no progress. Those who profess to favor freedom, and yet deprecate agitation are men who want crops without plowing the ground." We wanted to engage with a new group of teachers in the struggle to improve social studies instruction.

With the exception of the work that emerged out of the prior lesson study project (Saye et al., 2009a), little research was available to guide our efforts in using lesson study professional development to help this new group of teachers develop professional teaching knowledge for problem-based historical inquiry. I decided to focus my dissertation research on one stable group of participants within the new Teaching American History professional development project - a large cohort of elementary State History teachers. I knew from informal conversations with local elementary educators and university faculty that social studies was being marginalized at the elementary level. Although all of my prior research experience was with secondary, in-service teachers, I immediately recognized that the results of my dissertation study might be important for the field because they could be among the first to document efforts to develop professional teaching knowledge for problem-based historical inquiry among a group of elementary history teachers.

Study Overview

This study was an evaluative project under the umbrella of the larger *Plowing Freedom's Ground* professional development project. Using a mixed methods approach, I examined the effects of the larger project on one subgroup of participants - six 4th grade teachers who taught State History. I examined data collected for the larger *Plowing Freedom's Ground Project* as well as substantial data collected to address my own research questions. For this 4th grade subgroup, I considered variations in the teachers' interpretation and adoption of a professional teaching knowledge and culture for problem-based historical inquiry and made initial comparisons to secondary participants in the PFG Project.

Research Questions. This study sought to evaluate how one particular model for professional development known as lesson study impacted one group of 4th grade teachers' understanding of problem-based historical inquiry and how that understanding or lack thereof contributed to the development of a professional knowledge culture. Newmann's (2007) standards for authentic pedagogy, which are theoretically linked with problem-based historical inquiry, underpinned the professional development program I studied. As a result, authentic pedagogy and its potential relationship to the development of professional teaching knowledge for problem-based historical inquiry are central to the research questions posed. Specifically, I ask:

1. How do 4th grade teachers interpret a holistic, research-based framework for problem-based historical inquiry (PBHI) designed to increase professional teaching knowledge?
2. Does lesson study facilitate the development of a shared professional knowledge culture among 4th grade elementary teachers?
3. Do 4th grade teachers who exhibit greater understanding of PBHI demonstrate greater

growth in professional teaching knowledge and higher levels of authentic pedagogy over time?

4. How do levels of content knowledge and authentic pedagogy among 4th grade State History teachers compare to other elementary and secondary teachers participating in a research-based professional development program?

Purpose Statement. This study provides greater understanding of the factors that contribute to and mitigate teachers' adoption of professional teaching knowledge for authentic pedagogy broadly and problem-based historical inquiry specifically. Professional teaching knowledge is specific to a discipline. Since not all scholars within each discipline agree on its purposes or even methods, competing versions of professional teaching knowledge could exist within any one discipline (Hiebert, Gallimore, & Stigler, 2002). Newmann (1996; 2007) provides standards for authentic pedagogy that cut across disciplinary lines while problem-based historical inquiry research provides one model of professional teaching knowledge specific to history. While authentic pedagogy and PBHI are theoretically linked, my study provides practical evidence regarding that theoretical relationship. Knowledge from this study could be used by others interested in using lesson study to develop a professional knowledge culture for authentic pedagogy and problem-based historical inquiry within a collaborative community of upper elementary social studies teachers because it highlights the possibilities and constraints of doing problem-based historical inquiry with upper elementary students. Policy makers at state and district levels might use knowledge from this study when considering the types of professional development opportunities they choose to support. Finally, researchers implementing similar professional development projects may use knowledge produced by this study to inform their own professional development decisions.

Definitions

Authentic pedagogy. Authentic pedagogy is challenging instruction that requires students to construct knowledge through the use of disciplined inquiry to produce discourse, products, or performances that have value beyond school. Though sometimes used interchangeably with authentic pedagogy, authentic intellectual work refers to the work engaged in by students, sometimes in conjunction with their instructor and as a result of authentic pedagogy. Authentic pedagogy is not discipline specific in the sense that it only applies to social studies subjects; instead, its advocates seek to increase the intellectual challenge of all classrooms. To accomplish that task, advocates of authentic pedagogy recommend that students be given scaffolded opportunities to do disciplined inquiry as an expert in the academic or professional field might (Newmann et al., 2007). Based on research into the intellectual challenges encountered by adults in their occupations, Newmann and his colleagues argue that classroom instruction must move beyond memorization of facts to challenging intellectual experiences that prepare students for the real world. For purposes of this study, Newmann's instruction and task rubrics as modified by the Social Studies Inquiry Research Collaborative (SSIRC, 2010) were used to measure the authentic pedagogy of participating teachers and to document changes in their instructional practice. These scores over time provided one indicator of changes in teachers' professional teaching knowledge. In addition, Newmann's notions of authentic pedagogy greatly influenced the model for effective teaching that project leaders sought to cultivate.

Lesson study. Broadly speaking, lesson study is a model of professional development that brings educators together to collaboratively plan, implement, and reflect on the design and implementation of a single Research Lesson. Though originating in Japan, lesson study has been

imported and adapted by other nations and communities in the last decade, including many in the United States (Lewis, 2002). The process of collaboratively planning, implementing, and reflecting on Research Lessons has been shown to encourage teachers to reflect on their own teaching in ways that promote changes in teaching practice (Lewis, 2009; Lieberman, 2009; Oshima et al., 2006; Perry & Lewis, 2009; Saye, Kohlmeier, Brush, Maddox, & Howell, 2007). Lesson Study follows a recursive cycle in which a group of educators collaboratively plan a lesson based on established goals, observe the teaching of this lesson, reflect on its implementation in light of student outcomes, and make revisions to the lesson prior to repeating the process again (Lieberman, 2009).

For purposes of this study, a particular type of scaffolded lesson study grounded in the Persistent Issues in History model of professional teaching knowledge served as the primary model for professional development. The lesson study model differs from other lesson studies in two important ways: it is scaffolded and it is more broadly collaborative to include other stakeholders beyond classroom teachers. Lesson study directed by the Persistent Issues in History Network is scaffolded because it is specifically structured to assist teachers in developing professional teaching knowledge for problem-based historical inquiry. It is collaborative because social studies teachers, teacher educators, and professional historians work together to develop the Research Lessons that are the focus of lesson study. I provide a more in depth treatment of these differences in the methods chapter. However, it should be noted that this modified version of lesson study was developed and tested by the Persistent Issues in History Network during a three-year professional development project with one social studies department at a large junior high school (Saye et al., 2007; Saye et al., 2009a).

Collaborative community of inquiry-based practice. Collaborative communities of

inquiry-based practice are professional communities of teachers and researchers whose purpose is to encourage the development of professional teaching knowledge (Clark et al., 1996; Garet, Porter, Desimone, Birman, & Yoon., 2001; Thomas, Wineburg, Grossman, Myhre, & Woolworth, 1998). In the present study, the collaborative community of inquiry-based practice consisted of professional historians, teacher educators, and secondary and elementary teachers including the 4th grade teachers that composed this study's sample. All of the educators comprising the collaborative community agreed to participate in a three-year Teaching American History (TAH) grant, *Plowing Freedom's Ground*.

Professional teaching knowledge. Drawing from Saye, Kohlmeier, Brush, Mitchell, and Farmer's (2009a) work on mentoring, professional teaching knowledge is conceived as the merging of craft teaching knowledge, which is personal, private, and often pragmatic, with researcher knowledge, which is public, propositional, and replicable. Craft teaching knowledge is typically concrete and grounded in individual classrooms and results from direct experience overcoming problems situated in those classrooms. Researcher knowledge, in contrast, is generally theory-based and is more often generalizable beyond specific classrooms. To accept researcher knowledge, teachers need to see it practically and effectively applied within real world classrooms (Saye et al., 2009a). When familiar craft knowledge is merged with unfamiliar researcher knowledge to form professional teaching knowledge, theory-based generalizations become more palatable to practitioners (Hiebert et al., 2002; Saye et al., 2009a; Saye et al., 2009c). For purposes of this study, professional teaching knowledge is practical theory tested in real classrooms (Saye et al., 2009a). In this study, I used two complete and one abbreviated lesson study cycles to directly encourage the development of this professional teaching knowledge. During the first two cycles, participating teachers collaboratively planned a

Research Lesson, observed the teaching of a Research Lesson by two members of the lesson study team, and then collaboratively reflected on lesson outcomes in order to make appropriate lesson revisions. The third cycle was abbreviated due to the loss of federal funding for the PFG Project. The interactions and the conversations embedded within the lesson study cycles provided one source of data needed to document the emergence of professional teaching knowledge.

Persistent Issues in History Network (PIH). The Persistent Issues in History Network (PIH Network), housed at Auburn University, has been engaged for over ten years in cultivating and assisting a community of teachers to use problem-based historical inquiry (Brush & Saye, 2003). The PIH Network seeks to assist teachers as they help students engage in historical analysis in order to critically weigh evidence about enduring social problems. In doing so, the PIH Network seeks to cultivate teachers' professional teaching knowledge for problem-based historical inquiry. With such knowledge, teachers can help students develop habits of mind that might guide future decision-making as citizens. These habits include a tentativeness towards factual claims, an awareness of multiple perspectives, and an ability to practice historical empathy. The PIH Network maintains a substantial online presence (<http://www.pihnet.org>) that provides teachers with lesson development tools, collaboration tools, and video-case examples of PBHI in practice. In addition, the PIH Network staff has consistently engaged in professional development to model PBHI teaching and to instruct teachers in the use of PIH tools. By their participation in the *Plowing Freedom's Ground* project, participants in this study became members of the PIH Network. PIH Network staff organized and implemented the lesson study professional development experienced by participants in this study.

Plowing Freedom's Ground (PFG). *Plowing Freedom's Ground* is a three-year

partnership involving the PIH Network and five school districts located in the southeastern United States. The project was funded by the U.S. Department of Education through a TAH Grant. The project sought to provide traditional American history content and lesson development seminars to 30 participating teachers each year and to build a collaborative community of inquiry-based practice among participants in the professional development program (PFG Proposal, p. 1).

Anticipated Limitations

This evaluation of the PFG Project's impact on 4th grade State History teachers had several limitations. First, I was a participant observer (Denzin, 1978) in the lesson study professional development process and assumed primary responsibility for mentoring the group of 4th grade teachers that constituted the study's sample. The potential always existed for participating teachers to view me as the authority during professional development sessions and to defer to my expectations for lesson study professional development. Second, there were limits on the amount of data that I could reliably collect as a participant observer. These limits were due in part to the complex task of mentoring a group of teachers while simultaneously attempting to gather data about those participants. They were also due to time constraints and resource restraints associated with being a graduate student as well as the primary researcher for the 4th grade lesson study group. Comparisons to the larger project and to secondary teachers specifically, for example, were limited by my inability to observe all PFG participants. My observations instead focused almost exclusively on the six 4th grade teachers. For comparison, I relied on quantitative data collected as a part of the larger PFG Project, though a portion of that data was based on classroom observations completed by other PIH Network staff members. Overall, I had a vested interest in seeing that participants in this study were successful in the

lesson study process and in adopting a shared professional knowledge culture for problem-based historical inquiry. Anticipating that my close proximity to the participants could inhibit my objectivity, the evaluation relied on multiple streams of data, both quantitative and qualitative, such that triangulation of data for both forms was strengthened. For example, I completed additional classroom observations beyond those required for the larger PFG Project and I used a mixed methods approach that was also beyond the scope of larger PFG Project evaluations. This mixed-methods approach permitted me to be more confident about my conclusions.

Chapter Two: Literature Review

The Purposes of Social Studies

The National Council for the Social Studies argues that civic competence, “the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world,” should be the end goal of all social studies instruction (N.C.S.S, 1994). The civic competence ideal is rooted in the work of numerous researchers who have called for reform in education generally or social studies instruction more specifically (Oliver et al., 1992; Parker et al., 1989; Powell, Farrar, & Cohen, 1985; Sizer, 1992). According to these reformers, the overarching goal of education should be to prepare students for democratic citizenship. They point out that superficial instruction is typical of educational systems in America and that few schools invite students to engage in activities similar to what would be expected of people in the real world. To address this disconnect between schooling and activities of the real world, reformers have long sought to shift classroom instruction to a more collaborative, student-centered paradigm. In so doing, reformers hope to expand democratic participation beyond interaction with the state and its institutions to include participation defined by reasoned judgment, dialectical reasoning, and deliberation over the common good (Barton & Levstik, 2004). Many of these reformers also recognize, however, that social studies teachers are the gatekeepers for the curriculum enacted in their classrooms (Thornton, 1991) and that reform therefore ultimately begins with them.

If instructional reform is necessary and it begins with teachers, professional development is central to helping teachers change their practice. However, much of the professional

development offered today is ephemeral, lacks conceptual unity, and requires teachers to be passive receivers of knowledge (Darling-Hammond & McLaughlin, 1995; Garet et al., 2001). The professional development program that is the focus of this evaluation attempts to avoid those pitfalls in several important ways. Foremost is its grounding in a public issues approach to teaching. Such an approach has a solid basis in research and has been shown to help teachers avoid superficial coverage of content and to assist students in achieving the goals of civic competence (Oliver et al., 1992; Onosko & Swenson, 1996; Parker et al., 1989; Saye & Brush, 2004a). Proponents of a public issues approach to teaching social studies believe that examining narrative history or engaging in historical analysis for its own sake is inadequate because it loses sight of the democratic purposes for public education. In this sense, public issues proponents seek to do more than create young historians, young geographers, etc. Instead, proponents of a public issues approach argue that students should be given opportunities to reason through social conflicts or issues that are typical of democratic societies (Parker et al., 1989; Saye & Brush, 2004a). The practices encouraged by proponents of issues instruction, however, are not typical in social studies classrooms today. To explain this seeming failure to bring about change, several researchers have argued that classroom teachers and academics hold differing views about knowledge and its application (Hiebert et al., 2002; Saye et al., 2009a; Saye et al., 2009b).

Professional Teaching Knowledge

Work to develop professional teaching knowledge in social studies stems from the recognition that many social studies teachers have not adopted inquiry of any kind and that more must be done to assist teachers in using research-based, field-tested knowledge. One means to do so is to convince teachers that theory-based knowledge produced by researchers has value and that it can assist them in establishing instructional goals and in making pragmatic instructional

decisions. Convincing teachers, however, is challenging because many teachers give greater weight to craft teaching knowledge that is concrete, situated in their own classrooms, and related to specific problems they have encountered during their careers. This focus on craft knowledge often leads practitioners to overlook or ignore theoretical knowledge that could inform and strengthen their instructional practice (Hiebert et al., 2002). Hiebert (2002) provides a succinct summation of the daunting challenge researchers face: "...archived research knowledge has had little effect on the improvement of practice in the average classroom" (p. 3).

In his classic work, *Life in Schools*, Philip Jackson summarizes his findings about teacher talk and what that talk reveals about teachers' general resistance to theory-based knowledge. Based on interviews about life in the classroom with nearly fifty elementary teachers, Jackson found that teachers lacked a professional vocabulary to describe the complexities of the classroom and that they oversimplified complex psychological and sociological occurrences. Teachers typically held more pragmatic notions of causality, used an emotional or intuitive approach to understanding classroom events, used experiences instead of professional knowledge to describe good teaching, and used concrete examples to explain complex psychological issues. These notions were often wrapped up in an unquestioning attitude of acceptance towards classroom conditions that originated in "pedagogical conservatism," "romantic idealism," and "mystical optimism" (p. 150). Jackson concluded, however, that such conservatism is actually a response to what would otherwise be intolerable conditions of teaching and that teachers cannot easily be blamed for their pedagogical conservatism (Jackson, 1968).

To overcome teacher resistance to research-based reforms, some theorists argue for the development of a professional teaching knowledge that would integrate craft knowledge and researcher knowledge (Hiebert et al., 2002; Saye et al., 2009a). The means by which to develop

this knowledge are varied. Some have sought to alter curriculum materials to develop professional teaching knowledge for problem-based historical inquiry (Callahan, 2009) while others have worked to provide teachers with models of teachers using professional teaching knowledge to implement challenging instruction and diagnose problems of practice (Brush & Saye, 2003; Saye & Brush, 2004a). Still others have recommended the development of more collaborative communities of teachers and researchers where professional teaching knowledge might emerge more organically (Clark et al., 1996; Garet et al., 2001). Collaboration among teachers and researchers, like that offered by lesson study professional development, has been offered as an additional means for developing professional teaching knowledge. Hiebert in fact notes the benefits of collaboration for developing professional teaching knowledge.

Collaboration – a process considered central to successful professional development programs – ensures that what is discovered will be communicable because it is discovered in the context of group discussion. Collaboration, then, becomes essential for the development of professional knowledge, not because collaborations provide teachers with social support groups but because collaborations force their participants to make their knowledge public and understood by colleagues (Hiebert et al., 2002, p. 7).

Saye, Kohlmeier, Brush, Mitchell and Farmer (2009a) demonstrate the possibilities of developing a professional teaching knowledge culture for the instructional model of problem-based historical inquiry. In their study of mentoring, the authors found that situated problems in classrooms could become the impetus for the co-construction of professional teaching knowledge by communities of teachers and researchers and that mentoring relationships might encourage teachers reliant on craft knowledge to consider researcher knowledge. Collaborative and scaffolded dialogue about the planning and implementation of problem-based historical

inquiry (PBHI) lessons for specific classrooms of students provided opportunities for teachers to encounter, interpret, and integrate researcher-based knowledge. As teachers dialogued about specific problems of practice and implemented instruction with theoretically based resolutions included, professional knowledge expanded and theory became recognizable to participating teachers (Saye et al., 2009a).

Problem-based Historical Inquiry (PBHI) and Its Obstacles

PBHI is an instructional framework that asks students to investigate historical events within the context of social issues for the purpose of developing democratic citizens (Saye & Brush, 2004a). For example, a teacher preparing a unit on the 1920s era might ask students to consider the question of whether the government was justified in limiting personal freedoms. Students might analyze a variety of competing historical perspectives and evidence in order to develop a reasoned and substantiated response to the question. To assess students' ability to answer the question, students might participate in a mock congressional hearing during which they represent historical actors of various perspectives before making their own personal decision on the question. As part of the unit, the teacher might also ask students to consider an enduring or persistent question: "Under what circumstances is the government justified in limiting individual freedoms?" (Brush & Saye, 2003) Discussion of the persistent question thereby helps students to better understand other historical and modern events that reflect the value conflicts inherent in the two questions (community welfare vs. individual liberty). Interpreting historical artifacts and constructing interpretations of the past in this example are therefore not the ends themselves but means to an end. While using disciplinary tools is part of PBHI, the end objective of PBHI is to reason about social questions that persist through time (Oliver et al., 1992; Saye & Brush, 2004a). Disciplined inquiry into this and other topics like it

can help students better understand the historical event itself but also the underlying social issue as it appears in other historical or modern contexts.

Problem-based historical inquiry in social studies classrooms has proven quite challenging for teachers to implement, however (Rossi, 1995). Three broad challenges face teachers who desire to use PBHI with their students. First, teachers must help their students understand the content under study deeply in order to reason about it. Second, teachers must help students build an accurate and rich model of the problem including the many different historical perspectives on it. Third, teachers must help students to reason dialectically about an issue from another time (Saye & Brush, 2007). An effective teacher of PBHI must be able to meet these challenges by supporting students as they think deeply about an enduring issue. Accomplishing this task, however, is challenging and multifaceted though not insurmountable. To understand the content deeply, students must remain engaged for long periods of time but teachers often find keeping students engaged difficult, as many students resist prolonged engagement with complex issues (Onosko, 1991; Rossi, 1995). Proponents of PBHI argue that student engagement can be promoted through the examination of real-world social issues that students see as relevant and meaningful for their future lives. In order for students to examine persisting social issues as those in the real world might and to construct reasonable problem solutions using disciplined inquiry (Rossi, 1995; Wineburg, 1991, 1999), teachers must provide students with the knowledge required to situate problems in their historical context. To do this, however, students and their teachers must hold certain epistemological assumptions about knowledge and history (Saye & Brush, 2007).

Novice learners and even many social studies teachers hold absolutist epistemologies that limit their receptivity to inquiry-oriented practices (Hofer & Pintrich, 2002; Kuhn, 2005).

King and Kitchenor 's (2002) *Reflective Judgment Model of Epistemic Cognition* provides a trajectory through which individuals can pass in terms of epistemology, though there is no guarantee that they actually will. This trajectory is useful for understanding several important epistemological challenges associated with implementing PBHI instruction. Individuals who exhibit pre-reflective reasoning believe that knowledge is gained through the words of an authority figure or through direct observation. Those who exhibit quasi-reflective reasoning view knowledge claims as uncertain due to missing information or evidence, but they cannot connect that missing evidence to a different or better conclusion. Finally, individuals who exhibit reflective reasoning believe that knowledge claims cannot be made with certainty, but they accept that reasonable judgments are possible. They view decisions as constructed and acknowledge that decisions should be reexamined when new data arises or when new methodologies for gathering data become available. Teachers and students who demonstrate reflective reasoning are generally most receptive to PBHI instruction.

In America, learning is often equated with acquiring knowledge. To help individuals acquire knowledge, teachers often present history as a linear narrative of inevitable progress. Conflicting claims about the past are often ignored. Textbooks reinforce this view because they very rarely contain multiple perspectives on an event (VanSledright, 2002) or varying historical interpretations. While historians source historical documents and seek to understand the author's motives by placing them in their historical context, novice thinkers unaware of the discipline often read and believe them. They do not recognize that history has a human source and that bias and perspective influence the creation of historical narratives. Before teachers can do PBHI with their students and teach them to weigh competing claims about historical problems, they themselves must hold a reflective epistemology (King & Kitchener, 2002) and therefore believe

that knowledge is tentative and constructed and that the quality of claims can be judged by their reasonableness and their use of evidence (Saye & Brush, 2007). It's important to note, however, that an individual's epistemic cognition can be shifted with training. Individuals can be taught to recognize the nature, limits, and certainty of their knowledge (King & Kitchener, 2002).

Teachers can aid students in their efforts to do problem-based historical inquiry in spite of the many obstacles. Researchers argue, for example, that teachers can use scaffolding to encourage students to think more like experts in the real world. Such scaffolding can aid students in recognizing what they know and what they do not know so that they can dig deeper into the content prior to making a decision (Land, 2000; Parker et al., 1989; Saye & Brush, 1999, 2002, 2004a, 2004b, 2006; Wineburg, 1999). Teachers can also use technology to assist students in thinking with more complexity because it can help teachers illustrate concepts in a more realistic manner that allows greater exploration by students (Land, 2000). Finally, the structure of teacher-designed lessons can assist students in thinking historically. Connecting lessons to an ill-structured problem confronted by societies and asking students to entertain narratives about the past that contradict one another may provide the authenticity needed for students to invest in difficult levels of thinking (Onosko & Swenson, 1996; Parker et al., 1989; Saye & Brush, 2004a; Wineburg, 1999).

Onosko and Swenson (1996), for example, encourage teachers to frame social studies units around controversial and important issues of public concern because they motivate students to engage in challenging work and because their examination can be one step in preparing students to address similar problems as citizens. According to Parker (1989), students are ready to grapple with social knowledge and to reason about such issues dialectically, but few teachers are willing to engage students in doing so. Problem-based historical inquiry is one theory-based

approach that could be used by teachers to engage students in examinations of real world public issues. Saye and Brush (2004a), in fact, argue that a problem-based approach to history instruction has several benefits. It provides a motivating context because teachers ask students to make decisions, it brings cohesion to an often-disparate curriculum, it promotes direction and authenticity in history class work, and it encourages connections to a broader social context beyond the classroom.

Additional Factors Influencing Teachers' Adoption of PBHI

Research points to many additional factors that may influence teachers' adoption of instructional reform including problem-based historical inquiry. These include the teacher's role as curriculum gatekeeper, teacher beliefs and dispositions about the nature of knowledge and student learning, cognitive complexity, teachers' content knowledge, teachers' tolerance for the ambiguity typical of constructivist teaching, and the overall culture of American schooling. Each of these factors not only influences teachers' perception of professional development but also influences the implementation of reform-based pedagogies in their classrooms. Successful professional development programs crafted to develop professional teaching knowledge are likely therefore to account for these additional influences and assist teachers in addressing them.

Teacher as gatekeeper. If social studies teachers are to adopt professional teaching knowledge for problem-based historical inquiry, they must first acknowledge that such study has merit for students in social studies classrooms. Thornton (1991) argues that teachers are the key to what curriculum students experience, describing their role as being one of "gatekeeper." Teachers not only decide what content to teach but also how to teach it. In their role as curriculum planners and instructional leaders, teachers control the experiences students have in the classroom. Social studies teachers, however, depend predominantly on textbooks for

curricular decision-making. Teachers often separate curriculum from instruction, focusing their energies on instruction while leaving the curriculum to textbook authors. Reliance on textbooks as the more expert authority typically results in teachers viewing social studies subjects as bodies of facts to be learned by students. With such views, teachers generally resist process-oriented, critical thinking tasks that are more ambiguous than didactic, lecture-based instruction (Thornton, 1991).

In her case study of primary grade teachers in England, Harnett (2000) found evidence that supports Thornton's contention that teachers serve as gatekeepers. Harnett used in-depth interviews and observations to explore three teachers' implementation of national history curriculum reforms in England. Beliefs and values stemming from personal and professional experiences directly influenced teachers' interpretation and enactment of these curriculum reforms. Her data suggested that common interests, beliefs about education, and views on England's national history curriculum could be used to predict how teachers would enact national curriculum reforms. Failing to account for teachers' role as gatekeepers, therefore, is likely to doom any reform agenda. Teachers concerned with passing down cultural traditions through stories will enact curriculum reforms very differently, for example, than teachers concerned with using history to explain current events and solve problems. While the teachers Harnett studied all hoped to generate students' enthusiasm for history, their planning represented their own personal beliefs even as they attempted to ground it in England's new national history curriculum (Harnett, 2000).

If students are to develop skills needed for democratic citizenship and teachers are to be made aware of their role as curriculum instructional gatekeepers, professional development programs must assist teachers as they adopt new instructional strategies and curriculum planning

paradigms. VanFossen's (2005) work on curriculum decision-making by elementary social studies teachers in Indiana raises questions about the many influences on teachers as they make curriculum and instructional decisions. The teachers in his study reported they were the ones that made curricular and instructional decisions about the use of time to teach social studies; yet, they allocated very little time to its teaching. VanFossen concluded that though teachers felt they had the power to use instructional time as they saw fit, their decisions were often based on direct and indirect pressures from external sources including their administration, district, and state. VanFossen's work suggests that professional development may be needed to help teachers rethink their role as gatekeeper within this climate. Teachers are forced to navigate between state curriculum standards, district level interpretations of those standards, and pressures from school-level administrators to teach particular subjects more often. If teachers are to navigate this climate such that social studies reforms are made possible, they will need professional development grounded in state curriculum standards that has the support of local administrators.

Teacher beliefs and dispositions. Teacher beliefs and dispositions play an important role in how teachers organize and run their classrooms. Nespor (1987) argues that beliefs are different from knowledge in four important ways. First, teachers hold existential assumptions about their own abilities as well as students' abilities and intelligence. These assumptions are often firmly held and difficult to alter. Second, teachers often hold views of ideal teaching environments different than their own setting and these ideal realities often influence the goals and tasks they set for students. In other words, the environment teachers find themselves in is often less than ideal in their minds. As a result, teachers accept the status quo by contending that the environment constrains their teaching. Third, feelings towards course content influence the way in which teachers teach it. If teachers enjoy the content, they are more likely to invest the

time necessary for students to master it. Finally, beliefs flow from a combination of personal experience and cultural institutions. If teachers' own experiences in classrooms have been positive, for example, they are more likely to seek similar experiences for their own students.

Similarly, dispositions guide teachers' instructional choices. John Dewey argued that several dispositions are characteristic of intelligent thought: open-mindedness, wholeheartedness, readiness, and responsibility (Dewey, 1998/2005). Dispositions are attitudes or habits of mind that guide actions. Duplass and Cruz (2010) provide a more specific definition of dispositions grounded in their efforts to refine what scholars mean by the term. "A disposition is both an accumulation of consistent behaviors and an inclination to consistently behave in the future in accordance with a value. The term is both retrospective and predictive." Therefore, to say that someone has a disposition requires knowledge of past behaviors and a judgment that those past behaviors are consistent enough to conclude that they predict future behaviors. In the context of social studies teaching, having content knowledge and knowing effective pedagogic strategies are key prerequisites to powerful social studies instruction. However, these strategies are not likely to be employed if the teacher does not hold a disposition to do so (Duplass & Cruz, 2010). Because dispositions can help predict how teachers respond to problems of practice, dispositions help determine whether teachers transfer what they learn in teacher preparations programs or professional development to their classroom teaching. If teachers have the knowledge and skills to teach content in a reform-based way yet do not hold the dispositions necessary to do so, instruction remains traditional (Borko, Liston, & Whitcomb, 2007).

With regard to social studies, Barton and Levstik (2003) point to beliefs about the purpose for teaching social studies in particular as an important determinant for whether teachers will implement reform-based pedagogy. They argue that caring teachers can take completely

different approaches to teaching social studies. If education for citizenship is viewed as the purpose for social studies, teachers are more likely to implement reform-based pedagogy. If, however, teachers believe their primary tasks are to control behavior and cover the content, they are far less likely to implement reform-based pedagogy even when they know the social studies disciplines well and can represent their methods and structures to students. Helping teachers develop beliefs about the purpose of teaching social studies that move beyond coverage and control are critical to improving classroom instructional practices.

In his afterword to the *Handbook on Teaching Social Issues*, Shaver (1996) offers similar thoughts about the dispositions needed to implement issues-centered instruction including models like problem-based historical inquiry. For example, Shaver argues that teachers should be open to exploring new ideas even when they conflict and that they should hold a tentative view of knowledge. Inquiry teachers need a broad understanding of the content and an understanding of values so that they can facilitate students' decision-making within complex problem landscapes. Like Thornton (1991), Shaver argues that teachers who hold these dispositions will often make curricular decisions reflective of them even in spite of or in conjunction with the curricular decisions made at the national, state, or district level. Teachers' dispositions greatly influence the curriculum enacted and professional development is likely one important way to help teachers develop the dispositions needed to enact reform.

Cognitive complexity. Constructivist teaching of any kind including PBHI requires complex mental processes. Teachers must co-construct knowledge with students, act as partners with students to create conceptual change, mentor students as they develop intellectually, and provide support for students as they think through difficult problems. People create knowledge and that process and resulting knowledge are influenced by one's values and culture (Bransford,

Brown, & Cocking, 2000; Greeno, Collins, & Resnick, 1996; Scheurman, 1998). Constructivist teaching often requires students to interpret evidence within open-ended forums. The teacher becomes a facilitator who creates opportunities for disequilibrium in students' minds as students manipulate and solve problems either alone or as part of various groups (Scheurman, 1998). Constructivist teaching in practice is confronted by many dilemmas, all of which overlap and confound one another. A holistic approach to these challenges is required for successful constructivist teaching and successful professional development must help teachers overcome or resolve these dilemmas.

First, teachers face conceptual dilemmas. Teachers often do not connect theory to practice because doing so is countercultural in many schools where activity is seen as learning or where a pragmatic pick-and-choose approach is taken with regard to teaching activities (Windschitl, 2002). The failure to connect theory to practice therefore limits teachers' ability to diagnose problems of practice using theoretical principles. Conceptual dilemmas are further complicated by teachers' epistemology. If a teacher or school values or emphasizes the memorization of a core body of facts, teachers are not likely to engage in or encourage the epistemic cognition necessary for PBHI. Indeed, tension often results when teachers who hold more absolutist epistemologies attempt to do PBHI. With epistemic cognition, one considers the limits of their knowing, but a school that emphasizes the memorization of facts is not likely to provide teachers with the time or space to engage in epistemic cognition or any form of reflective thinking for that matter (Hofer & Pintrich, 2002). That said, such cognition allows for the monitoring of problem types and the evaluation of possible solutions and serves as the foundation for critical thinking about the ill-structured problems typical of PBHI. In the case of history, teachers must confront what VanSledright (2002) calls the "referential allusion" and the

“reality effect” as they lead students through examinations of ill-structured problems. The referential allusion refers to the fantasy that historians’ interpretations literally mirror a past reality, while the reality effect refers to the sense that historical narratives directly speak the past back to us.

Second, teachers face pedagogical dilemmas. Teachers often find it difficult to place student understanding as the focus of their class because it requires that they use student misunderstandings for teaching purposes and because it demands that teachers use a wide range of teaching strategies (Bransford et al., 2000). Pedagogically, teachers must also efficiently manage classroom interactions and discussions because collaborative learning presents more opportunities for students to drift off-task and waste time. Teachers must understand the content at a depth that allows them to see arguments or situations from multiple angles. Teachers must also assess students’ knowledge by deciding on the content to assess, how to assess it, and by determining how much freedom to give students within assessments (Bransford et al., 2000; Windschitl, 2002). In the case of history, teachers must confront the typical push for coverage by making choices about what is significant to teach and assess. They must choose instances in the past that present opportunities to think historically – instances where interpretations of the past are contested (VanSledright, 2002).

Third, teachers face cultural dilemmas. They must understand that the classroom itself is a culture. Along with the classroom culture, teachers, having spent many hours in classrooms themselves, have strong views on what constitutes an “appropriate” classroom. Public schools are conservative institutions and there are few examples of exceptional system-wide reform that influences the average classroom culture (Evans, 2004; Jackson, 1968). Teachers confront cultural dilemmas in other ways as well. They must make connections between events in their

classrooms and the lives of their students and the cultures in which they live (Windschitl, 2002).

Finally, teachers face political dilemmas. They must take the risk of using constructivism, particularly in communities where a more objective or absolutist view of truth predominates. Teachers must discover the autonomy necessary to make curricular decisions in such communities, which in today's era of strict accountability, discreet content standards, and administrative oversight is increasingly more difficult (Windschitl, 2002). In the case of history, teachers must often confront a high stakes testing environment that does not model itself on historical thinking or constructivist learning. Moreover, policy makers often like quick answers as opposed to mountains of data and therefore often favor tests of simple recall. These political expectations very often influence teachers to teach to tests, which require memorization of discreet facts (VanSledright, 2002).

Content knowledge and defensive teaching. One important factor that can increase the intensity of the pedagogical dilemmas confronted by teachers as they attempt to adopt constructivist teaching of any kind is the lack of an in-depth content knowledge (Bransford et al., 2000). This factor is particularly true when teachers attempt to implement complex inquiry instruction such as PBHI (Saye & Brush, 2004a; Schulman, 1987). Teachers must know the principles, issues, and points of view underlying any topic of study in order to lead students through an inquiry of the topic. To include multiple perspectives on a social issue and help students build an accurate model of the problem landscape, for example, teachers must not only know that alternative perspectives exist within the historical record but also be able to accurately weave them into their instruction. Teachers must also be able to apply a complex understanding of the content to ever evolving circumstances within classroom discourse including students' varying responses to the questions, problems, or issues presented (Windschitl, 2002). When an

in-depth content knowledge is unavailable, however, teachers tend to privilege facts rather than the exploration of challenging concepts within a constructivist environment. This privileging very often results in the teacher tightly controlling discourse in the classroom in order to maintain control (Barton & Levstik, 2003; Windschitl, 2002).

McNeil (1986) documents the techniques used by teachers to control classroom knowledge through what she calls “defensive teaching.” Teachers engaged in defensive teaching negotiate the extent to which they use their personal knowledge in the classroom in light of its potential for causing classroom disorder. While a teacher’s dispositions and tolerance for ambiguity will also contribute to their instructional choices, a teacher engaged in defensive teaching will generally seize control of knowledge within the classroom whenever a real or perceived potential for disorder emerges. Doing so maintains the teacher’s authority and limits ambiguity and inefficiencies within the system of schooling. McNeil identifies four unique strategies used by teachers to maintain control. “Fragmentation” results when a teacher reduces content to fragmented lists to be lectured over. Doing so reduces the need for the teacher to elaborate on content and limits the need for students to express the depth of their learning. The cumulative result is that any uncertainty encountered by teacher or students during lessons is greatly reduced. “Mystification” results when a teacher shrouds a controversial or complex topic in mystery in order to prevent discussion. In this sense, the topic is made to appear important but unknowable. Mystification turns students into clients. Since students cannot understand the topic and it’s not worth their effort, they must depend on outside experts for the information instead of the teacher. “Omission” occurs when variant points of view, current debates within the discipline, or modern topics are intentionally omitted from the curriculum because they might be too controversial. By omitting this content, the teacher limits students’ desire to discuss.

Limiting discussion helps the teacher cover content efficiently without classroom disruption. “Defensive simplification” occurs when a teacher simplifies a complex lesson or task in response to student complaints. The teacher promises that the task will not be difficult or that students will not go into depth. The result is that the teacher gains students’ cooperation while reducing resistance. Fatigue, student apathy, and the absence of a supportive administrative can all contribute to defensive simplification (McNeil, 1986).

With regard to defensive teaching, it is important to note that teachers do not make decisions to control classroom knowledge in a vacuum. McNeil traces the myth that standardization improves education from its origin in corporate America, to state legislation, to bureaucratic implementation of accountability measures, and finally to its impact on classroom teaching and student learning. Indeed, McNeil documents how school culture and administrative, district and even state pressures directly influence teachers’ decisions to teach defensively. At the school level, the extent to which administrators focus on learning versus managing or credentialing students impacts teachers’ classroom decisions. At the elementary level, the extent to which administrators emphasize the use of “teacher-proof” curriculum materials influences the degree of discretion and variation in classroom teaching including teachers’ willingness to adopt reform-based pedagogies. At the district and state level, McNeil argues that standardization actually reduces the quality of instruction. Teachers present knowledge provided by bureaucrats as it appears on standardized tests. Student thinking is often reduced as teachers focus on covering tested content in response to real or perceived demands on their teaching (McNeil, 2000). These cultural pressures from outside the classroom directly influence teachers’ choices within the classroom including their openness to reform-based pedagogies.

Culture of schooling. While classrooms are the sites of specific cultures, teaching itself is a cultural activity (Stigler & Hiebert, 1999). Cultural scripts are learned indirectly, through observation and participation, as opposed to directly through structured study. Stigler argues that these scripts provide mental pictures of teaching and help explain the congruence of instruction within many nations. It also seems clear from the resistance to reform that cultural scripts also influence congruence of teaching within particular disciplines. Cultural activities evolve over long periods of time in ways that are consistent with existing beliefs. As a result, they are fairly stable over time. Any efforts to reform teaching must acknowledge its stability as a cultural activity (Stigler & Hiebert, 1999).

Changing cultural activities can be quite challenging. They are highly stable for two reasons. First, cultural activities represent systems and systems can be hard to change. Second, cultural activities are embedded within a wider culture and therefore do not exist in isolation. Changing one cultural activity sometimes requires a shift in the larger culture itself. Changing teaching, for example, requires attention to both its systemic and cultural aspects. Changing one feature of a system usually will not alter it. Stigler provides the example of teachers switching from chalkboards to whiteboards, which seemed revolutionary at the time but did little to alter instruction. To change teaching, the culture itself must be changed and its scripts must become much more visible to the practitioners who use them (Stigler & Hiebert, 1999).

The culture of schooling itself also influences teachers' adoption of reform. Teachers have little time to collaborate and typically have no professional life outside of the school building. More often than not, their professional lives are lived in isolation (Stigler & Hiebert, 1999). In this regard, Phillip Jackson's *Life in Classrooms*, originally published in 1968, still speaks volumes to the nature of schooling in America, particularly in the elementary setting.

Based on three years of observation in multiple “progressive” elementary schools, Jackson’s work not only altered the way educational researchers think about teaching but also the methods they use to study it. His contribution was largely conceptual in that he very precisely described the confounding social nature of the classroom environment for both students and teachers. From his work emerged the view that any reform of classroom practice must account for the complex realities within the classroom.

With regard to this classroom environment, Jackson identified three facets with which students and teachers must learn to cope: “crowds, praise, and power” (Jackson, 1968, p. 10). The demands of crowds, praise, and power, what Jackson called the “hidden curriculum,” have systematic and often unintentional effects on students’ and teachers’ thoughts and actions. To control student behavior amidst the *crowd*, teachers assume several roles: gatekeeper – managing the classroom; supply sergeant – distributing the limited material resources; judge – granting privileges to some students and denying them to others; official timekeeper – deciding where to begin and end activities; and traffic manager – orchestrating the movements of students. The number of roles assumed by teachers in the classroom creates a frenetic atmosphere in which “as many as 1000 interpersonal interchanges occur each day” (p. 11). Students must learn to adapt to crowded classroom conditions by coping with delays, denying their desires, and ignoring interruptions or distracting peers. Students “must be able to disengage, at least temporarily, their feelings from their actions” only to “reengage feelings and actions when conditions are appropriate” (p. 18). Students must therefore develop patience or a “balance between impulsive action and apathetic withdrawal” (p. 18).

The second condition of classroom life, *praise* (or evaluation), particularly dominates students’ experiences. Teachers, of course, evaluate students on an almost continuous basis.

Peer classmates, however, also evaluate each other more informally as when a student is called on by the teacher to correct another student or when judgments are made about which student is the clown and which is the achiever. A third type of internal evaluation occurs when students, on their own, realize they have failed to meet expectations on a given assignment or in general. Students must first learn how the reward system operates in the classroom and then apply that knowledge to gain praise and conceal critique. To do so, most students come to the simple conclusion that to succeed in the classroom, one must outwardly do “what the teachers says” (p. 26) while repressing any desires to act out.

Jackson identified differences in power between teacher and student as the third predominate characteristic of the classroom environment. One primary way that teachers maintain power is by demanding student attention on tasks designed by the teacher. Students must come to grips with the reality of following prescriptive orders from adult “bosses,” many of whom do not know them well. Within this unequal power structure, students typically either seek special favor from adults in power or attempt to suppress words and actions that might displease those adults. In these classroom, good behavior results in the praise students crave (Jackson, 1968).

The hidden curriculum is, therefore, the subtler curriculum that often comes to dominate classroom life and school culture. When this curriculum becomes the dominant focus in classrooms, it reduces the chances for instructional reform as more pragmatic concerns dominate teacher thinking. Moreover, because the hidden curriculum is wrapped up in teachers’ craft teaching knowledge, it too poses challenges to the acceptance of research-based knowledge. Therefore, effective professional development must account not only for teachers’ craft teaching knowledge but also for the hidden curriculum that influences the construction of that craft

knowledge. Reformers who ignore the hidden curriculum ignore the significant influence of culture on classroom teaching.

Methodologically, Jackson's work reminds researchers that the classroom is a complex social and cultural environment. Those complexities must be accounted for when considering how to implement reforms or when planning professional development. When they are not, reform is likely to fail because teachers do not believe that the reform aligns with the realities of their classroom environment. Jackson identified four themes that emerged from teachers' perceptions of classroom life. Lortie (1975) largely echoed these themes some years later. Both authors offer details of classroom life that must be understood by researchers seeking to implement reform. First, teachers live in their immediate context. While exciting, this immediacy causes teachers to look to behavioral cues to judge their effectiveness, including cues such as interest vs. boredom or understanding vs. confusion. While academic tests can inform teachers' views of their students, they are often minimized because tests typically do not conform to teachers' evaluations of real-time classroom performance and because many teachers believe that tests reflect students' natural abilities instead of teacher effectiveness. Second, teachers believe they are far more informal in the classroom when teaching than outside observers typically perceive. In other words, teachers often believe that they give students more freedom to express themselves than observations bear out. Third, teachers value autonomy (Jackson, 1968; Lortie, 1975). Jackson argues that this is due to a fear that classroom spontaneity will be trumped by the constraints imposed by outside administrators or policy makers and by the insult that such constraints have on teachers' professional pride. Finally, teachers value individuality, particularly when discussing the rewards and joys associated with teaching. Jackson (1968) notes that teachers often report satisfaction when they feel they have

made a difference in a student's life. Each of these factors influence teachers' perception of, and implementation of, reform and point to the need for sustained professional development that assists teachers in rethinking the cultural norms of the teaching profession.

Similarly, Lortie's classic (1975) on school teaching reminds researchers that teachers perform an "apprenticeship of observation" (p. 61) during their years of formal schooling from elementary to high school and that those observations inform teachers' conceptions of appropriate teaching and appropriate classroom cultures. Because the observations are sustained over twelve years of formal schooling, novice teachers form a conception of teaching and schooling that is difficult to alter through teacher education alone. Moreover, the teachers in Lortie's study were encouraged by affective rewards stemming from relationships with students, as opposed to measureable learning gains among students. In addition, the cellular structure of most public school buildings encourages individualism and autonomy and presents challenges for professional development initiatives that seek to build more collaborative communities of practice.

Lortie (1975) identified five attractors of teaching from interview and survey data. Teachers choose teaching to maintain *interpersonal* relationships with young people, to *serve* their community or society, to *continue* positive experiences of schooling, to have *time* for other ambitions outside of teaching, or to gain *material benefits* such as money or employment security. More recent research by Troman and Raggi (2008) suggests that it is not easy to assign discreet categories to teacher motivations or to the cultural influences of schooling. Teachers hold multiple commitments at one time and it is difficult to separate out private and public commitments. As Nias said, some teachers "may hold personal and professional goals to be of equal importance and seek to achieve both simultaneously" (Nias & Aspinwall, 1995).

Interestingly, Troman and Raggi found few narratives of “moral crusading” or “social-class commitments” including a desire to address education inequalities. They did, however, find numerous examples of commitments to “love” and to “care.” Their work suggests that the culture of schooling is extremely complex and that effort must be made to account for its influence on teaching and learning, though completely doing so may be impossible.

Professional Development

The challenges associated with implementing problem-based historical inquiry are numerous. Teachers are likely to need significant and ongoing professional development to implement it effectively but few professional development programs of this sort exist. In fact, many American professional development programs have been criticized in recent years for their lack of theoretical foundation, lack of sustained involvement, and lack of focus on student learning (Garet et al., 2001; Guskey, 2002; Kortecamp & Steeves, 2006; van Hover, 2008). Borko (2004) characterizes current professional development as “woefully inadequate.” The problem, at least for secondary teachers, is *not* one of quantity; opportunities exist for many secondary social studies teachers to become involved in professional development. For elementary social studies teachers, however, the problem is one of both quantity and quality. Social studies specific professional development opportunities are in fact rare at the elementary level. Even if the problem of quantity and accessibility were addressed tomorrow, however, issues of quality would not disappear. When programs are available for elementary or secondary social studies teachers, Grant (2003) argues that many programs fail to attend to how teachers learn and the complexities of the teaching profession and instead rely almost solely on didactic instruction from experts. Moreover, student outcomes often remain unchanged as the professional development program has little impact in actual classrooms (Guskey, 2000)

It seems, however, that at least some teachers are aware of what is required for professional development to truly impact their classroom instruction. In their national survey of elementary teachers, Leming, Ellington, and Schug (2006) found that teachers identified “presenting content effectively” and “subject matter knowledge” as their top two professional development needs. Teachers in low-income schools placed even more importance on these two needs. As the authors note, such high numbers may result from teachers’ recognition that their preparation for teaching social studies content was deficient and that they need help understanding the content and matching that content to pedagogical strategies. Teacher sentiments captured in this study align well with the assertions of professional development reformers. Effective professional development, according to many reform advocates, brings about change in teacher knowledge *and* practice (Borko, 2004; Guskey, 2002). Valli and Stout (2004), for example, argue that effective professional development programs help teachers understand the content standards they teach but also the discipline itself. These reformers argue that teachers should receive instruction on using effective assessment strategies, guidance on finding adequate resources, help improving student learning, and continuous support for reform.

Sykes (1999) provides five principles that he argues should guide professional development for teachers. First, professional development should be grounded in the connection between teacher learning and increased student learning. Second, professional development should be grounded in the specific content of the curriculum. Third, professional development should include ongoing examinations of student work. Fourth, professional development should examine the student learning that results from the implementation of innovative curriculum materials. Finally, professional development should use formative and summative assessments to measure the effects of professional development on student learning. Sykes argues that if

these principles were followed, professional development programs would be designed such that teachers transferred new knowledge and skills to their classroom teaching.

Bausmith and Barry (2011) note that a great deal of attention has been paid to professional development programs seeking to implement new expectations for teaching and learning but that little actual change in professional development itself has resulted. In fact, these authors even note a “thriving professional development industry devoted to texts and workshops around the concept of [professional learning communities]” (p. 175). To address the disconnect between the widespread existence of these supposed professional learning communities and the lack of change in professional development, these authors point to the importance of pedagogical content knowledge. Pedagogical content knowledge provides teachers with the knowledge needed to seamlessly transform content understanding, performance skills, or desired values into appropriate pedagogical episodes or actions for students to experience. Understanding how content and pedagogy should be blended allows teachers to adapt instruction to the diverse interests and abilities of their students (Schulman, 1987). Bausmith and Barry (2011) argue that strong professional learning communities are those in which knowledge regarding content and pedagogy are acquired but also those in which existing assumptions about teaching and learning are challenged and critiqued. However, research on content and how students learn is not typically pursued by teachers engaged in professional learning communities, which limits the effectiveness of the professional development in shifting teachers’ assumptions about teaching and learning. To overcome this problem, the authors recommend increased focus within professional development initiatives on developing teachers’ pedagogical content knowledge (Bausmith & Barry, 2011).

Multiple studies examine the broader effects of professional development on teachers,

including its perceived benefits. In one important study, Grossman, Wineburg and Woolworth (2000) examined a two and one-half year long professional development project that organically developed amongst a community of researchers, teacher educators, and teachers within a large urban high school. As a result of informal “book club” seminars on the teaching and learning of history, teachers began to think more deeply about history as a discipline. Experienced teachers, in particular, valued engagement in subject matter as well as the collaboration afforded by the professional development program. New teachers reported that the professional community helped them overcome feelings of isolation and helped them move beyond the survival mode typical of novice teachers. One prominent weakness of this study, however, as articulated by van Hover (2008) in her review of professional development literature, is that the researchers did not examine the effects of the program on actual classroom teaching and that a focus on student achievement was therefore missing. Though teachers reported that the conversations within the professional development community impacted their practice, the study offers little evidence beyond self-reports that might qualify that impact.

In an initial evaluation of a TAH grant project, Kortecamp and Steeves (2006) investigated whether change in teacher knowledge and practice resulted from the professional development they implemented. Professional historians, teacher educators, and museum curators delivered seminars to participating teachers. Topics included strategies for differentiating instruction, adapting technology, accessing and using primary sources, and cultivating critical literacy. The researchers used questionnaires, focus group interviews, and teacher interviews to gauge the success of the program, all of which required teachers to self-report. All teachers reported knowledge gains but elementary teachers reported that some of the content topics were not relevant to their teaching because they did not address the state curriculum standards. In

response, teachers reported concern about how they could maintain the pacing provided by the state while integrating the instructional options they had learned through professional development. Teachers also reported reservations about a requirement to individually create lesson plans to share with the other project members. While teachers reported increases in knowledge of history and effective pedagogy following the seminars, lesson plans indicated that transfer to actual classrooms had been limited. Moreover, classroom instruction was not observed, further limiting the researchers' ability to provide evidence for changes in instructional practice. The results of this study suggest the importance of Sykes' (1999) principles for effective professional development. In particular for this case, the content examined should be connected to the content teachers teach and a focus on improving student achievement through examinations of student work should be central. Methodologically, the study also reveals the importance of observing classroom teaching following professional development as an important means of measuring transfer.

Lesson study. In her review of existing professional development literature, van Hover (2008) argues that civic educators should either fix existing problems with the myriad workshops available to teachers or move beyond workshops to develop, implement, and study new approaches to professional development that attend to effective means for promoting teacher learning, socialization, and change. One promising way to do just that - while also encouraging transfer of learning from professional development programs to actual classroom instruction - is through a specialized form of professional development called lesson study. Lesson study, a professional development approach originating in Japan, was brought to America by mathematics educational reformers beginning in the late 1990s. The earliest site-based lesson study and state-wide lesson study initiatives began in early 2000 and focused on elementary

mathematics reform (Fernandez, 2002). Lesson study is a recursive and collaborative process of designing, implementing, reflecting, and modifying a single Research Lesson during the course of one academic school year. Teachers work in collaborative teams to formulate goals for student learning, plan a Research Lesson that brings to life those goals, teach the lesson in one classroom while the remaining team members observe student learning, reflect on and discuss evidence of student learning gathered during the lesson observation and from student work, and then improve the lesson prior to it being taught in a second classroom (Lewis, 2009). Lesson study is designed such that teachers are encouraged to make lesson goals and rationales public. The collaborative process afforded by lesson study encourages teachers to articulate and perhaps alter personal theories of teaching and learning that are wrapped up in their craft knowledge.

According to Stigler (1999), lesson study is based on a long-term continuous improvement model that respects the fact that teaching is a cultural activity. Moreover, its focus on student learning stands in stark contrast to many professional development programs in the United States. Lesson study focuses on direct improvement of teaching *in context*, which respects the complexity of teaching and the culture of schooling. Because lesson study is collaborative and requires teachers to move beyond teaching in isolation, it provides a benchmarking tool for teachers to gauge their own teaching skills in a safe environment. Teachers who participate in lesson study see themselves as contributing to the development of knowledge about teaching as well as their own professional development. Teachers can compare their own practice with others in a non-threatening context that encourages experimentation with new pedagogical strategies. Lesson study therefore provides a context that develops deeper and broader teaching capabilities (Stigler & Hiebert, 1999).

In terms of professional development, teachers often face a difficult dilemma. They

realize that outside policy makers and instructional reformers might have valuable knowledge but they are not given time to study such programs, to decide what is meaningful, and to figure out how to implement recommended reforms. As a result, they devalue suggestions from outsiders because it is disconnected from everyday classroom life. Policy makers sometimes disseminate reform documents to induce reform, but this approach denies that teaching is a complex cultural activity. In response to such directives, teachers in the United States will sometimes implement one small sliver of reform and then argue that they are truly reforming. Lesson study, however, can help to overcome this subtle resistance to reform because the reform-based pedagogies that arrive within it are developed in context and teachers are provided time to digest reform models well in advance of actually implementing such instruction. Lesson study is also built on the assumption that teaching is a cultural activity. Indeed, Japan's model of lesson study assumes that reform is gradual and incremental and that the best context for improving teaching is the context of a classroom (Stigler & Hiebert, 1999).

According to Davies and Dunnill (2008), there are three important features of collaborative lesson study. First, teachers and researchers spend many intensive hours planning and revising a single Research Lesson, as opposed to a myriad of activities. Second, the intention of this collaboration is to help teachers reconsider and revise their professional teaching knowledge in light of the experiences they have teaching and observing the Research Lesson. Third, in order to make revisions to professional teaching knowledge, teachers focus their attention on evidence of learning gathered in the classroom. Lewis, Parry and Murata (2006) point to two main weaknesses, however, in the case for lesson study as professional development: there is little research that describes the process in-depth within western settings and there is little empirical evidence detailing how lesson study achieves changes in teaching

knowledge. This study will seek to address those gaps in the research literature.

Because lesson study was originally brought to the United States by elementary mathematics reformers, much of the formal research completed by U.S. lesson study researchers is in mathematics. Fernandez set out to investigate the educative value of lesson study, particularly whether it aided elementary mathematics teachers in enacting research-based mathematics instructional reforms (Fernandez, 2005). Fernandez noted that reform-minded mathematics instruction has remained elusive because such practice places heavy demands on teachers. These demands include the need for an in-depth content knowledge, a rich pedagogical content knowledge, high comfort levels with ambiguity, and a willingness to take risks. Fernandez's work focused on whether lesson study could be used to overcome the challenge of limited pedagogical content knowledge even among a group of teachers with sometimes-limited subject matter knowledge. Fernandez acted as a non-participant observer and purposefully avoided answering the group's questions during the lesson study process. She found that teachers merely discussing their instructional choices provided a "field" for the development of pedagogical content knowledge. Lesson study presented multiple opportunities for teachers to reason mathematically, both with students and with each other during lesson debriefings. Fernandez concluded that limited content knowledge among teachers was not an insurmountable obstacle because lesson study provided teachers with a venue for discussing content but also how to teach it. Lesson study required teachers to talk publicly about reform-minded mathematics. However, Fernandez warns that what teachers learn from lesson study often depends on what they bring to the table and that having at least one knowledgeable teacher could be useful for pushing the conversation to deeper levels (Fernandez, 2005).

While lesson study professional development research often provides insight into

elementary students' work in constructivist learning environments and into the emergence of collaborative communities of inquiry-based practice among participating teachers, it provides less guidance for implementing lesson studies with elementary *history* teachers. To find such guidance, one must turn to the informal reports or the websites of educational reform groups using lesson study to shape the teaching practices of history teachers. Furthermore, the available guidance is most often focused on secondary teachers and not elementary teachers, which are the focus of this study. I located no published research reports on the use of lesson study among elementary social studies teachers.

The Oakland Unified School District's (OUSD) lesson study project is one longstanding example of lesson study done with secondary history teachers (Oakland Unified School District, 2009). Since 2001, the OUSD has secured three year-long TAH grants with the hopes of improving the content knowledge of American History teachers in the district. Oakland's diverse student population has historically scored well below average on California state and national examinations of history knowledge. In addition, a large percentage of Oakland's history teachers do not hold proper history or social studies teaching credentials. In attempting to address students' poor performance on standardized exams as well as teachers' lack of training in the discipline of history, the OUSD turned to lesson study. The OUSD built lesson study into each grant cycle because of "the promise it held in helping teachers improve student learning" and as "a way to meet our goal of increasing collaboration and articulation" (Pesick & Weintraub, 2003, p. 240).

One of the OUSD's main goals was to deepen content knowledge and improve the historical thinking skills of project teachers. Project evaluators concluded that working with TAH historians "invigorated the spirit of the teachers by making it clear that K-12 teachers share

the common goal with university professors: teaching history to young people” (Pesick & Weintraub, 2003, p. 243). Participating teachers also learned history content through the lesson study process because they inevitably sought out sources beyond their textbook as they crafted their Research Lessons. The OUSD’s second main goal was to increase collaboration among history teachers within the district. Again they found that lesson study provided teachers with a formal and collaborative avenue for investigating classroom practice. Collaboration within lesson study allowed project teachers to become producers of knowledge, rather than strictly consumers as is customary during many professional development initiatives.

OUSD’s lesson study goals, however, were not without their challenges. Teachers found the time demands of lesson study challenging, particularly since planning occurred primarily after school. Following content presentations by historians, teachers expressed dissatisfaction when the content presented was not directly linked to the content they had to teach. The lesson study process also tested those teachers who initially expressed openness to collaboration because it forced them to deal with difficult or stubborn colleagues. In acts of passive resistance, some lesson study team members showed up to meetings late or did not show up at all. Some lesson study members planned the majority of Research Lessons, which sometimes caused team members to see lessons as individual creations, as opposed to collaboratively planned lessons ready for group study. The result was that observation debriefings were sometimes shallow; only the teacher who had implemented the lesson expressed ways to refine the lesson.

The nature of knowledge development during lesson study is a relatively new area of research in spite of lesson study’s long-standing role in Japanese and now American educational reform. To date, I have found no research that examines lesson study’s impact on the development of professional teaching knowledge for problem-based historical inquiry. In one of

the few studies that examined knowledge development at all during lesson study, Lewis (2009) studied one Japanese elementary school engaged in school-wide lesson study. She divided the resulting teacher learning she saw into three categories: development of knowledge; development of interpersonal relationships; and development of personal qualities and dispositions. Teachers in her case study gained knowledge of their respective students and of the problems students encountered when the lesson was enacted. Teachers also began to reconsider their own views of professional teaching. Seeing their students use and become excited about curriculum the teachers themselves had “learned” about and designed encouraged teachers to be curious about student learning and to be more open to professional knowledge (Lewis, 2009).

Joanne Lieberman’s work (2009) provides additional hope that lesson study might be used to overcome obstacles to teaching reform so that professional teaching knowledge might be developed. Lieberman grounded her case study of one middle school mathematics lesson study group in Lortie’s (1975) conclusions about teachers’ resistance to change – that norms of individualism, conservatism, and presentism inhibit changes in teaching practice. Lieberman came to three important conclusions regarding lesson study as a form of professional development. First, she argued that participation in lesson study led teachers to value collaboration and to move beyond simply swapping lesson materials or ideas. The teachers in her study noted increased quality resulting from collaboratively planned lessons. The teachers also believed that lesson study provided the structure to make continual lesson improvements in light of the common goals and theoretical foundations established during lesson study planning and reflection sessions. Second, Lieberman concluded that teacher’s tendency to focus on short-term goals in order to gain immediate reward could be eased by lesson study. She noted the emergence of shared design principles, grounded in theory, which led teachers to make

modifications to lessons once they realized they were not as effective as they might have been. She documented a shift in teachers' pedagogical goals, for example. Teachers moved from guiding students to understand mathematics to having students construct mathematical solutions and communicate their thinking. Finally, Lieberman concluded that through their collaborative work, the teachers in her case study refocused their energies on supporting student learning over the long term. This focus on student learning and on lesson improvement encouraged teachers to move away from the conservatism typical of American classrooms and to take risks to support student thinking (Lieberman, 2009).

Authentic Intellectual Work (AIW). Newmann and associates' work on Authentic Intellectual Work (2007; 1996) provides a basis for measuring teacher change that might result from lesson study and for considering what teaching practices and learning outcomes we might hope to result from high quality professional development. Authentic achievement is based on three centerpieces of instruction: construction of knowledge, disciplined inquiry, and value beyond school. Authentic intellectual work requires that students use rules of evidence to do disciplined inquiry about significant problems, communicate their decisions in elaborated ways, and produce products or performances that have value beyond school. Much research indicates that AIW standards can be used to design instruction that successfully guides students in developing deep understanding, problem solving capacities, and decision-making skills (Avery, 2001; Hickey, Moore, & Pellegrino, 2001; King, Schroeder, & Buckley, 2003; Saye & Brush, 1999; Schneider, Krajcik, Marx, & Soloway, 2002; Stewart & Brendefur, May 2005; Swan et al., 2008). When AIW standards are adopted and implemented, critical thinking and in-depth instruction replace survey, coverage approaches to teaching.

Within the large body of AIW research, one important study by Newmann, Marks, and

Gamoran (1996) examined the link between authentic instruction and authentic achievement by students. The study looked at twenty-four restructured schools to determine the effects of authentic pedagogy on math and social studies learning at all levels of schooling. Newmann and his associates examined classroom instruction, instructional tasks, and student work. Each class was observed four times during the school year in order to measure authentic instruction. Teachers submitted tasks they believed demonstrated students' understanding of the subject being taught and student work was collected upon completion of the task. In their analysis of the work, the researchers controlled for variables that might influence student achievement and administered a pre-test to control for prior achievement. The researchers found that authentic pedagogy (combined instruction and task scores) was the most significant predictor of high quality student performance. Moreover, the relationship between authentic pedagogy and student performance was true across grade levels and across schools. The effect of authentic pedagogy on student achievement was also consistent across variables such as gender, race, ethnicity and socioeconomic background.

Researchers are now considering ways to more explicitly use Newmann's criteria for authentic instruction in professional development for classroom teachers. One example of the potential for wedding AIW standards to professional development emerges in Avery's (2001) study of pedagogical seminars. Under the direction of Avery, teachers critiqued themselves using Newmann's instructional standards, which resulted in the emergence of a common language about pedagogy and a renewed sense of collegiality. Using AIW standards encouraged the development of a community of teacher learners with a shared theory for high quality instruction. Avery argues that the AIW standards contributed to the development of a high quality professional development experience as well. As examples, she notes collaboration

among colleagues during extended inquiries into teachers' pedagogy, quality reflection and mentoring that emerged during seminar sessions, and teachers' tight focus on student learning.

The literature suggests that there is potential for using professional development and especially lesson study, grounded in AIW standards, to encourage the development of professional teaching knowledge for problem-based historical inquiry. Because my study will focus on the development of such knowledge among 4th grade teachers, I next turn to the preparation of elementary teachers and to elementary teaching, including research that reveals the possibilities and constraints of doing PBHI in elementary classrooms. It should be noted, however, that exemplary models of social studies teaching in the elementary grades are generally scarce (McCall, 2006) for a number of reasons to be explored in the sections that follow.

Teachers who do provide an exemplary model of instruction often share common practices including: a focus on local history, effective efforts at integrating literacy into social studies, examinations of primary artifacts, and the use of extended writing assignments.

Elementary Teaching and Teachers

State standards for elementary social studies typically organize the subject around an "expanding communities" framework that begins with the "self" in kindergarten, families in 1st grade, neighborhoods in 2nd grade, communities in 3rd grade, states and geographic regions in 4th grade, and the United States in 5th grade (Brophy & Alleman, 2006). The curriculum, which is meant to build on children's real world experience, has remained largely unchanged for decades (Duplass, 2007; Hanna, 1937). Advocates for reform, however, criticize the curriculum as antiquated because it results in disjointed curriculum presentation and it ignores the knowledge of the world and culture possessed by today's digitally connected children (Duplass, 2007). The presence of No Child Left Behind (NCLB) inspired high-stakes tests in reading, science, and

mathematics but not in social studies has often resulted in a marked reduction in the number of hours devoted to social studies by elementary teachers. Administrative pressure to teach the “basics” of reading, language, and mathematics in order to meet the demands of NCLB has further reduced time spent on social studies instruction in spite of state curriculum standards that often mandate its teaching. When social studies is taught as a stand alone subject in grades 4-6, students receive as few as two to three hours per week of instruction (Howard, 2003; Leming et al., 2006; McCall, 2006; Rock et al., 2006; VanFossen, 2005).

When considering elementary teachers’ adoption of reform-based teaching reforms, or whenever comparing elementary and secondary social studies teachers, it is important to note that many elementary social studies teachers did not enter the profession to teach social studies. In fact, many who teach the subject to multiple classes of elementary students within a departmentalized organization never intended to specialize in social studies teaching. This contrasts markedly with secondary social studies teachers who likely chose to teach social studies and are therefore more likely to be passionate about the subject. Disparities in content course hours bear these differences out. Typically, elementary teacher candidates take two to three social science courses during their undergraduate preparation, whereas secondary teacher candidates may take upwards of thirty hours in the social sciences, including history (Conklin, 2007; Passe, 2006). Like their secondary peers, elementary social studies teachers’ beliefs about the curriculum are individualized and grounded in their craft teaching knowledge. Their curriculum beliefs often bear little resemblance to the views expressed within their teacher education programs (Goodman & Adler, 1985). Therefore, even if teachers had received specific instruction in the teaching of social studies, they are not likely to transfer that learning to their classrooms. The uncertainty about the social studies curriculum that results often leads

elementary teachers to deemphasize social studies instruction, particularly since they are already pressed into the teaching of other subjects (Thornton, 1991).

Through extensive classroom observations and open-ended interviews, Goodman and Adler (1985) identified six perspectives on social studies held by novice teachers early in their careers. Though not predictive of how elementary teachers might respond to research-based teaching reforms, Goodman and Adler's perspectives provide a useful frame for considering how elementary teachers view social studies prior to experiencing reform-based professional development. Teachers who viewed "social studies as a nonsubject" rarely taught it, instead focusing their attention on reading and mathematics and occasionally science. Teachers who viewed "social studies as human relations" taught children how to interact with each other on the micro level. Instead of using the social sciences to explore human interactions in society, these teachers taught children about themselves and how to cooperate. Teachers who viewed "social studies as citizenship" focused on developing children's loyalty to economic and political institutions and an unquestioned acceptance of American cultural strength. Teachers who viewed "social studies as school knowledge" were concerned mostly with covering material. These teachers viewed textbook knowledge as critical and therefore deferred to curriculum experts and knowledgeable others such as professors or principals. Classroom discipline was of primary importance to this group of teachers so they engaged in "defensive teaching" like that described by McNeil (1986; 2000). Teachers who viewed "social studies as the great connection" saw knowledge as integrated and therefore sought to integrate the subjects they taught into one coherent whole. Boundaries between school subjects were broken down as these teachers sought to develop curriculum based on their own and their students' interests. Finally, teachers who viewed "social studies as social action" hoped to change their students and

therefore the larger society through their teaching. These teachers hoped to use social studies instruction to develop critical students who might question social norms or students who would be socially responsible and willing to work to improve society (Goodman & Adler, 1985).

While the above descriptors are helpful for understanding teachers' conceptions of elementary social studies teaching, most are meaningless if teachers do not believe they have the time or support to teach social studies at all.

The widespread marginalization of social studies at the elementary level can be seen in a national survey of elementary teachers conducted by Leming, Ellington, and Schug (2006). Only 29% of all teachers reported that their schools thought civics and government were important, a striking statistic considering the civic education goals of public education in America (see, for example, Barton & Levstik, 2004; Dewey, 1998, 2005; Parker et al., 1989; Saye & Brush, 2004a). When social studies is not taught as a stand-alone subject and given specific time in the school day, it is often "integrated" into the study of literature, reading, or math. Advocates for social studies note that integration is sometimes used to mask the deep reduction in social studies instructional time and the uncertainty some elementary teachers feel when teaching social studies content. Indeed, the result may be that habits of mind associated with the social science disciplines are marginalized and larger citizenship goals established by social studies advocates disappear from the elementary classroom (Levstik, 2008).

Boyle-Baise, Hsu, Johnson, Serriere, and Stewart's (2008) qualitative study lends support to the notion that integration sometimes masks deeper issues. The teachers in their study most often used social studies to teach reading and language arts. Because No Child Left Behind does not require testing in social studies but does require it in reading, teachers and administrators felt justified in using social studies content to teach literature and reading skills. For these teachers,

using stories about the past when teaching reading constituted the teaching of social studies. Teaching social studies became mostly about story telling or recitation and rarely about helping students use tools provided by the social science disciplines in a manner that might prepare them to become active citizens. Most often, teachers' pedagogy for social studies could not be distinguished from pedagogy used for reading. In this study, teachers' integration of the content was not purposeful; it was a strategy used by teachers to continue social studies instruction under difficult accountability circumstances. Not only did teachers "put reading first," they very often assumed that social studies and reading were the same.

Within upper elementary classrooms in which social studies is taught, the social studies textbook is the primary pedagogical feature in spite of widespread criticism. McCall (2006) and Duplass (2007) argue that elementary teachers' reliance on textbooks may be due to their preparation as subject matter generalists and to the absence of a pedagogical content knowledge that results from a more general program of content preparation. An overreliance on the textbook, regardless of cause, is problematic for achieving civic competence goals because most textbooks have noted inadequacies. The criticisms of elementary social studies textbooks in fact lead many to conclude that these texts are altogether inconsiderate of the reader. Textbook authors often use an invisible narrator that prohibits sourcing or recognition of author voice, rely heavily on uninteresting expository narratives, and fail to link events beyond simple cause and effect relationships (Barton, 1997; Beck, McKeown, & Gromoll, 1989; Duplass, 2007; VanSledright & Franks, 1998). Particularly for upper elementary students, the invisible author often leads students to conclude that the textbook is the final authority on the past and that its narrative should not be questioned or examined (Beck, McKeown, & Worthy, 1995). From the fragmented facts of the textbook, students are then expected to extrapolate understandings of

complex concepts such as culture, democracy, or freedom. An overreliance on textbooks by elementary teachers limits opportunities for students to “do” history by interpreting primary or secondary sources, by judging the reliability or validity of sources, or by addressing an authors’ point of view. Students are rarely asked to assemble their own explanations of the past and support them with historical evidence.

Despite the dominance of textbook-based instruction, studies of elementary classrooms suggest that some teachers are able to engage their students in challenging social studies instruction. Doing so, however, is not without challenges for teachers and students. In Table 1 on the following page, I provide a very brief sample of research studies that suggest that elementary students are capable of engaging in disciplined thinking when teachers provide effective scaffolding. In the paragraphs that follow, I focus on recommendations for teachers that flow out of the body of research focused on students’ disciplined thinking.

To rectify misconceptions elementary students hold about history, Brophy, VanSledright, and Bredin (1992) offer several recommendations for elementary history teachers. First, the authors recommend that teachers clearly explain that history study can help students develop their personal identity. Second, teachers should emphasize the civic value of history study, particularly the opportunities to examine persistent social issues that history study offers. To accomplish these two tasks, however, the authors also note that students must be given opportunities to understand the interpretive nature of history including opportunities to develop the critical thinking skills necessary for historical thinking. The authors minimally call for periodic exposure to conflicting historical accounts that might help students in understanding the interpretive nature of history including the difficulty historians encounter when trying to draft

Table 1

Summary of Studies Engaging Students in Inquiry

Study	Focus	Sample	Findings and Conclusions
Brophy, VanSledright, and Bredin (1992)	Student thinking about history.	Ten 5 th grade social studies students.	Students prioritize facts and famous people over historical thinking. Exposing students to multiple historical accounts helps them understand interpretive nature of history.
Barton (1997)	Students' disciplined thinking.	Two 5 th grade social studies classes of students.	Students are capable of interrogating the source of historical artifacts but their ability to use that evidence within reasoned conclusions is faulty.
VanSledright and Frakes (2000)	Students' interpretation of historical concepts as they engaged in research.	Two 4 th grade classes of social studies students. One teacher taught research methods; second teacher did not.	Little difference in how students in the two classes made sense of conflicting historical sources. Teachers should focus on evidentiary rules, reliability and validity of sources, and strategies for handling bias and point of view.
Swan, Hoffer, and Locascio (2008)	Student reasoning with historical evidence and perspective recognition after exposure to online historical scene investigations.	5 th grade social studies students.	Periodic instruction with primary documents within an investigatory framework can help students develop a deeper understanding of historical context as well as improve skills of evidentiary reading.

historical narratives. Swan, Hoffer, and Locascio's (2008) study of 5th graders offers one technologically enhanced means of helping students understand the interpretive nature of history through the use of historical scene investigations.

Barton's (1997) findings suggest that teachers play an important role in scaffolding students' thinking about historical artifacts in elementary classes. Teachers who guide this process well can help students make decisions regarding historical problems that are grounded in evidence and sound reasoning. Barton contends that scaffolding from expert teachers can help elementary students do even more than is often typical in elementary classrooms and that sustained instruction in historical thinking is needed. After summarizing years of research on students' disciplined thinking in history, Levstik and Barton (2008) likewise argue that the students' distortions of the past are not inevitable. They contend that teachers should give students opportunities to discuss diverse perspectives on diverse historical events, both positive and negative. They call for teachers to provide elementary students with regular opportunities to collect and evaluate evidence firsthand. Such opportunities would help build on students' emerging historical reasoning skills and give students practice using evidence to form conclusions about contemporary or historical issues of importance (Levstik & Barton, 2008).

Preparation. When considering differences between elementary and secondary teachers as well as the practice of elementary teaching itself, it is important to note that there are marked differences in the preparation elementary social studies teachers receive as compared to their secondary peers. To begin, many elementary teachers must choose between an early childhood, elementary age, or early adolescence focus upon entering their elementary education program. In addition, elementary teachers assume responsibility for teaching multiple disciplines and their preparation at the collegiate level reflects this reality. Unlike many of their secondary peers,

elementary teachers typically do not major in the social sciences at the undergraduate or graduate level. Moreover, as discussed previously, many elementary social studies teachers did not choose to teach social studies in comparison to their secondary peers. In fact, many elementary teachers consider themselves subject matter generalists. Those who do specialize in the teaching of social studies often do so by chance after finding a love for the subject many years into their careers. In terms of collegiate preparation, many elementary teachers attend only a few classes in the social sciences. Because these courses are often chosen directly by the teacher candidate from a pool of available social science courses, elementary teachers often emerge from college with inconsistent content backgrounds (Conklin, 2007; Passe, 2006). On this problem, Thornton (2001) writes that “there appears to be scant social science subject matter knowledge that American elementary teachers hold in common, and what they have studied is unlikely to have been in depth” (pp. 72-73).

Gillaspie and Davis (1998) argue that, like secondary teachers, elementary teachers need strong backgrounds in history as a discipline in order to lead students through examinations of various historical sources and to coach students in historical thinking. They worked to add to the emerging literature on teachers’ understanding of historical thinking by examining elementary pre-service teachers’ perspectives on the discipline of history and their ability to think historically. Using Wineburg’s think aloud methodology (1991), Gillaspie and Davis examined three undergraduate elementary pre-service social studies teachers and their ability to make sense of multiple primary documents that discussed the dropping of the atomic bomb on Japan in 1945. Confirming previous research, these authors found that the three participants struggled to use historical details in their writing even after being exposed to over sixteen source documents. Additionally, the pre-service teachers failed to question the reliability or authenticity of a single

source in ways that approximate the actions of historians. In explaining this oversight, the researchers reported that none of the three pre-service teachers had prior experience with historical documents in history classes due to the fact that their university classes were largely lecture-based, reliant on single texts, and emphasized assessments of factual recall. The pre-service teachers studied also had difficulty imagining how they might use historical documents in future social studies lessons even though they viewed such documents as positive additions to instruction that might be helpful in developing empathy and students' understandings of historical perspectives. The authors concluded their work by advocating increased time learning historical content about specific events and periods but also more time considering the methods historians use to interpret the past. These methods might include document analysis, perspective analysis, or narrative construction using available source documents (Gillaspie & Davis, 1998).

In contrast, secondary teachers often do have in-depth academic preparation in one or more social science disciplines, particularly history. Multiple courses in World and American History are typical. Moreover, undergraduate secondary social studies education programs typically require from two to four semesters of coursework focused on discipline-specific pedagogy or perhaps on the history of social studies education (Thornton, 2001). Elementary teachers also differ from their secondary peers in terms of the teaching methods courses they take in college. Secondary methods courses typically provide teachers with strategies for transforming specific social science content into suitable instruction for a specific group of students. Though the number and quality of methods courses differ dramatically across the United States, many teaching candidates, especially at the elementary level, take general methods courses that are not tied to specific disciplines. Even when teaching candidates are required to take multiple, discipline-specific methods courses, these courses often must battle

against the socializing effects of traditional teaching methods typical in American schools (Thornton, 2001). More often, elementary teachers take a single social studies-specific methods course that often includes themes of inquiry, curriculum integration, and literacy (Caskey, 2007).

Beyond sheer number of social studies methods courses for elementary education majors, an additional problem concerning these courses exists as it relates to developing in-depth, discipline-specific content and pedagogical knowledge. A survey sponsored by the College and University Faculty Assembly of the National Council for the Social Studies revealed that half of elementary methods instructors did not identify themselves as specialists but as generalists. Indeed many elementary methods instructors reported a background in reading or language arts (Passe, 2006). It seems logical, therefore, that elementary methods courses likely emphasize more general themes of inquiry and literacy, unlike the more content or discipline specific emphases of secondary methods courses.

The characteristics of elementary pre-service teacher preparation described above raise the question of whether elementary teachers typically develop the pedagogical content knowledge needed to develop and implement powerful social studies instruction (Schulman, 1987). Particularly, it seems that many elementary teachers may not develop deep knowledge of students' needs or ways of thinking within specific social studies contexts, deep knowledge of social studies subject matter in general, or knowledge of ways to represent that subject matter to diverse students (Caskey, 2007). The result, therefore, is that elementary teachers are likely to see themselves as subject matter generalists to an extent that they might deemphasize the rich content knowledge needed to lead students through problem-based inquiries. Leming, Ellington, and Schug's (2006) national survey of elementary social studies teachers provides evidence for this tendency. They found that elementary social studies teachers viewed their student teaching

as invaluable. Only 31% of surveyed teachers, however, viewed their history and social science courses as very good. This is not surprising considering other results from the survey. Only 17% of fifth-grade teachers and 10% of second-grade teachers had more than ten courses in history or the social sciences as undergraduates. This contrasts markedly with eighth-grade teachers, 60% of whom reported having ten or more history or social science classes.

Completed Research Studies

I found no published or unpublished research studies that examine the use of lesson study to develop professional teaching knowledge for problem-based historical inquiry among elementary or secondary teachers. Though not formally constituted as lesson study, Saye, Kohlmeier, Brush, Mitchell and Farmer's (2009a) case study on the use of mentoring to develop professional teaching knowledge for problem-based historical inquiry provides the most significant guidance with regard to the use of modeling and scaffolding among elementary and secondary teachers. It also provides significant hope for the development of a professional knowledge base for problem-based historical inquiry. There are also indications in the literature that developing professional teaching knowledge for problem-based historical inquiry among 4th grade teachers is possible. Existing literature suggests that problem-based historical inquiry is a promising means for developing civic competence among pre-collegiate students but that it remains uncommon in typical classrooms, especially in elementary classrooms. Several studies, however, including those completed by VanSledright, Barton, Levstik, and Swan suggest that students as young as 4th grade can begin to use tools of the history discipline to address challenging social studies problems or interpretive history questions. Significant obstacles to such teaching exist, including inflexible absolutist epistemologies, high cognitive demands placed on teachers, the absence of in-depth content knowledge, and a conservative culture of

schooling that encourages resistance to reform. The literature consistently indicates that professional development is central to helping teachers overcome those obstacles to adopt more theory-based practices. However, little is known about whether or how professional development might be used to develop professional teaching knowledge for problem-based historical inquiry among elementary teachers.

Importance of Study

The No Child Left Behind Act calls for states to ensure that teachers have access to high quality professional development (Hess & Petrilli, 2006/2007). In her review of the professional development literature from the mid 1990s to the present, van Hover (2008) notes several important gaps in the research literature about high quality professional development that the present study could help fill. She argues that much of the existing literature on professional development focuses on the effects of particular interventions on one or more variables. Missing is “insight into whether teachers became better teachers as a result of professional development” (van Hover, 2008, p. 353). Similarly, van Hover notes that few studies exist that examine how professional development designed to develop communities of practice might help social studies teachers improve their instructional practice. Most importantly for this study, few studies examine how or what teachers took into the classroom from professional development. In other words, existing literature lacks data gathered through sustained observations of professional development and classroom teaching but instead relies too heavily on self-report by teachers about the impact of professional development. Often times, as a result, the link between professional development and teaching practice and even student achievement has not been adequately investigated. In concluding her review, van Hover writes, “Future research...should focus on what happens in the classroom following professional development and whether/how

professional development impacts teacher learning and student learning over time” (van Hover, 2008, p. 366). My study will include observations of the professional development process and observations of classroom teaching and will use Newmann’s AIW pedagogy standards to determine if instruction improves as a result of lesson study professional development. In addition, I examine linkages between student achievement and lesson study professional development. More than two years of data collection including multiple classroom observations of participating teachers should help me more confidently document any changes in teacher knowledge and practice that might result from the enacted professional development program.

Chapter Three: Methodology

Introduction

In this chapter, I first review the research questions I used to guide data collection. I then describe the design of the study. I give particular attention to my use of mixed-methods and design intervention through Persistent Issues in History (PIH) lesson study. Next, I describe the participants and settings including details about the six 4th grade teachers and their schools. For clarity, I then separately list and describe the quantitative and qualitative sources of data followed by an overview and timeline of the procedures I used to gather data. Finally, I describe the methods I used to analyze both the quantitative and qualitative data and then conclude by examining potential threats to the data and my efforts to mitigate those threats.

Research Questions

As stated previously, the purpose of this study was to evaluate how lesson study professional development impacted one group of 4th grade teachers' understanding of problem-based historical inquiry and how that understanding or lack thereof contributed to the development of a professional knowledge culture. To achieve that purpose, I set out to answer four research questions. Newmann's (2007) standards for authentic pedagogy guided the professional development program I studied. In addition, these standards were used to structure the collection of data in teachers' classrooms. Authentic pedagogy and its potential relationship to the development of professional teaching knowledge for problem-based historical inquiry are therefore central to the research questions posed. Specifically, I asked:

1. How do 4th grade State History teachers interpret a holistic, research-based framework for problem-based historical inquiry (PBHI) designed to increase professional teaching knowledge?
2. Does lesson study facilitate the development of a shared professional knowledge culture among 4th grade elementary teachers?
3. Do 4th grade State History teachers who exhibit greater understanding of PBHI demonstrate higher levels of authentic pedagogy and greater growth in professional teaching knowledge over time?
4. How do levels of content knowledge and authentic pedagogy among 4th grade State History teachers compare to those of 5th, 6th and 11th grade teachers participating in a research-based professional development program?

Design of Study

This study was a mixed-methods evaluation (Patton, 1987; Rossman & Wilson, 1984, 1991) that required the collation of quantitative data collected as part of the larger Plowing Freedom's Ground Project as well as the independent collection of rich qualitative data for the identified sample. My analysis of qualitative data focused on evaluating the extent to which the PFG lesson study professional development program encouraged professional teaching knowledge within a group of 4th grade State History teachers. I used quantitative data primarily for descriptive purposes and for comparing the 4th grade group of participants to the larger PFG study population. Evaluations of the entire PFG Project were most often quantitative in nature due to the size of the project and to the evaluation expectations of the project funder, the U.S. Department of Education. PFG staff collected qualitative observational data as a part of larger

PFG evaluations, but those data were typically converted to quantitative data for purposes of analysis. Because this study focused on one subgroup within the larger PFG study population, I drew from the quantitative data collected as a normal part of the project. Unlike larger project evaluations, however, I also drew upon a much richer set of qualitative, observational data collected through three yearlong lesson study cycles. These data included additional classroom observations, audio-recorded lesson study meetings, and audio-recorded interviews with each individual 4th grade teacher.

Lesson study, as conceived by the PIH Network, is a design intervention at its root (Brown, 1992) because it seeks to use collaboratively planned and evaluated lessons to alter teachers' conception of powerful social studies teaching. These interventions took place in the participating teachers' classrooms and therefore also reflected the complexities of that environment. Unlike a laboratory setting where researchers attempt to control some or all intervening variables, the natural classroom environment is one in which changes in any number of variables can impact outcomes in dramatic ways. As a result, design experiments do not seek to establish causality by determining the independent variables that influence dependent variables. Instead, design experiments seek to study the learning environment holistically and theoretically explain observed changes in teaching and learning that occur within that environment (Brown, 1992; Collins, Joseph, & Bielaczyc, 2004). Due to the challenges associated with holistically describing changes in teaching and learning brought about by design interventions, such research studies usually include data collection over multiple iterations. Data are collected from overlapping sources so that the effects of the design intervention can be viewed from multiple perspectives and so findings can be triangulated (Design-Based Research Collective, 2004).

During the course of my study, each PIH lesson study team including the 4th grade team followed the same yearly cycle. In the summer, all lesson study teams first participated in a weeklong seminar during which professional historians provided content lectures on an historical era found within state curriculum standards and identified by project leaders as the year's content focus (Year 1 = U.S. Civil Rights Movement; Year 2 = Indian Removal and Westward Expansion; Year 3 = American Revolution). During this same seminar week, teacher educators modeled research-based PBHI teaching strategies that required participants to work, as learners, with historical content from the identified era. The strategies modeled were intentionally chosen as exemplars of PBHI in action but their historical content were chosen with adult learners in mind. Once the historical content was established and PBHI teaching strategies modeled, participants engaged in a second week of professional development centered on the first stages of the lesson study process. It was during this second week that participating teachers began to meet in small grade-level teams to identify Research Lesson goals, design the actual Research Lesson itself including all of its supporting materials, and plan for observations by identifying specific teaching and learning goals the team wanted to investigate. When additional planning time was needed beyond the lesson study week, teams met during the school year before, during, or after school to finalize plans. Lesson study teams identified one teacher to implement the lesson in their classroom for other team members to observe. Immediately following the first observation, team members met to discuss and critique the lesson including learning outcomes observed among students. As part of this conversation, or in later meetings, teachers determined if the goals for the Research Lesson were achieved by examining student work produced in the lesson and video of lesson implementations. The teams then scheduled a time to make changes to the Research Lesson based upon group reflections following the initial implementation. A

second teacher implemented the lesson thereafter and the entire process repeated itself over again. The team met to discuss and critique the second implementation of the lesson and the year's lesson study cycle then concluded with a final meeting to revise the lesson for the upcoming school year and to draw more holistic conclusions about the year's lesson study cycle.

PIH lesson study sought to head off some of the passive resistance encountered by lesson study groups like Oakland Unified School District (OUSD) before it emerged through a number of initiatives that were program-wide. First, the most intensive part of lesson study planning occurred during a week in the summer. Scheduling the most intensive planning during the summer avoided some of the tensions encountered by the OUSD teachers as they attempted to plan collaboratively after meeting the exhausting demands of teaching students all day. Moreover, the week prior to PIH lesson study planning was designed to motivate teachers by providing them with content-based seminars and by modeling research-based learning strategies. By having participating teachers experience these learning strategies as learners and encounter content they would later teach, project staff hoped to increase teacher motivation. Additionally, the PFG Project provided additional incentives for teachers to remain engaged and avoid the passive resistance encountered by OUSD lesson study. Individual project teachers were paid one hundred dollars a day for their participation in the project. By valuing teachers' time and by treating them as professionals, the project actively encouraged teachers to remain responsive and engaged. Annual "field-trips" to historic sites directly connected to the year's content topic provided an additional incentive in that teachers were rewarded for their efforts through an intensive but free trip to sites they might not otherwise visit. Teachers also received free teaching and content resources provided by the project. Finally, the PFG Project maintained an organizational structure that sought to maintain conversational contact with participating teachers

in such a manner that their input was valued and acted upon. Each school system involved in the PFG Project chose a “lead teacher” who acted as that system’s teacher representative to project staff. The intent of this organizational structure was to encourage teachers to address their concerns such that resistance of any kind became unnecessary. As part of a project steering committee, lead teachers were invited to report the feelings of their colleagues to system level administrators from each participating system, project leaders, and project evaluators. The PFG steering committee met quarterly to review project objectives and progress towards achieving those objectives and was directly responsible for making changes to project activities.

In order to develop professional teaching knowledge for problem-based historical inquiry among participating teachers, PIH lesson study went further in attempting to avoid the pitfalls experienced by others conducting lesson study. The PIH lesson study model differed from other lesson study models present in the literature in several important ways. First, it was collaborative in the truest sense. Participating teachers, PIH teacher educators and staff, and project historians worked collaboratively throughout the lesson study process to author the Research Lessons. Although the goal of PIH staff members was to always give ownership of the process to project teachers and to accede to their choices, as equal participants staff influence was undeniable. This influence contrasted with other lesson studies in which teacher educators served only as pedagogical experts, independent researchers, or as managers of the process. To overcome this potential study limitation, I attempted to progressively give greater control to the 4th grade subgroup of teachers during Year 2 and Year 3 of the study. It was necessary to exert greater control of the process during Year 1 because it was participating teachers’ first encounter with social studies professional development generally but lesson study specifically. Because participating teachers were in a better position to understand the process following the

conclusion of Year 1, I attempted to give them greater autonomy during Year 2 and Year 3. I attempted to accomplish this objective by playing the role of facilitator or coach more often and with greater consistency. I provided fewer explicit directives to the group with regard to lesson goals, potential lesson strategies, or conclusions drawn from student work. Instead, I sought to probe their thinking or offer subtler suggestions grounded in PBHI theory. For example, when teachers discussed historical documents they wanted their students to read, I often asked if there were other perspectives that might offer a counter position to whatever historical issues the teachers had chosen. Similarly, when teachers discussed the PBHI teaching strategy they wanted to feature in their lesson study Research Lesson, I often showed them short video clips of more expert teachers implementing that PBHI teaching strategy so that they could see their proposed strategy enacted.

Second, PIH lesson study was different than other lesson studies because it was scaffolded throughout the process. PIH lesson study heeds Fernandez's (2005) warnings about having a more active guide in lesson study by scaffolding teacher learning throughout the process. Hard scaffolds, grounded in the PIH framework for PBHI, required teachers to think about their goals for student learning as well as the pedagogical strategies that might maximize that learning. Moreover, additional soft scaffolding was provided through subtle questions, suggestions, or examples from PIH staff persons working with the lesson study team. This meant, for example, that when teams identified lesson goals, they completed a conceptualization scaffold that included guiding questions grounded in authentic intellectual work (AIW) and problem-based historical inquiry (PBHI) principles. Similarly, teams completed an observation scaffold that assisted them in identifying specific student learning outcomes they hoped to achieve. Each scaffold completed by lesson study teams was not only grounded in theoretical

PBHI research, but it had also been field tested and refined during prior PIH lesson study research projects. While not prescriptive in nature, these scaffolds guided the discussions of lesson study participants and encouraged teachers to think within a PBHI framework. Methodologically, therefore, these scaffolds served as important data gathering instruments in that they were used to record the consensus goals of lesson study team members. The scaffolds were used at least partially to examine teachers' understanding of professional teaching knowledge (see Appendix 1 and 2 for scaffolds).

As with giving teachers more control when discussing the design of lessons, I attempted to give teachers more control over the completion of the planning scaffolds during Year 2 and Year 3. During Year 1, we worked through the lesson study planning scaffolds deliberately and under my immediate direction, spending considerable time completing them on the front end of the lesson planning process. During Year 2, however, I worked to let the process unfold more organically, allowing the teachers to control the process and to choose the areas worthy of more in-depth discussion. This approach meant that we sometimes did not complete all parts of the scaffold and had to return to them in later meetings or that we completed the scaffolds in smaller segments of time spread out over several days. During Year 3, there was no concerted effort to complete the planning scaffolds. Instead, we discussed the questions within the planning scaffold as they arose and only used the scaffold as a final check on our plans at the conclusion of the lesson study planning week. My purpose in giving teachers more control during Year 2 and Year 3 reflected my desire to determine what elements of the planning scaffolds were instructive to 4th grade teachers' lesson study planning process and to determine their desire to address the questions raised by the planning scaffold.

Schools Systems and Schools

In the following sections, I provide a brief overview of the schools where participating 4th grade teachers were employed. All school systems were located in a state in the southeastern region of the United States. Pseudonyms are used for schools and teachers. Participating 4th grade teachers worked in three different school systems in three different counties. All three of the districts were labeled high needs at the beginning of the PFG Project with a majority of students coming from low socio-economic status homes (55% of students in all districts were eligible to receive free or reduced lunch during the 2009-2010 school year). At the start of the 2010 school year, all three school districts had failed to make adequate yearly progress (AYP) based on 2009-2010 school year data. More specifically, all three districts had failed to make AYP for reading in grades 3-5. Finally, 4th grade students in all three districts scored below the state average (62nd percentile) on the reading portion of the nationally given Stanford Achievement Test (SAT). In Appendix 5, I provide a table with additional details about each school system.

Schools. Within the three school systems, four different schools were represented during the three-year span of the study. Four of the six teachers (Camille, Hallie, Olivia, Paige) taught at River Elementary School, which included grades K-5. River Elementary had approximately 650 students at the start of the study, 86% of whom were Black. Eighty-six percent of all students were eligible for free or reduced lunch during the 2009-2010 school year. 4th graders at River Elementary scored in the 49th percentile on the Stanford Achievement Test (SAT) during the 2009-2010 school year. Physically, the school had multiple buildings, the newest of which housed the 4th grade teachers. As a result, the 4th grade teachers at River Elementary had the newest student desks, technology, and overall facilities within the larger school. Each 4th grade

classroom at River Elementary was equipped with a teacher computer, four student computers, a smart board, and a DVD/VCR player with operating speakers. In addition to these amenities, these teachers had access to a modern computer lab with approximately thirty computers.

One of the six teachers, Felicia, initially began at Railroad School serving grades 4-6 and then was transferred to Highway Elementary School serving grades K-5 at the beginning of Year 2. Railroad School had approximately 1,300 students during the 2009-2010 school year, 77% of whom were White. Approximately 47% of Railroad School students were eligible for free or reduced lunch. Fourth grade students at Railroad School scored in the 60th percentile on the SAT during the 2009-2010 school year. Physically, Railroad School suffered from years of overuse. Felicia's 4th grade classroom contained few technological resources. In addition, the only computer lab in the school contained few functioning computers. Because Felicia's new school, Highway Elementary School, did not open its doors until the 2010-2011 school year, I draw on that year's statistics for descriptive purposes here. Highway Elementary had approximately 518 students, 78% of whom were white. Approximately 47% of Highway Elementary students were eligible for free or reduced lunch. SAT results were not available for Highway Elementary but regional schools typically scored just below the state average. Physically, Highway Elementary was very much like Railroad School. Because Highway Elementary had previously been the district's junior high school before reorganization, the school had been overpopulated and overused for much of its recent history. Technological resources were minimal in both schools. In both Railroad School and Highway Elementary, Felicia had two outdated but working computers and an LCD projector that was barely visible to students. Felicia frequently noted the lack of technological resources available to her.

One of the six teachers, Wendy, taught at Parkside School. Parkside School, a K-12

school, was located in a very small, rural town with a population of approximately 800 residents. Parkside housed approximately 700 students, 325 of whom were elementary students. During the 2009-2010 school year, approximately 90% of Parkside students were White. Fifty-three percent of Parkside students were eligible for free or reduced lunch. During the 2009-2010 school year, 4th grade students scored in the 68th percentile on the SAT. Physically, Parkside was quite similar to Railroad School in terms of the school building's age and the availability of technological resources. No student computers were available in Wendy's classroom and she had no projector available for her use. In fact, she often taught from an overhead projector or took her students to the library where there was space to set up an outdated laptop computer and projector. The laptop held outdated software, however, which often forced Wendy to improvise on the spot because electronic files created by lesson study team members were difficult or impossible to open. Unlike the teachers at River Elementary or Felicia at either of her schools, Wendy's room was small in size with students necessarily crammed tightly in rows. Like Felicia, Wendy acknowledged the lack of resources available to her at Parkside School. Table 2 on the following page summarizes school demographics.

Table 2

School Demographics

School	Teachers	Grades Served	Total Students	Largest Ethnicity & Percentage of Student Population	Percent of Students Eligible for Free-reduced	4 th Graders SAT Percentile - Reading
River Elementary School	Camille Hallie Olivia Paige	K-5	650	Black (86%)	86%	49th
Railroad Intermediate School	Felicia	4-6	1,300	White (77%)	47%	60th
Highway Elementary School	Felicia	K-6	518	White (78%)	47%	N/A
Parkside School	Wendy	K-12	700 (325 in K-5)	White (90%)	53%	68th

Participants

A purposeful sampling strategy was employed. The PFG Project represented one of the first efforts by the PIH Network to use lesson study with a group of elementary teachers. Limited financial and manpower resources made in-depth, qualitative evaluation of this group by the larger project impossible. However, the novelty of using lesson study to develop professional teaching knowledge for PBHI with a group of elementary teachers made this subgroup a critical one to examine because it provided a large sample in which examinations of the effectiveness of the PFG Project in developing professional teaching knowledge were possible. However, the purpose of my study was not to produce results that could be generalized from the elementary cohort within the PFG Project to the secondary cohort or to other lesson study groups in different settings. Instead, I hoped my study might reveal issues or themes that could help PIH researchers and other researchers interpret, explain, or plan for factors that could influence results with other lesson study teams in other professional development settings. The degree of transferability is therefore left to the reader (Lincoln & Guba, 1985).

At the start of the project, the 4th grade lesson study group consisted of seven teachers who signed up to participate in the PFG Project. The only male teacher in the group, Andrew, left the project following the completion of Year 1 as a result of job relocation. I have therefore removed Andrew from the sample and focused on the six teachers who were present for all three years of the study: Camille, Felicia, Hallie, Olivia, Paige, and Wendy. In addition to the attrition described above, one of the six teachers, Wendy, was moved from teaching 4th grade to Kindergarten at the conclusion of Year 1. Additional information regarding changes to the teachers' participation is provided in the descriptions of individual participants below.

The six teachers who participated in the full study were homogenous in the sense that

they all taught 4th grade, voluntarily agreed to participate in the PFG Project, and were all women. The 4th grade lesson study team included a higher percentage of minority teachers and a larger concentration of female teachers when compared to the larger PFG Project population. The higher concentration of minority teachers was likely due in part to the fact that four of the six teachers taught at River Elementary School, which was situated in a predominantly African American community. The higher concentration of female teachers was likely due to the higher number of females who pursue elementary education teaching positions. However, variation among the six teacher participants existed in terms of race, teaching experience, beliefs about teaching and learning, and the racial makeup and community settings of their classrooms. This variation added a layer of depth to what could be said about the effectiveness of the professional development program in encouraging professional teaching knowledge among a diverse group of participating teachers.

Among the six teachers, five held master's degrees, and two held specialist degrees or were in the process of completing one. All six teachers had no history coursework beyond courses required in the undergraduate core. While all six teachers were labeled "highly qualified" under No Child Left Behind, they all spoke of their lack of in-depth content knowledge or preparation to teach history in meaningful ways. Moreover, the school districts participating in the PFG Project lacked sufficient funding to offer professional development in history prior to collaborating in the PFG Project. During the three years prior to the start of the PFG Project, two of the school districts offered no professional development for history teachers, while one offered only one half-day workshop in using maps and Internet sources (PFG Proposal, p. 19). Table 3 below overviews the teachers featured in the study, which I profile in more detail in the section that follows.

Table 3

4th Grade Teacher Demographics and Professional Training

	Age	Sex	Race	Years Experience	School	Degree(s)	History Credit Hours
Camille	50	F	Black	13	River Elementary	B.S. – Elem Ed Masters – Elem Ed	9
Felicia	48	F	Black	13	Railroad School; Highway Elementary	B.S. – Business Masters – Elem Ed Spec – Elem Ed	9
Hallie	28	F	Black	5	River Elementary	B.S. – Elem Ed Masters – Elem Ed	9
Olivia	38	F	Black	4	River Elementary	B.S. – Elem Ed Masters – Elem Ed	6
Paige	27	F	White	5	River Elementary	B.S. – Elem Ed	12
Wendy	40	F	Black	10	Parkside Elementary	B.S. – Social Work Masters – Elem Ed	9

In the sections that follow, I profile all six teachers who were members of the 4th grade lesson study team for all three years. The descriptions are based on the PFG Project application all teachers completed prior to being accepted as well as demographic data collected during exit interviews. The first four teachers (Camille, Hallie, Olivia, and Paige) all taught at River Elementary School. Each of these teachers taught a self-contained 4th grade class of students. Students remained with their assigned teacher all day and received instruction in Reading, Language, Spelling, Math, State History, and Science.

Camille. Camille, a 50-year-old Black female, began her 13th year of teaching when she entered the PFG Project. She held an undergraduate degree in Early Childhood Education, a master's degree in Early Childhood and Elementary Education, and began coursework for a Specialist degree in Elementary Education while involved in the project. Camille worked at River Elementary School. In her application to the PFG Project, Camille noted that instruction in any subject should involve “interactive conversations” and include “various teaching strategies” in order to meet the needs of “various learning styles of the students.” Camille noted that her prior experience with history during her K-12 schooling and undergraduate preparation was poor and that she taught history the way she learned it – “basically facts and dates.” Camille hoped the PFG Project would give her the chance to “network with various individuals to gain knowledge on how to teach history in an interesting way.” Camille acted as the grade level chair for the 4th grade teachers at River Elementary and as the PFG Project lead teacher for her school district. Camille served as one of the lesson study teachers during Year 1 of this study, allowing other teachers to observe her teaching that year's Research Lesson. Camille reported no prior social studies professional development before the PFG Project but noted the many hours of school-based training she had acquired in other subjects.

Hallie. Hallie, a 28-year-old Black female, began her 5th year of teaching when she entered the PFG Project. She held an undergraduate and masters degree in Elementary Education. She also held state endorsements for K-12 reading and special education. Hallie taught at River Elementary School. In her application to the PFG Project, Hallie said she tried to “promote positive learning, spark learner enthusiasm for learning, and provide a strong foundation for lifelong learning” in her classes. Regarding history, Hallie noted her fascination with the subject and her willingness to bring artifacts to her class, saying, “when students see you

eager to learn, they are willing to learn themselves.” Hallie hoped the PFG Project would build on her knowledge of history and “help me present history in a more creative way.” Hallie reported no prior social studies professional development.

Olivia. Olivia, a 38-year-old Black female, began her 4th year of teaching when she entered the PFG Project though she spent the prior seven years substitute teaching. She held undergraduate and master’s degrees in Elementary Education that included a K-12 reading endorsement. Olivia taught at River Elementary School. In her application to the PFG Project, Olivia said that “every student has the potential to succeed” and that being an effective teacher required one to understand that “we are all different and each learn in a different way.” She noted that her experience with teaching and learning history was very traditional and that her experience was defined by completing worksheets and not on developing “in-depth knowledge of the subject.” She hoped the PFG Project would build on her “knowledge of history” and therefore “enhance the instruction that I provide my students.” She said, “[I]f I increase my knowledge and provide a better attitude about teaching history, it will increase the way my students learn and participate in the subject.” Olivia served as one of the lesson study teachers during Year 1, allowing other lesson study team members to observe her teach the Research Lesson. Olivia reported no prior social studies professional development.

Paige. Paige, a 27-year-old White female, began her 5th year of teaching when she entered the PFG Project. She held an undergraduate degree in Elementary Education. Paige taught at River Elementary School. At River Elementary, Paige took responsibility for much of the day-to-day social studies planning prior to her involvement in the PFG Project, providing her colleagues with lesson plans she designed or with materials she located on the Internet. In her application to the PFG Project, Paige noted that her job was “to create an environment that

fosters all types of learning.” With regard to history, Paige felt influenced by historic sites she had visited throughout her life. She noted her love for “hands on experiences” and hoped that the PFG Project would “teach me new and innovative strategies to make teaching history fun and exciting.” She hoped it would “teach me ways to break up the monotony of teaching history and revive my views on the subject.” Paige served as a lesson study teacher during both Year 1 and Year 2, allowing other team members to observe her teach the lesson study lessons, often times as the first to do so. Paige reported no prior social studies professional development.

Felicia. Felicia, a 48-year-old Black female, began her 13th year of teaching when she entered the PFG Project. She held an undergraduate degree in a business field, a master’s degree in Elementary Education, a Specialist degree in Elementary Education, and an administration certificate. During Year 1 of the study, Felicia taught at Railroad School where she taught reading and social studies to 4th grade students. Students rotated between teachers for the core academic subjects with all teachers instructing reading. Between Year 1 and Year 2, Felicia was transferred to Highway Elementary School within the same district after a system-wide reorganization. In her new school, she taught all core academic subjects within a self-contained 4th grade classroom. Felicia did not provide written biographical information; however, interview and observation data suggested that Felicia used a traditional textbook approach to teaching social studies and that she relied frequently on expository lectures using power point. She was the only person at her school that volunteered for the PFG Project, suggesting some initiative on her part to expand her thinking about social studies instruction. Felicia served as one of the lesson study teachers during Year 2, allowing the other lesson study team members to observe her teach the Research Lesson. Felicia reported no prior social studies professional development but had completed at least one intensive, constructivist-oriented professional

development program in math and science.

Wendy. Wendy, a 40-year-old Black female, began her 10th year of teaching when she entered the PFG Project. She held an undergraduate degree in sociology and master's degrees in social work and Elementary Education. Wendy taught at Parkside Elementary School where she taught reading, State History, and science to 4th grade students. Students rotated between teachers for the core academic subjects with all teachers teaching reading. Wendy was moved from 4th grade to Kindergarten following the conclusion of Year 1 of this study. With the support of her district, Wendy continued to participate in the PFG Project including lesson planning sessions, observations, and debriefings though she was not able to implement Year 2 or 3 Research Lessons in her Kindergarten classroom. Wendy was therefore not observed during Year 2 or 3. In her application to the PFG Project, Wendy stated her belief that “all students can learn and achieve their goal – a high school diploma and beyond” and that her job as teacher was to “continuously reinforce, revisit, and review” so that students could be “life long learners.” In describing her experiences with history, Wendy noted a prior instructor who told her that she needed to “know where we have been in order to know where we were going.” She hoped the PFG Project would “provide me an opportunity...to learn new teaching strategies and activities to enhance my teaching style” so that her students might learn “a vast amount of information about history that can help them in today’s society and today’s job market.” Wendy served as one of the lesson study teachers during Year 1, allowing other team members to observe her teach the lesson study lesson. Wendy reported no prior social studies professional development but had participated in intensive, constructivist-oriented science and math training.

Settings

Lesson study planning sessions took place in the setting chosen by the PFG Project

steering committee. Typically these sessions were held at Central School System's central office or at one of the participating teacher's schools. Teaching observations took place in the 4th grade teachers' respective classrooms. As previously noted, four of the six teachers taught at one urban school, River Elementary, with a majority Black enrollment. Within the professional development literature there is some evidence that suggests teacher change becomes more likely when teams of teachers from single schools are involved (Garet et al., 2001). The fact that the sample includes one such group could provide additional nuance to claims about the emergence of professional teaching knowledge for PBHI. The remaining two teachers taught in rural settings with predominantly White student populations, again providing interesting contrasts.

Data Sources

In the two sections that follow, I describe the instruments and data sources used to address the research questions. I begin with an overview of the quantitative sources, with particular attention given to who collected the data and to how it was organized for analysis. I then turn to the qualitative sources, which provided the bulk of the data used to address the research questions. If an instrument produced both quantitative and qualitative data, I have discussed them in both sections giving particular attention to the different types of data produced.

Quantitative data. Quantitative data were collected as part of the larger Plowing Freedom's Ground project. For this study, these data were used for within group description but also to compare 4th grade lesson study teachers to the larger body of PFG participants, including other elementary teachers and secondary history teachers.

Content tests. All PFG teachers completed a content test at the beginning and end of each year with 50% of items drawn from validated national or state level tests. PFG staff

constructed these tests with the assistance of content experts (project historians). The PFG Project evaluator performed reliability tests for each administration of content tests. Content test scores were used to determine changes in teacher content knowledge that resulted from professional development activities during the year. In addition, changes in content test scores were used for the purpose of comparing the 4th grade teachers to the larger group of PFG participants including other elementary and secondary teachers.

Classroom observations. I observed the 4th grade teachers three times over the course of the first two lesson study cycles and twice during the third cycle. Newmann's AIW instruction rubrics (see Appendix 3 for full rubric), as modified by the Social Studies Inquiry Research Collaborative (SSIRC, 2010), were employed with each observation to document levels of authentic pedagogy and to document events in the classroom. The AIW instruction rubric contains four standards: higher order thinking, deep knowledge, substantive communication, and connectedness to the real world. Each standard has a five-point scale. Therefore, a range from 4 to 20 was possible on the instruction rubric and was computed by summing the scores for each rubric standard (Newmann et al., 2007).

Similarly, Newmann's authentic task rubrics, as modified by SSIRC, were used to measure the intellectual quality of the tasks given to students by the 4th grade teachers (see Appendix 4 for full rubric). The AIW task rubric contains three standards: Construction of Knowledge, Elaborated Communication, and Connection to Students' Lives. Each standard has three possible levels or scores with the exception of elaborated communication, which has four. Therefore, a score from 3 to 10 was possible on the task rubric and was computed by summing the scores for each rubric standard (Newmann et al., 2007).

Authentic pedagogy scores were computed by summing instruction and task rubric

scores. Composite scores could therefore range from 7 to 30. Like other researchers who have used the AIW rubrics (Maddox, 2012; Social Studies Inquiry Research Collaborative, 2011), I viewed the resulting scores along an authentic pedagogy continuum. Doing so allowed me to group teachers and to characterize the degree of authentic pedagogy for participating teachers as Minimal (under 12), Limited (12-17.99), Moderate (18-23.99), and Substantial (24 and above). Low scores in the Minimal and Limited quartiles generally represented teacher-centered instruction often consisting of didactic lecture or teacher-centered whole-class questioning. High scores in the Moderate and Substantial quartiles typically represented more inquiry-based instruction that emphasized higher ordered thinking, substantive conversation, and connections between classroom knowledge and real world problems (Newmann et al., 2007).

In previous studies directed by Newmann, four classroom observations were completed (Newmann et al., 2007; Newmann, Lopez, & Bryk, 1998; Newmann et al., 1996). However, conversations between AIW consultant Bruce King (2008) and the Social Studies Inquiry Research Collaborative (SSIRC) led SSIRC researchers to conclude that four observations did not produce superior data over three. In their statistical analysis of AIW composite scores, SSIRC found that two observations of classroom teaching resulted in no statistical difference when compared to three observations ($t = .406, p = .686$) (Social Studies Inquiry Research Collaborative, 2011). My decision to observe teachers three times reflected my desire for additional longitudinal qualitative data, which I describe below. To be clear, the application of both AIW rubrics produced qualitative data that were given numeric scores for quantitative analysis.

Twenty-five percent of observations were scored by a second rater for purposes of inter-rater reliability (Patton, 1987). Table 4 below provides inter-rater agreement statistics for each

of the AIW standards in two ways. First, it shows the extent to which raters had exact agreement on each standard. Second, it shows the extent to which agreement was off by one point. Prior AIW research has established an inter-rater agreement standard of greater than 65% exact agreement and agreement within one point to exceed 90% (Newmann & Associates, 1996). While the qualitative field notes used to determine scores were used to provide rich description of the classrooms in which the interventions took place, the numeric scores computed from these rubrics were used for description and for comparing 4th grade teachers to other PFG teachers.

Table 4

Summary of Inter-Rater Reliability Observations

	Exact Agreement (%)	Exact or Off by 1 (%)
Instruction (N= 16 lessons / 36% of total)		
Standard 1: Higher Order Thinking	63	88
Standard 2: Deep Knowledge	69	100
Standard 3: Substantive Conversation	69	94
Standard 4: Connectedness to the Real World	38	88
Task (N= 16 tasks / 36% of total)		
Standard 1: Construction of Knowledge	82	100
Standard 2: Elaborated Communication	63	100
Standard 3: Connection to Students' Lives	81	100
Mean	66	96

Qualitative data. Qualitative data was collected using a number of instruments. Each is described below with attention given to how the resulting data were used.

History Attitudes and Beliefs Survey (HAB). As noted previously, a History Attitudes and Beliefs survey was administered to all project participants at the beginning and end of each school year. This survey provided background information about all PFG teachers and their teaching experiences, their beliefs about history, and what they did to motivate students to learn history (PFG Proposal, p. 14). HAB data for the 4th grade lesson study group was disaggregated

from the larger data pool and was used for qualitative description of participants.

Field notes and transcriptions of lesson study planning conversations. During lesson study planning sessions, field notes were used to document teachers' verbal and material contributions to the planning process. Most often these notes were taken when spontaneous discussions arose about the challenges of planning or implementing PBHI lessons or when teacher comments revealed an acceptance or rejection of a shared professional knowledge culture. I attempted to capture paraphrased versions of these conversations. Whenever planned discussions occurred, such as when completing a lesson study scaffold, deciding on lesson strategies, or debriefing lesson study observations, I employed a digital audio recorder in conjunction with field notes. I transcribed these recordings in full. They document approximately 38 hours of teacher planning and reflection. To further buttress the field notes and transcribed conversations, I collected lesson study planning scaffolds with individual teacher contributions and/or concerns noted. Finally, in addition to field notes and audio recordings of planned lesson study team meetings and conversations, I collected initial drafts of teacher-designed materials whenever possible so that comparisons could be made to the final lesson materials employed in actual classrooms.

Classroom observations and lesson tasks. For each of the six teachers, I conducted one baseline observation prior to the start of the PFG Project, three classroom observations during both Year 1 and Year 2, and two classroom observations during Year 3. Over the three years of this study, therefore, I observed each teacher nine times. During each observation, I compiled qualitative observation field notes of classroom instruction and collected the task handout or instructions given to students during the observed lessons. Most often these tasks took the form of a handout containing questions or a writing prompt. In a few cases, teachers assigned projects

or presentations as the task. I used Newmann's authentic instruction and task rubrics during or immediately following observations to score the intellectual quality of classroom pedagogy. I chose to complete multiple classroom observations during each academic school year because of my desire to longitudinally track qualitative changes in teachers' classroom instructional habits.

During Year 1, two of the three observations were of teacher-designed lessons and tasks and occurred, whenever possible, at the beginning and end of the school year. The third observation during Year 1, occurring more in the middle of the school year, was of the Year 1 lesson study Research Lesson including its task and was followed in two instances by post-observation debriefings by the entire 4th grade lesson study team. During Year 2, the first observation was the Year 2 lesson study Research Lesson. The content topic chosen by PFG Project coordinators during Year 2, Westward Expansion, predicated that it be the first observation for Year 2 due to its placement early in the scope and sequence for 4th grade State History. The second observation during Year 2 focused on the Year 1 lesson study Research Lessons. A third and final observation of a teacher-designed lesson took place at the end of the Year 2 school year. During Year 3, two observations were conducted. Federal funding for the larger Teaching American History project was lost, forcing it to conclude earlier than anticipated. As a result, there was insufficient time for a third classroom observation during Year 3. Instead, the Year 3 lesson study Research Lesson was followed by a final teacher-selected comparison lesson to conclude the entire project.

As with all observations, I collected the task that accompanied the observed lesson. In the case of teacher-designed lessons during all three years, I collected the task designed or chosen by the teacher. By observing teachers three times at the beginning, middle, and end of the school year during Years 1 and 2 and twice during Year 3, I attempted to gain the fullest sense possible

of the teachers' growth in implementing challenging social studies instruction. Because Year 2 observations focused on the teaching of two Research Lessons, the third and final observation in Year 2 served as an indicator of teachers' growth in implementing powerful social studies instruction. Moreover, the final teacher-selected comparison lesson observation during Year 3 provided a concluding glimpse at teachers' adoption of problem-based historical inquiry. For this teacher-selected comparison lessons in particular, I reemphasized the need for teachers to independently select an original social studies lesson that demonstrated what their students were capable of doing with challenging social studies material.

Teacher exit interviews. Following the conclusion of the abbreviated Year 3 lesson study cycle, I conducted semi-structured interviews with the six teachers who participated in 4th grade lesson study activities. Each interview was digitally recorded and then fully transcribed. I viewed these interviews as an active process in which interviewer and interviewee, through their relationship, produced knowledge (Kvale & Brinkmann, 2009). I attempted to understand the lived experiences of the 4th grade teachers throughout the lesson study professional development process (Patton, 1987). I sought the participants' views on the PFG program, its impact on participants' classroom planning and teaching, and its perceived impact on student learning and engagement. As the interviewer, I provided the topics for conversation in the form of a prepared interview guide (see Appendix 8 for interview guide). Though slightly different, my questions aligned closely with the interview guide agreed upon and employed by other PFG staff members for the larger PFG Project. We held three working sessions focused on constructing interview protocol. Our questions emerged from our understanding of the existing literature as well as from our own interactions with and observations of the lesson study teams. Our question guide was not closed-ended like a traditional survey. I, therefore, felt free to probe for deeper meaning

or to ask unplanned questions when I believed additional details would be helpful for understanding the interviewee's perspective (Patton, 1987). Throughout the interview, I attempted to gain a nuanced understanding of the participant's experiences during professional development activities. To do so, I deliberately remained naive and open to new or unexpected explanations.

The loss of external funding for the larger PFG Project in the middle of Year 3 increased the importance of exit interviews. Although I observed all 4th grade teachers independently implement the Year 3 Research Lesson, as well as one teacher-selected comparison lesson, the 4th grade lesson study team did not observe any of these lessons. As a result, the observation debriefings and revision sessions that are so central to lesson study did not occur in Year 3. However, exit interviews provided similar data on teacher thinking in the sense that they offered me an opportunity to debrief teachers individually following the implementation of the Year 3 Research Lessons. While the scope of these interviews included previous years of lesson study, teachers typically drew upon their most recent lesson study experiences, which included Year 3 summer lesson planning and the individual implementations of those lessons. To conclude this section on data sources, I provide Table 5 on the following page as a summary of my research questions and the sources of data used to address them.

Table 5

Research Questions and Data Sources

Research Questions	Data Sources
How do 4th grade teachers interpret a holistic, research-based framework for PBHI designed to increase professional teaching knowledge?	<ul style="list-style-type: none"> • Lesson Study field notes • AIW instruction and task rubric observations and scores • Post-interviews
Does lesson study facilitate the development of a shared professional knowledge culture among elementary teachers?	<ul style="list-style-type: none"> • Lesson Study field notes • AIW instruction and task rubric observations and scores • Post-interviews
Do 4 th grade teachers who exhibit greater understanding of PBHI demonstrate greater growth in professional teaching knowledge and higher levels of authentic pedagogy over time?	<ul style="list-style-type: none"> • Lesson Study field notes • AIW instruction and task rubric observations and scores • Post-interviews
How do levels of content knowledge and authentic pedagogy among 4 th grade State History teachers compare to other elementary and secondary teachers participating in a research-based professional development program?	<ul style="list-style-type: none"> • AIW rubric scores • Content test scores

Procedures

An overview of my procedures is provided in Table 6 on the following page. In it, I merge my own data collection efforts with those of the larger PFG Project. Broadly speaking, data were collected over the course of three years, following a similar pattern for Years 1 and 2 and an abbreviated pattern for Year 3. As qualitative data were collected, I attempted to process them as immediately as time permitted. For example, I made a priority of expanding my field notes following meetings or observations. Most often this meant that I found a chair within the school building or sat in my vehicle to reflect on the observation in order to clarify field notes. Thereafter, I almost always made a tentative and initial scoring of the observation within my field notes using the AIW rubrics previously discussed. I followed a similar pattern with lesson

Table 6

<i>Summary of Procedures</i>	
Year 1 Date	Year 1 Activity
Jan - Apr, 2010	Baseline Observation: All 4 th grade teachers. Scored instruction and tasks.
July, 2010	Collected demographic, HAB, and content test data - all 4 th grade teachers. ¹ Observed teacher planning during 1) PFG Summer Seminar and 2) Year 1 PFG Lesson Study.
Aug - Oct, 2010	Year 1 - Observation 1 (Comparison): All 4 th grade teachers. Scored instruction and tasks.
Feb - Mar, 2011	Year 1 - Observation 2 (Yr 1 Research): All 4 th grade teachers. Scored instruction and tasks. Participated / observed debriefing.
Apr - May, 2011	Year 1 - Observation 3 (Comparison): All 4 th grade teachers. Scored instruction and tasks.
Year 2 Date	Year 2 Activity
July, 2011	Collected Year 2 HAB and content test data - all 4 th grade teachers. ² Participated / observed teacher planning during 1) PFG Summer Seminar and 2) Year 2 PFG Lesson Study.
Nov, 2011	Year 2 - Observation 1 (Yr 2 Research): All 4 th grade teachers. Scored instruction and tasks. Participated / observed debriefing.
Feb - Mar, 2012	Year 2 - Observation 2 (Yr 1 Research): All 4 th grade teachers. Scored instruction and tasks.
Apr - May, 2012	Year 2 – Observation 3 (Comparison). Scored instruction and tasks.
Year 3 Date	Year 3 Activity
July, 2012	Collected Year 3 HAB and content test data – all 4 th grade teachers. ³ Participated / observed teacher planning during 1) PFG Summer Seminar and 2) Year 3 PFG Lesson Study.
Oct, 2012	Year 3 - Observation 1 (Yr 3 Research): All 4 th grade teachers. Scored instruction and tasks.
Nov-Dec, 2012	Year 3 - Observation 2 (Comparison). Scored instruction and tasks.
Oct-Dec, 2012	Completed teacher exit interviews in teachers' schools.

¹ Quantitative data collected in July, 2010 served as a pre-test for Year 1.

² Quantitative data collected in July, 2011 served as a post-test for Year 1 but also as a pre-test for Year 2.

³ Quantitative data collected in July, 2012 served as final post-test data for Year 2.

study team meetings in that I made a high priority of reviewing and expanding my notes as immediately after the meeting as possible. Typically, I took these notes by hand and then typed them into a comprehensive digital journal upon my return from completing fieldwork. In this journal, I also included analytic comments and questions that emerged. I was not always able to transcribe audio from lesson study meetings as proficiently due to the time commitment involved. Much of the audio transcribing was completed following the conclusion of Year 2 and during Year 3. Once my notes were recorded into the journal, I then formally composed an individual field report for each observation that included description of the physical classroom setting and student demographics, detailed description of the observed lesson, and written rationales for the authentic pedagogy scores I assigned. Whenever a second rater observed the lesson, their observation notes, pedagogy scores, and rationales were also included. I have included an example of a formal field report for one Year 3 teacher-selected lesson and Research Lesson in Appendix 9.

Data Analysis

Simple descriptive statistics including means were used to make comparisons between the 4th grade teachers and the larger PFG participant population. To arrive at group AIW scores that could be statistically compared for each year, I first averaged total instruction scores across the two teacher-selected comparison lessons from Year 1. I did the same for the Year 1 Research Lesson. I repeated the same process for Year 1 tasks. By adding the average Year 1 instruction score to the average Year 1 task score, I arrived at a composite Year 1 authentic pedagogy score for each type of lesson. The same process was used to compute Year 2 and Year 3 composite authentic pedagogy scores for both types of lessons. Descriptive statistics were used to determine whether the effects of the PFG professional development program on elementary

teachers were similar to, or different from, the effects on secondary history teachers and to determine the extent of changes among the 4th grade teachers from Year 1 to Year 3.

To compare the differences between teacher-designed lessons and Research Lessons, I completed a similar process. I first averaged total instruction for all teacher-designed lessons in Year 1. I next averaged total tasks scores for teacher-designed lessons. I added these two averages together to arrive at a composite Year 1 authentic pedagogy score for Year 1 teacher-designed lessons. I completed the same process for the Year 1 Research Lesson, which permitted comparisons between teacher-designed lessons and lesson study Research Lessons. I then repeated this process for all Year 2 and Year 3 data, which permitted comparisons of all three sets of lessons from year to year and from teacher to teacher.

Analysis of qualitative data began by assembling all of the data for each of the six 4th grade teachers (AIW rubric observational notes, field notes and transcriptions from lesson study planning, implementations, and reflection meetings, and interview transcripts) into individual case records. Typological and content analysis as well as analytic induction were used to interpret the case records (LeCompte & Schensul, 1999).

Analysis began with a priori criteria for PBHI professional teaching knowledge developed in the works of Saye and Brush (Saye & Brush, 2004a, 2006; Saye et al., 2007; Saye et al., 2009a; Saye et al., 2009c; Saye et al., 2013a). Teachers who hold the cultural assumptions for PBHI professional teaching knowledge should demonstrate a constructivist epistemology, a commitment to democratic citizenship as the mission for K-12 history teaching, an acceptance of risk taking and ambiguity, and optimistic beliefs about student motivation and curiosity. Teachers accepting of a professional knowledge culture should ground their planning, teaching, and discussion in research theory, use theory to diagnose and resolve problems of teaching

practice, value the collaborative dialogue typical of lesson study, and view the lesson study process as an opportunity to create a more public and generalizable teaching knowledge base (Saye et al., 2007).

After I analyzed and coded each case record, I made comparisons of coding across the records and noted patterns that emerged. I then examined the experience of individual teachers and then reexamined all of the data more holistically for evidence of collaborative dialogue and the use of professional teaching knowledge across participants. I noted discrepant cases that emerged and used them to make modifications to the existing coding scheme whenever warranted before reexamining the data again. Peer debriefing by other members of the PFG staff including my major professor, Dr. John Saye, helped ensure that the coding scheme was applied consistently.

Trustworthiness

Potential threats to the data existed that might have undermined their credibility. First, my role as a participant observer and mentor complicated my efforts to reliably collect all of the data available during 4th grade teachers' lesson study meetings. My own personal bias towards inquiry-based methods and my involvement in creating Research Lessons might also have skewed my interpretations of teachers' implementations of these lessons. I therefore gave care to avoid incorrectly interpreting teachers' intent such that it affirmed my own involvement. To mitigate these potential threats and others discussed below, the study included three years of data collection with 25% of all AIW observations scored by a second observer. Three years of data collection allowed for prolonged field contact with participants across multiple settings and within differing contexts. This prolonged contact permitted the collection of rich observational data that was then triangulated to limit the impact of personal bias (Denzin, 1978; Patton, 1987).

In addition, the use of a second observer on 25% of observations helped ensure that data was captured reliably. It is important to note that I had access to the 4th grade teachers as they planned and reflected, access that might not have been readily given to me if I was seen as a pure, impartial researcher unwilling to assist. It was through my role as participant observer that I was afforded the opportunity to document possible indicators of a developing professional teaching knowledge and culture.

A second limitation existed in that the lesson study process might have unfolded very differently without my involvement. My interactions with the 4th grade teachers had an impact on the design of Research Lessons enacted by teachers within their classrooms. PIH lesson study was intentionally scaffolded and collaborative in nature and involved the cooperation of historians, teacher educators like myself, and participating teachers. As the primary mentor for the 4th grade team, I provided structure, leadership, scaffolding, and motivation throughout the process. I deliberately offered hard and soft scaffolding to participating teachers as they planned their Research Lessons and as they reflected on their teaching as a lesson study team. My efforts to scaffold teachers' work flowed from the expectations of PFG Project leaders, my knowledge of PBHI implemented in secondary classrooms, my experience working with prior lesson study teams at the junior high level, and my knowledge of the scholarly literature. As teachers planned their Research Lessons, for example, I asked questions of their plans that perhaps caused them to reconsider research-based pedagogies. Likewise, I volunteered examples of PBHI lessons, sometimes at the prompting of lesson study team members but more often as an intentional means of soft scaffolding teacher thinking. Such soft-scaffolding included organic questions that emerged from the lesson study team's completion of PIH lesson study scaffolds, questions that referenced learning strategies modeled in previous professional development sessions, or even

examinations of online video case modules that captured PBHI teaching in action.

Reflecting the fact that it is a design intervention, PIH lesson study intentionally uses scaffolded and collaborative planning and debriefing sessions to encourage the development of professional teaching knowledge for problem-based historical inquiry. Although my role as a participant observer was consistent with design interventions that seek to study a learning environment holistically in order to theoretically explain observed changes in teaching and learning that occur (Brown, 1992; Collins et al., 2004), it is clear that my involvement had an impact on the outcome of the study. That impact may have been made more profound by the difficulties I sometimes encountered when trying to let the 4th grade teachers control the lesson study planning process. Due to the teachers' inexperience with PBHI and my own inexperience facilitating lesson study with elementary teachers, I sometimes found myself talking too frequently about PBHI design principles or pushing back too rigidly whenever teachers proposed using more traditional teaching methods within Research Lessons. This difficulty represents a significant threat, which I attempted to overcome through the use of multiple data sources, prolonged field contact with participants in multiple settings, and by fading the support I offered in successive years of the project.

A third limitation exists in the fact that I am not a trained elementary educator. All of my classroom teaching experience was in a large high school (though I am proudly married to an amazing 3rd grade teacher). My lack of professional experience in elementary education may have limited my ability to fully empathize with the teachers and to understand the classroom realities they confronted. It may also have reduced my credibility with the teachers though there was no clear indication of this being the case. They may have viewed me as a more expert and knowledgeable outsider whom they had to please as part of the PFG Project. The 4th grade

teachers grew fond of teasing me by comparing me to tough coaches from their past and by joking with each other that I would not approve of their curricular choices. While this behavior was helpful in improving collegiality, their comments may have resulted from a feeling that I was the ultimate authority and that my approval mattered most. My lack of elementary experience and training may also have limited my ability to understand all the factors that influenced the teachers' thinking as they engaged in lesson study. To overcome these limitations, I invested considerable time reading and learning elementary education literature and I worked to give more control to the 4th grade teachers as the project unfolded, though doing so was admittedly difficult. I also collected data in elementary classrooms for three full years, observing each teacher over nine times, which improved my understanding of elementary classrooms. I also met frequently with Dr. Theresa McCormick, a member of my doctoral committee, an elementary social studies expert, and the primary mentor for the 5th grade lesson study team within the PFG Project. We frequently discussed our observations of elementary classrooms, our perceptions of the elementary teachers' experiences within the PFG Project, and how our initial findings fit with existing literature.

As a participant observer, my presence likely resulted in teachers examining research-based methods more deeply than they would have in my absence. Without my presence, results might have been very similar to those described in previous studies where challenges with inadequate content or pedagogical knowledge limited the success of lesson study professional development (Davies & Dunnill, 2008; Fernandez, 2005; Lewis, 2009; Marble, 2007). Teachers were not likely to implement the PIH model for PBHI with fidelity without the assistance and scaffolding provided by a more knowledgeable mentor such as myself. Fernandez (2005), for example, warned that what teachers learn from lesson study often depends on what they bring to

the table and that having at least one knowledgeable teacher could be useful for pushing the conversation to deeper levels. As a purposeful design intervention, PIH lesson study recognizes this limitation of prior lesson study efforts. The use of PIH lesson study scaffolds and my involvement as a mentor were likely critical to maximizing the opportunity to develop professional teaching knowledge for problem-based historical inquiry.

A fourth limitation related to the use of the AIW instruction and task rubrics may have resulted from the collaborative nature of lesson study itself. Having multiple teachers and a teacher educator work collaboratively on planning classroom instruction and tasks likely increased their rigor such that they aligned more closely with the AIW and PBHI standards. Simply because the lesson study team collaboratively planned lessons and tasks, however, did not mean that each teacher implemented them identically. As a result, it was possible to see differences in authentic pedagogy in spite of the collaborative lesson development process. Moreover, it was possible to see variances in teachers' acceptance of PBHI principles emerging out of the collaborative lesson planning process. These differences in understanding of professional teaching knowledge for PBHI were born out in lesson implementations and in teachers' completion of other project assessments even when the lessons implemented were collaboratively designed.

Finally, there may be some question as to the appropriateness of using AIW rubrics to measure teachers' adoption of professional teaching knowledge for PBHI. The AIW rubrics reflect teaching assumptions consistent with professional teaching knowledge for PBHI. AIW pedagogy scores are, therefore, one indicator of teachers' adoption of professional teaching knowledge for PBHI. Teachers who score higher on the authentic pedagogy scale should be more likely to hold the cultural assumptions for PBHI professional teaching knowledge.

Examining the AIW instruction rubric more closely reveals why this is true (see Appendix 3 and 4 for rubrics). As previously discussed, there are four main criteria within the instruction rubrics: higher order thinking, deep knowledge, substantive conversation, and connectedness to the real world. To score high in authentic instruction, which is extremely challenging, the teacher and students must do several things. All students must perform higher order thinking almost all of the time. Knowledge must be deep because the teacher successfully structures the lesson such that all students retain their focus on a significant topic within the discipline. Classroom conversations must be sustained and include higher order thinking, sharing of ideas, and coherent promotion of ideas to improve collective understanding of a significant topic. Finally, teachers must structure the lesson such that most students connect classroom knowledge to situations outside of the classroom to an extent that students seek to influence audiences beyond the classroom.

One of the overarching cultural assumptions for PBHI professional teaching knowledge is that teachers should demonstrate a constructivist epistemology (Saye et al., 2009a). Teachers who hold more student-centered constructivist epistemologies, as opposed to more teacher-centered absolutist epistemologies, are more likely to give students the time, scaffolding, and intellectual space needed to perform higher order thinking. They are also more likely to choose depth of content over coverage because they believe that students need a significant grasp of rich content to think deeply about issues confronting society. Teachers with constructivist epistemologies are also more likely to value substantive conversations because they believe that knowledge is constructed and that students test their beliefs and understandings through discourse with peers and knowledgeable others.

A second cultural assumption for PBHI professional teaching knowledge is that teachers

should demonstrate a commitment to democratic citizenship as the mission for K-12 history teaching. Teachers who hold this cultural assumption are likely to score higher on AIW instruction rubrics. They are likely to value elaborated communication, higher order thinking, and substantive conversation because they would want their students to be able to substantiate claims using evidence, to commit to deep thinking about multiple perspectives prior to making civic decisions, and to use democratic dialogue to reason with others about the common good. They are also likely to value making connections to the real world within lessons because they see education and history instruction in particular as having practical democratic purposes.

Two final cultural assumptions for PBHI professional teaching knowledge are an acceptance of risk and ambiguity and optimistic beliefs about student motivation and curiosity. Teachers who are accepting of risk and ambiguity are more likely to tolerate the student-centered environment necessary for high scores on substantive conversation and connectedness to the real world. Substantive conversations by their nature are unscripted and require collective promotion of ideas among all participants, students and teacher alike. Similarly, scoring high on connections to the real world requires that students recognize connections between classroom knowledge and situations in the real world outside the classroom walls. To score at the very highest end on connections to the real world, students must go further and actually do something to influence an audience beyond the classroom. Both curricular decisions place learning ownership squarely in the hands of students. Finally, teachers who score highly on AIW instruction and task rubrics are likely to hold very optimistic beliefs about student motivation and curiosity because they must first believe that students are capable of higher order thinking, deep thinking, substantive conversation, and making connections to the real world. Teachers who hold more pessimistic beliefs about student capabilities are not likely to make such curricular

goals high priorities but are instead likely to focus on effectively delivering existing knowledge established by experts.

Chapter Four: Similarities and Trends

In this chapter I examine the similarities and trends within teachers' experiences that emerged during the three years of the study. In so doing, I partially address my first three research questions: 1) How do 4th grade teachers interpret a holistic, research-based framework for problem-based historical inquiry (PBHI) designed to increase professional teaching knowledge? 2) Does lesson study facilitate the development of a shared professional knowledge culture among 4th grade elementary teachers? 3) Do 4th grade teachers who exhibit greater understanding of PBHI demonstrate greater growth in professional teaching knowledge and higher levels of authentic pedagogy over time? Because the data often overlap in terms of the questions they address and are therefore difficult to neatly organize around individual research questions, I have addressed these three questions more thematically by first examining the similarities and trends in this chapter and then examining individual variations in the chapter that follows. My intention in organizing my analysis in this manner is to highlight the group changes that occurred in the lesson study team's understanding of PBHI over time (Chapter 4) without ignoring the variations that existed (Chapter 5).

Organizationally, I have divided this chapter into four sections. In the first section, I present a more in-depth portrait of 4th grade lesson study team members as they entered the Plowing Freedom's Ground (PFG) Project. I present them both as a group and as individuals in order to provide necessary context for understanding the similarities and individual variations that emerged. I describe the teachers' initial concerns, goals, or conceptions of powerful social studies teaching. In the second section, I describe changes in teachers' collective

conceptions of PBHI and a shared professional knowledge culture from Year 1 to Year 3. To do so I examine dialogue among all teachers during planning, implementation, debriefing, and revision sessions during Year 1 and Year 3, while relying on Year 2 data when needed to explain an emergent theme. I include interview data in this chapter only when they highlight a shared group experience. In a third section, I examine teacher-selected comparison lessons as a group in order to highlight the challenges teachers encountered when they attempted to transfer knowledge gained from lesson study professional development to their typical classroom instruction. In a final section, I compare all 4th grade teachers to all other participants in the PFG professional development project. In so doing, I address my fourth research question: 4) How do levels of authentic pedagogy among 4th grade State History teachers compare to other elementary and secondary teachers participating in a research-based professional development program?

I have intentionally described the similarities and trends in all 4th grade teachers' experiences at the broadest level possible within Chapter 4. My goal is to give the reader a clear sense of what happened during the three years of the PFG Project in order to establish context for understanding the variability in teachers' experiences, which I describe in Chapter 5. As a result, I have limited my use of direct quotes from individual participants, instead only using them when they illustrate an important shared experience. In Chapter 5, I provide a much richer set of examples to illustrate the variability in teachers' adoption of a professional teaching knowledge for PBHI as well as their participation in a shared professional knowledge culture.

Entering Conceptions of PBHI

Baseline observations completed during the school year prior to the beginning of Year 1 professional development activities provided a glimpse at teachers' practice prior to any influence by the PFG Project. The observations for all teachers featured commonalities typical

of traditional pedagogy and their instruction scores reflected this trend. No teacher reached authentic intellectual work (AIW) pedagogy scores that other researchers have characterized as challenging social studies instruction (Saye & Social Studies Inquiry Research Collaborative, 2013). Across the board, the teachers focused most of their attention on conveying discreet facts from their State History textbooks. Perhaps due to the influence of previous statewide professional development in reading education focused on programmed, direct instruction, history instruction during baseline observations typically relied on cyclical round-robin style reading from the text or slides. The teacher often called on a student to read, asked comprehension-level follow-up questions addressed to the entire class, and then repeated the cycle by calling on a new student to read. Student thinking was lower order, knowledge was superficially treated, little conversation was observed, and lesson topics were rarely connected to anything beyond themselves. Only Felicia diverged from this pattern during her baseline observation by holding a brief but in-depth discussion on slavery that encouraged her students to address their misconceptions about the topic. Table 7 that follows shows all six teachers' AIW scores on their respective baseline observations. I have broken out scores by AIW instruction subscales (see Appendix 3 for full rubric).

Table 7

Baseline Observation AIW Instruction Scores

Teacher	Higher Order Thinking	Deep Knowledge	Substantive Conversation	Connectedness	Total Score
Camille	1	1	1	1	4
Hallie	2	2	1	2	7
Olivia	1	2	1	2	6
Paige	1	2	1	1	5
Felicia	3	2	4	2	11
Wendy	1	1	1	1	4
Mean	1.4	1.7	1.4	1.7	6.2

Note. Possible scores on each subscale ranged from 1 to 5. Total score ranged from 4 to 20.

Individual teacher profiles. In the profiles that follow, I describe each teacher's entering conceptions of powerful social studies teaching including priorities demonstrated by their baseline instruction. The bulk of these descriptions, however, are based on a single observation and the associated field notes including conversations with each teacher that occurred prior to the start of summer professional development activities. These data are therefore suggestive of teachers' instructional practices in social studies prior to the start of the PFG Project because they only capture teachers' behavior at one precise moment in time. I offer these profiles as a starting point for understanding changes in teachers' instructional practice that occurred over time. As previously, I have presented the four teachers who taught at River Elementary school first.

Camille. During her baseline observation (as well as subsequent observations), Camille took on a patient, motherly role. Though she could be firm when needed, Camille's compassion for children was evident. Camille may have refined this motherly demeanor through her second occupation as a pastor of an African-American church, which required her to prepare and deliver up to three separate sermons each week. Camille's class was usually arranged into pods of four to six desks. Camille's instruction during her baseline observation focused predominantly on vocabulary and discreet facts from the textbook. She used power point to convey definitions at the start of the lesson and later stopped students from reading in order to discuss vocabulary terms. She focused on efficiency and on the facts she wanted students to know. In one Civil War activity, for example, Camille explained slides of facts on southern and northern beliefs by calling on individual students to read bullet points from slides. Camille's instruction was characteristic of traditional pedagogy. No higher order thinking was observed, knowledge was fragmented and thin, the teacher controlled the flow of information, and no justification for

learning was offered beyond doing well in school.

Hallie. During her baseline observation (and subsequent observations), Hallie's classroom demeanor was stern and matter-of-fact. She arranged her room in neat rows facing the smart board. Hallie's room was almost always clean and orderly. During her baseline observation, Hallie used the State History textbook to structure her lesson, relying on a call and response questioning style to aid comprehension of textbook passages. Her questioning style was unusual in that the entire class often responded to her promptings in unison with militaristic precision. Hallie usually asked the stem of a question or read the first portion of a passage, thereafter calling on all students to complete it in unison. It seemed clear that she had trained her students to listen to verbal cues in order to know when they should respond in unison, when individuals were free to reply, or when they should simply listen. As was true of Camille, Hallie's classroom instruction was characteristic of traditional pedagogy.

Olivia. Olivia usually arranged her room in one large horseshoe, which seemed to encourage students to engage with her in discussions. She took on a strict but motherly role with her students. During her baseline observation, Olivia transitioned easily from being patient and tender to providing sharp, quick-witted rebukes to students who misbehaved. She worked to make connections to students' lives and seemed unafraid of discussing big ideas. For example, Olivia briefly framed the lesson around the concept of freedom and later asked students to decide the importance of freedom in their own lives. Olivia's baseline observation, however, scored very low on AIW measures. No higher order thinking or substantive conversation was observed, because Olivia cut discussions off in order to move on just as students began to think deeply.

Paige. Paige was the only teacher who received her undergraduate degree from a large doctoral-intensive state university. By luck of a draw, Paige took responsibility for planning all

4th grade social studies lessons at her school. In the early days of the project, these lessons typically relied on the State History textbook, a video, or a prepared power point with embedded vocabulary words. During her baseline observation, Paige used a film clip of a slave girl who wanted freedom. After asking comprehension questions about the film clip, Paige asked students to give their own definition of freedom. She moved through the discussion swiftly in order to save time to review vocabulary words. To conclude, Paige directed students to complete guided reading questions as they read textbook passages. Like her colleagues, Paige's social studies instruction relied on the textbook, round robin reading, and class discussion of comprehension questions. Paige's baseline observation scored very low on AIW instruction measures. Virtually no features of authentic instruction were observed.

Felicia. During her baseline observation, Felicia exhibited an easy-going demeanor. She seemed willing to let her students discuss social studies concepts, often allowing them to address questions for several minutes without probing or interrupting them. At times, however, Felicia's questions seemed disconnected from any larger lesson purpose. Her baseline observation scored substantially higher than her 4th grade peers due in large part to her willingness to let students discuss. Her choice to discuss Civil War content resulted from a technological failure. She attempted to use a projector partnered with an audiocassette player to show a film on slavery. When the audiotape malfunctioned, Felicia led an impromptu but substantive discussion of slavery during which several students performed higher order thinking. In subsequent observations, Felicia focused much more on discreet facts presented via lecture. Following the baseline observation, Felicia was the only teacher who mentioned her desire to improve her social studies instruction, pointing to a content knowledge deficit as her main challenge.

Wendy. Wendy did not rely exclusively on her textbook during her baseline observation.

Instead, she presented students with a multi-week project in which they developed power point presentations on a famous Black inventor. Wendy required that students' power point slides include the famous black inventor's early life, education, his inventions, and a summary of what was learned through completion of the project. On the day of her baseline observation, students worked with Internet resources and books in the library to research their assigned inventor. Wendy's lesson, though it moved away from the textbook to a research project, still focused on lower order thinking with discreet historical facts. Substantively therefore, Wendy's baseline observation differed very little from the other members of the 4th grade lesson study team. Knowledge was treated thinly, conversations were mostly procedural, and no justification for learning the content was offered beyond it being a Black History month project.

Planning, Implementing, and Revising Lessons

Lesson study context. PFG summer professional development sessions included multiple content lectures by historians. For some of the teachers, the start of professional development activities represented the first time since their undergraduate education that they had heard an historian offer explanations of the past. During historian lectures, which consistently ranged in length from one to two hours throughout the three years of the study, 4th grade teachers participated or offered feedback far less often than their secondary peers. Indeed, 4th grade teachers sometimes left the room for unusually long periods of time, discreetly used smartphones to pass the time, or attempted to use computers when available. These behaviors were so common in fact that staff began specifically asking all teachers to put electronic devices away prior to beginning a session. In contrast, the teachers did sometimes participate in teacher-educator led PBHI model lessons.

Exit interviews revealed that the 4th grade teachers felt overwhelmed by the amount and

depth of history content presented each summer though most teachers expressed appreciation for the opportunity to hear from historians. The teachers hoped that historian sessions might be more elementary-focused, perhaps recognizing their work as subject-matter generalists. When the teachers found content digestible or interesting, they engaged in conversations with historians and PFG staff more fully. Though staff attempted to explain how the teachers would use the content in preparing Research Lessons each year, it seemed clear that the 4th grade teachers remained skeptical about the value of the knowledge presented, especially when they believed that it was directed at secondary teachers whom they viewed as subject-matter experts.

Lesson study was new to all of the 4th grade teachers. Their behavior during the first summer of professional development suggested that they expected lesson study to be similar to a more traditional professional development process during which participants passively receive expert knowledge. Historian lectures seemed to align with these expectations, which could explain why the 4th grade teachers inconsistently attended to them. In contrast, when they experienced PBHI model lessons as their students might, the 4th grade teachers became more engaged and willing to participate, perhaps because engaging in instruction as learners themselves was a new experience during professional development.

In the examination of the lesson study cycles that follow, I reference the instructional units that emerged during summer lesson study planning. The 4th grade team developed a unit on the Civil Rights Movement for Year 1 and the American Revolution for Year 3. In the early days of summer planning each year, teachers completed a Persistent Issues in History (PIH) “unit frame” planning scaffold that assisted them in developing a central focus and culminating activity for the unit (see Appendix 1 for planning scaffolds). Once these “bookends” of the unit were developed, teachers mapped unit content with my help and then sequenced that content into

lessons. Table 8 below shows the lesson study team’s unit organization for Year 1 and Year 3.

Table 8

Year 1 and Year 3 PIH Unit Frames

Content Topic	Persistent Issue	Topic-specific Central Question	Culminating Activity
Year 1: Civil Rights Movement	What is the fairest way to bring about social change?	What was the best way to stop discrimination in (State) during the 1950s and 1960s?	Persuasive Campaign: Students attempt to persuade state citizens that their assigned social change strategy is the best one. Groups of students are assigned to the legal strategy, non-violent direct action strategy, and the black power / separatism strategy.
Year 3: American Revolution	When are citizens justified in resisting governmental authority?	Were the colonists right to revolt against the British government?	Children’s Book: Student groups are assigned either the British or American perspective and construct a persuasive newspaper documenting their perspective’s views on the CQ.

Below I offer a common sense of the teachers’ interactions with each other and staff that suggest their interpretations and understandings of the PIH framework for PBHI during the three years of the project. In addition, I offer evidence for the emergence of a shared professional knowledge culture among 4th grade teachers. Because the six 4th grade teachers were broken into two lesson study teams during the first lesson study cycle, two Research Lessons were implemented and debriefed. However, I consider Year 1 data holistically for several reasons. First, all teachers worked together to conceptualize the instructional unit, offering feedback on the two Research Lessons at the beginning and end of the lessons study process. Second, the two teams were combined for Year 2 and Year 3 resulting in only one lesson study team and one Research Lesson for each year. Presenting implementation and debriefing data holistically should help the reader more easily track changes in teachers’ practice over time. Finally, both lesson study teams confronted similar challenges. Any differences in the experiences of the two

teams will emerge in the individual profiles provided in Chapter 5.

To aid the reader in understanding many of the teachers’ comments that follow, I here offer a brief introduction to the Research Lessons that emerged each year. Table 9 below highlights the respective topics, the instructional strategy chosen, and the lesson study team members who worked to develop the lesson.

Table 9

Overview of Research Lessons

Topic	Lesson Focus Question	Lesson Strategy	Team Members
Year 1: The Legal Strategy of the Civil Rights Movement	Was passing new laws or going to court an effective way to stop discrimination?	Response Group Discussion	Olivia Paige
Year 1: The Nonviolent Direct Action Strategy of the Civil Rights Movement	What is nonviolent direct action and will it work well in [State]?	Interactive Slide Lecture	Camille Hallie Felicia Wendy
Year 3: The American Revolution	Were the colonists right to revolt against the king?	Socratic Seminar	Camille Hallie Felicia Olivia Paige Wendy

The lesson study cycles. Throughout each lesson study cycle, teachers exhibited common behaviors that were characteristic of their unfamiliarity with in-depth history content and its use within PBHI instruction. In this section, I use a priori and emergent themes as organizing structures for discussion of teachers’ collective experience during the Year 1 and Year 3 lesson study cycles. I have noted the chronology of the lesson study cycles within the narrative to assist the reader in tracking changes over time but have organized the section such that changes with regard to each theme are presented together. I have also specifically noted instances in which the specific features of lesson study seemed to directly influence teacher

behavior. One issue that confronted teachers throughout the three years of the PFG Project and that runs throughout the narrative description that follows was their general lack of historical content knowledge. Without a strong content knowledge, the teachers struggled to develop a pedagogical content knowledge (Schulman, 1987) that might guide them in making content meaningful for students.

Epistemology. The degree to which the 4th grade teachers held absolutist epistemologies strongly influenced their receptivity to professional teaching knowledge for PBHI. When teachers believed that knowledge was created or held by outside authorities and that historical truth is fixed and knowable, they adopted less professional teaching knowledge for PBHI. In contrast, teachers who believed that individuals construct knowledge, that social reality is ill-structured and ambiguous, and that perspective shapes interpretation of facts were more open to PBHI. The 4th grade teachers' comments during the earliest days of Year 1 lesson study planning suggested that most held absolutist epistemologies (King & Kitchener, 2002; Saye et al., 2009a) as it relates to teaching history. Of particular interest was their persistent deference to outside authorities as the author of the curriculum. Instead of using the collaboratively developed PIH unit frame or the content provided by historians, the 4th grade teachers typically began their lesson study planning with what was familiar – the textbook and the state course of study. Their comments suggested that most viewed the textbook as the source for the historical truth their students needed to know. In this regard, they began lesson study planning with an assumption that history is knowable and their job was primarily to convey textbook facts.

The earliest comments suggesting a reliance on the textbook emerged as the lesson study team discussed how long the Civil Rights Movement unit should last as well as the content to be included. Teachers considered the number of lessons in the textbook or the breadth of content

listed in the course of study before deciding on how many days to allow for the unit. Vocabulary words, events, people, and places were offered from either source regardless of their fit with larger unit goals. Long lists resulted that would later be prioritized and restructured, more often at my instigation but sometimes at the request of other lesson study team members after seeing the full list of topics. At times, initial materials developed by lesson study team members were excessive in length because they focused on conveying biographical detail or facts that were not central to the unit focus. In one instance, for example, Wendy offered twenty-three biographical power point slides on Martin Luther King, Jr., which she argued were needed in order for students to understand King's beloved community ideal.

One Year 1 conversation centered on lesson organization highlights the teachers' tendency to think in absolutist terms. However, the conversation also demonstrates how collaborative planning might cause teachers to at least question those absolutist assumptions. During the early phases of planning, several teachers coalesced around the idea of organizing the Civil Rights Movement unit using the people, legal issues, and organizations listed in the state course of study. When Paige noted that such an organization would make answering the unit central question difficult and perhaps even oversimplify the past, Wendy argued that one could overlay the three change strategies (legal, nonviolent direct action, and black power/separatism) onto lessons focused on people, legal issues, and organizations. Felicia, working from the view that every event and person previously listed by the lesson study team needed to be discussed, struggled to see how events could even be covered within a more thematic organization, saying, "I think the [thematic organization] keeps the events separated. You've got a lot of people and events. I mean where do they go?" Felicia's difficulties conceptualizing a thematic organization of curriculum and Wendy's suggestion for accommodating all content were typical of most 4th

grade teachers as they encountered scaffolded lesson study for the first time. Teachers tried to accommodate all suggestions regardless of whether they helped achieve the established lesson or unit goals, which were often more conceptual than a discreet listing of facts. However, Paige's insistence that the teachers reflect on how the lesson organization worked with the unit central question helped the team to eventually unite around a more thematic lesson sequence.

By Year 3, the 4th grade teachers continued to view the textbook as an authority on the curriculum. While many teachers hoped to move beyond the textbook to include additional resources in their social studies planning and instruction, their tendency to examine the textbook as the first and primary source for historical content was unchanged. The only exceptions were Paige and Olivia who acknowledged that, though the textbook had dominated their thinking about the content in the past, they were ready to seek other sources for historical content, including primary artifacts and more scholarly historical works. In spite of three years of professional development, including exposure to multiple historical narratives about each year's lesson study content topic, the 4th grade teachers seemed to lack the epistemological frame of reference to fully grasp the constructed nature of historical interpretations. Indeed, when planning the Research Lesson for Year 3, the teachers once again considered the content topic - the American Revolution - by first examining the textbook pages covering the topic, including how many pages were devoted to it.

Even at the conclusion of the entire PFG Project, several 4th grade teachers continued to think of the content in terms of textbook content. Hallie, for example, expressed her disappointment at the discontinuation of the PFG Project by noting that "we would probably have had the whole book finished" if lesson study had continued beyond Year 3. In continuing to rely on the textbook as the primary source for historical content, the teachers seemed to accept

the idea that historical facts speak the same to everyone and are directly knowable by all learners. The result of this view was that many of the teachers seemed to believe that giving students more facts meant they were doing a better job as history teachers. In this sense, the additional historical narratives provided by lesson study did not provide alternative perspectives on a particular issue, problem, or question but instead provided more content to be learned.

While few 4th grade teachers appeared to dramatically shift away from a reliance on the textbook as the authoritative source for historical content, a few 4th grade teachers demonstrated awareness even during Year 1 that Research Lessons might shift the focus in their classrooms such that analytical thinking and decision-making became possible. For instance, as the team used a planning scaffold to conceptualize the lesson, several teachers recognized how exposing students to three different means of bringing about Civil Rights change might help students move beyond simple historical narratives to understand the difficult choices faced by activists.

Researcher: So we're introducing the idea of discrimination?

Wendy: And at the same time the idea of what do you do to bring about change...?

Those methods of nonviolence clearly show the different paths that [Civil Rights activists] were trying to take in order to help bring about the change.

Felicia: I think [the lesson] will broaden [students'] horizons – that there's not just one set way of doing things, cause they always come in and say, what is the *right* answer?

What is *the* answer? But there's more than one answer.

Underlying this discussion on preparing students for their future lives are suggestions of subtle shifts in teachers' epistemological assumptions. By noting that there might be more than one way to answer the questions about ending discrimination, several teachers appeared to grasp that answering the unit's central question was a complex task but one that might help develop

important citizenship skills for their students including decision-making and conflict resolution. These conversations stood in contrast to prior conversations at the start of Year 1 planning during which teachers essentially referenced the textbook or listed facts they wanted the unit to cover. Within the earlier conversations, teachers had not focused on developing skills needed for citizenship, as they now seemed to be considering, but instead concentrated on conveying the knowledge contained within their textbooks or course of study. In addition to shifts in their epistemological assumptions, the teachers' comments might also have reflected shifts in their vision for history teaching and learning, a possibility I consider in a subsequent section.

In some instances, these slight shifts in the teachers' epistemological assumptions became manifested in a desire to expose students to multiple historical narratives or multiple perspectives. The ill-structured unit question and its requirement for ethical decision-making seemed to encourage the teachers to reconsider their common view that the textbook provided the body of facts students needed to learn. By expressing a desire for balanced historical perspectives, several teachers made subtle shifts away from a focus strictly on the narrative found in their textbook to critical analysis of multiple historical narratives. At times, the teachers even hoped to expose their students to negative portrayals of the past that might have been left out of their textbook. During Year 1, this may have been due to teachers' growing content knowledge. As the teachers understood additional perspectives on the Civil Rights Movement, they appeared more willing to expose their students to multiple perspectives perhaps because they valued exposure to a broader historical narrative that better represented what actually happened during the Civil Rights Movement. By providing students with the "negative response" to Civil Rights activists, the teachers believed they were no longer "sugar coating" the past. By exposing students to multiple historical narratives and points of view, the lesson study

team hoped to empower students to think for themselves, to make sense of a complicated past, and to potentially move beyond more stereotypical views found in the State History textbook.

As the years of the study unfolded, the 4th grade teachers appeared to grow in their openness to using an ill-structured unit question and their willingness to expose students to multiple historical narratives and perspectives. Teachers like Felicia supported the use of multiple perspectives within the Year 3 lesson study Research Lesson, because they believed the people too often mistakenly “see things so cut and dry” and that people “don’t see [issues] from both sides – we just see it from ours.” The 4th grade teachers’ increasing comfort using an ill-structured, unit central question to guide curricular decisions could be seen in the planning they completed at the start of Year 3. The lesson study team no longer created long, superfluous lists of facts as part of the planning process. Instead, the teachers latched onto the unit question much earlier in the planning process and used it to navigate nearly every challenge they confronted. Excerpts of the *Declaration of Independence*, for example, were chosen based on whether they revealed important perspectives on the unit question. While the teachers had not abandoned the textbook as the content authority, they had begun to examine the textbook for content directly related to the unit central question. This openness to using the unit central question resulted in a much more fluid planning process during Year 3 because the lesson study team weighed instructional and content alternatives by asking which best helped students answer the question.

The continued shifts in teachers’ epistemological assumptions that occurred during Year 3 did not always translate into different classroom pedagogy, however. Three years of planning and classroom observation data suggests, in fact, that the transition from traditional pedagogy to constructivist pedagogy was a complex and challenging process for the teachers in part because their epistemologies seemed so entrenched. For example, while the teachers appeared to grasp

the idea that perspective shapes the interpretation of facts as early as Year 1, they remained uncertain about how to best expose students to the multiple narratives they believed were necessary to answer the unit central question. Though there was variation, the teachers' traditional reliance on a defined curriculum like that provided by the textbook also appeared to cause anxiety whenever students pushed the lesson off-script into questions about alternative narratives. One teacher, for example, openly expressed frustration when her students asked questions about instances in the past when White citizens used the word "colored" or "negro." Instead of seeing instances like these as opportunities to help students think more about discrimination and the use of language in creating the "other," many 4th grade teachers viewed students' questions as unnecessary interruptions that took the lesson beyond its established confines. In this sense, the teachers' absolutist epistemologies seemed to directly influence their openness to new pedagogies that gave ownership of learning more directly to students. Teachers appeared more resistant to teaching strategies that disrupted normal classroom routines.

The shift from an absolutist to a constructivist epistemology was clearly challenging. In fact, by Year 3, it became clear that the teachers faced confusion as they attempted to work within a constructivist learning environment. As many of the teachers attempted to shift to a more constructivist approach to teaching, they often seemed to assume that they had to take a complete hands-off approach in their teaching in order for students to have a true encounter with PBHI. While the teachers approved of giving students an opportunity to "feel comfortable and express their ideas" within a constructivist learning environment, they often missed opportunities to help students do more disciplined inquiry by withdrawing too much from the discourse in the classroom. It seemed therefore that many of the 4th grade teachers remained unsure about how best to soft scaffold student learning without dominating the classroom discourse even at the

conclusion of Year 3. Three years of data suggested that though many of the 4th grade teachers were dissatisfied with their overreliance on the history textbook, they continued to wrestle with how to put PBHI theory into actual practice and that additional support would be needed beyond Year 3 for them to make more dramatic epistemological shifts.

Functions of history. The 4th grade teachers' views on the functions of history influenced their receptivity to professional teaching knowledge for PBHI. When teachers focused on using history to transmit factual knowledge, they found PBHI challenging. When teachers focused on using history to develop civic competence, including the ability to make informed decisions, they became more open to PBHI. Linked to the 4th grade teachers' absolutist epistemologies and the resulting difficulties transitioning to constructivist teaching were the teachers' views on the purposes for teaching history. During Year 1 planning sessions, teachers' comments indicated that they initially gravitated towards transmitting history to their students. While other teachers might transmit the past in order to pass on a nation's cultural history, to teach moral lessons, or even as a means to help students makes sense of their own personal stories (Barton & Levstik, 2004), most 4th grade teachers seemed to focus on transmitting the past because they believed that it was what the textbook dictated. Prior to the start of the PFG Project, it seemed clear that the 4th grade teachers relied on their textbooks and associated workbook materials as the vehicles through which they delivered social studies instruction.

Perhaps because they experienced some success motivating students to engage in PBHI during Year 1 and Year 2, most of the 4th grade teachers moved slightly beyond their desire to instill "the facts" in their students' minds by Year 3. Nearly all of the teachers argued that they needed to work to make history "interesting" for students. Most often this desire emerged as the teachers discussed unit grabbers. However, they sought to make connections to students'

everyday lives not because doing so would help students remain engaged as they worked through ill-structured questions, but because making history interesting would help students retain more content. As Hallie described it, teaching the textbook using PBHI would cause historical knowledge to “stick” with students and thereby give them the background knowledge needed to understand events in their personal lives.

During the early stages of Year 1 lesson planning, teachers tended to focus on more efficient ways to cover content. Rarely did the teachers focus on the accuracy of the information presented, its depth, or its connection to the unit central question. Teachers’ task orientation and focus on transmitting the knowledge contained within the textbook or course of study was often detrimental to the lesson study team’s early exploration of its conceptual goals because it caused the team to focus on relatively minor details instead of larger unit purposes. While teachers became more adept at using PBHI language to describe their goals for history and at grounding their curricular decisions in PBHI theory by Year 3, many of the 4th grade teachers continued to view history as a body of facts that needed to be transmitted to students.

There were some signs during Year 1, however, that teachers were beginning to at least understand the PIH model for PBHI particularly with regard to the civic competence goals it establishes for the teaching of history. While transitioning fully to the PIH model proved especially challenging, the 4th grade teachers’ early willingness to consider an alternative model for social studies teaching was encouraging and laid a strong foundation for positive developments in subsequent years. Throughout the planning of the Civil Rights Movement unit during Year 1, teachers voiced significant concern that their students would gravitate towards Martin Luther King, Jr. and Rosa Parks due to their familiarity with them. Hallie argued that students’ tendency to do so was a problem because there were “more people involved than just

them.” Like the teachers in Levstik’s (2008) study, the 4th grade teachers hypothesized that students’ natural instinct to focus on King and Parks might prevent them from fully interrogating a unit question focused on the best method for ending discrimination. The teachers’ desire to move beyond King and Parks during summer planning suggested that many of them were beginning to grasp the significance of the unit central question and its role in helping teachers make curriculum decisions.

The 4th grade team also quickly coalesced around the idea that history content could be used to develop empathy for the experiences of other people, an important skill that can be viewed as a prerequisite to developing civically competent citizens. Throughout Year 1 planning sessions, teachers voiced the view that having students empathize with others could engage them in study of the past. When deciding which historical event could serve as a case study for a lesson on the legal strategy, for example, there was near unanimous approval for the use of the *Brown vs. Board of Education* U.S. Supreme Court case. The teachers agreed that students would relate to the case because it dealt with a child facing discrimination and that the case could open the eyes of students to the experience of others such that students might be empowered to address problems in their own lives.

While the 4th grade teachers seemed to partially grasp the significance of the central question within PBHI instruction during Year 1, they were not able to use that understanding to guide curricular decisions. The teachers often vacillated between using the PBHI framework as a guide for curricular decisions and reverting to past experiences covering the facts they found important. At other times, teachers latched on to one goal of the PBHI framework that they believed students could achieve but ignored others. This tendency can be seen in the teachers’ prioritization of empathy. Several teachers seemed to believe that their students were more

prepared to empathize than they were to wrestle with the difficult historical questions posed within PBHI units. For example, as they evaluated the success of a lesson implementation, several teachers advocated simplifying the lesson assessment to ask whether students would personally support nonviolent direct action instead of whether it would actually work to end discrimination. In arguing for changes like these, the teachers prioritized empathy while also revealing some skepticism that 4th grade students could think historically about lesson questions.

Individual lesson implementations during Year 1 also tended to reveal this tension. While each lesson contained scaffolding to help students think more independently, many of the teachers tended to do much of the thinking for students as they interacted with them in small groups by explaining what source material meant or even what they should write down on the scaffolds. Even when the teachers appeared fully prepared to implement the lesson both in terms of the content and the procedures, they sometimes struggled to facilitate student-centered discussions, thereby limiting the higher order thinking and substantive conversation that students might have exhibited. In this sense, the teachers' own need to control the instructional outcomes so that the facts were transmitted sometimes prevented them from giving students the time, space, and support they needed to think.

By the conclusion of the project, several 4th grade teachers described how lesson study changed their conceptions of history itself, especially as they came to more completely understand the constructed nature of historical narratives. Olivia, for example, said, "I knew history but I didn't *know* history," which implied that she grasped some of the content but little about historians' methods. Likewise, Hallie concluded simply, "Now I see that history is important." One reason that some of the 4th grade teachers may have come to see the constructed nature of historical narratives might be explained by their increasing fidelity using ill-structured

unit central questions to organize PBHI instruction. Felicia, for example, described how she liked using the central question because it helped her link each lesson to a larger unit purpose. The teachers described how they hoped to consistently frame lessons around a central question so that students would understand how history had meaning for their present lives.

Ultimately, three of the six teachers (Olivia, Paige and Wendy) were able to fully articulate a civic competence mission for the teaching of history by the conclusion of Year 3 even though only one teacher, Paige, proved able to translate that belief into classroom practice outside of lesson study. Wendy stated that she hoped that teaching history differently might better prepare students to understand their roles in society.

Wendy: I think [history is] important because history is more than understanding politics... You may have some people with more power but everybody has a part in history... I look at things differently now – even as I listen to these politicians talk... It just can't be about one segment of society because that's not how we live. We live all together so we have to work together and care for each other... So that's how I kind of look at history. It's about the common good of every person.

While comments like Wendy's provided evidence that at least some teachers had begun to entertain civic competence purposes for the teaching of history, they were rare even among the three teachers who expressed them. The teachers' lack of in-depth content knowledge seemed to limit their adoption of civic competence purposes for the teaching of history. Teachers tended to oversimplify history content in a manner that reduced its complexity so that it could be transmitted more easily. For instance, during Year 3, teachers preferred to use excerpts of the *Declaration of Independence* that had been paraphrased into "kid-friendly" language. Initially, the 4th grade teachers argued that doing so would help students more quickly grasp the ideas

contained within the historical document resulting in less need for support from the teacher. However, as the lesson study team weighed the use of the original *Declaration of Independence*, it became clear that at least some teachers feared using a document that could expose their own content knowledge gaps. Reducing complexity therefore seemed to be a strategy employed by teachers to make PBHI teaching less demanding. It might also have been a way to limit the opportunities when their limited content knowledge could become exposed (McNeil, 1986).

In spite of the teachers' tendency to simplify historical content, their public recognition of content knowledge gaps was important because it helped them to recognize their own need for continued professional development and support. In addition, as the teachers discussed their own knowledge gaps, they very often paired their comments with statements of hope for shifting their purposes for teaching history beyond memorization of discreet facts. This shift seemed to be the first step towards adopting a more civic competence purpose for the teaching of history. While the fact that many of the teachers acknowledged their own lack of content knowledge was helpful, because such an acknowledgement could lead to change, it seemed clear that the teachers' thin content knowledge made moving beyond a transmission orientation for the teaching of history very difficult throughout the three years of the project. The task of adopting civic competence purposes for the teaching of history seemed especially difficult for the 4th grade teachers because they lacked the content knowledge necessary to map content to research-based pedagogies that would impact student learning (Schulman, 1987).

Beliefs about students. The degree to which the 4th grade teachers held optimistic beliefs about students influenced their adoption of professional teaching knowledge for PBHI. Teachers who held more pessimistic beliefs resisted PBHI whereas teachers who believed that students were curious and would engage in higher order thinking more fully embraced it. As was the case

for their views on the functions of history, the teachers appeared to shift in their beliefs about students. At times, they argued that their students would be undaunted by challenging social studies tasks so long as they found them personally meaningful. At other times, they described their students as lazy or resistant to any task that required deep thinking. While many of the teachers appeared to shift with regard to their beliefs about students, skepticism about students' abilities persisted even to the conclusion of the PFG Project.

The 4th grade teachers' beliefs about students often appeared to ebb and flow based on their most recent experiences with students. When planning lessons during the summer, the teachers often expressed skepticism about their students' abilities. Following implementations of Research Lessons, the 4th grade teachers generally expressed surprise at students' level of engagement and even sometimes admitted they had underestimated their academic abilities. During Year 1, teachers' beliefs about students appeared to waiver rather dramatically in this manner. In most cases, the 4th grade teachers discussed *their* students, suggesting that most viewed each class as a unique collection of individuals with unique learning needs. For instance, Hallie's comments following the second implementation of the Year 1 Research Lesson are clearly pessimistic but refer only to her particular group of students.

My kids have problems with comprehension. They are lazy. They don't want to go back. They don't want to look up stuff. They don't want to analyze. They don't want to think about it. So that is one of the problems that I'm having in my classroom.

During Year 1 planning, there were signs that optimism regarding students was beginning to emerge as teachers discussed the possibility of engaging their students in working through the real world issue of racial discrimination. As the lesson study team worked through a planning scaffold, a wide-ranging and lengthy discussion of discrimination as a persistent and authentic

issue for students to consider occurred. The teachers seemed optimistic that students would willingly engage in working through the issue of discrimination because they felt students would find it personally relevant. These conversations encouraged the 4th grade teachers to consider how the lesson study team's Research Lessons might help all students understand the African American historical experience during the Civil Rights Movement. In addition, they encouraged the lesson study team to decide if making the Research Lessons personally meaningful for students would cause them to engage in the challenging tasks they had designed. Teachers eventually concluded that students could think critically and ethically about how best to stop discrimination. Although they remained unsure as to whether their students were fully capable of completing all of the tasks developed within the unit, their willingness to even broach questions of racial discrimination suggested that their beliefs about students were malleable.

Part of the reason teachers may have vacillated so frequently in their beliefs about students from Year 1 to Year 3 may have been their tendency to view their students as unique and unlike the students of other teachers. In fact, the teachers' level of doubt about students appeared to increase proportionately to the number of special education or "at-risk" students in their class or the degree to which they viewed their classroom idiosyncratically. As Camille said, her "at-risk" students might not be able "to grasp the information, especially [in] those documents." Similarly, Felicia argued that "kids are different everywhere" by which she meant that the Research Lessons would likely prove difficult to implement in her classroom because they were not specifically designed for her students. While views like these shifted somewhat following lesson implementations, the teachers often referenced students' perceived ability level when attempting to understand instances when the lesson succeeded or failed. Doing so meant that the teachers sometimes failed to interrogate the potential need for additional scaffolding

within the lesson that might address the learning differences within their classrooms.

Observational and debriefing aspects of lesson study appeared to cause some teachers to reconsider their own role within the lesson in a manner that shifted the focus from deficiencies within students to changes the teacher could make to improve student outcomes. In so doing, the lines the teachers drew regarding students' ability level appeared to become more blurred. Often times, discussions of student ability emerged following viewings of implementation video. Teachers sometimes publicly explained why their students struggled to complete portions of the Research Lessons, which led to additional discussion about the team's goals for student thinking and how the team might better scaffold the lesson. Lesson study might therefore have helped the teachers to retain optimistic views of students even when those students struggled through lesson activities because it encouraged them to look for instructional changes the teacher could make to improve student learning as opposed to blaming students more directly for their difficulties.

Teachers were also frequently encouraged and motivated by the differences in student engagement they observed during each year's Research Lesson observations. These observations often resulted in the teachers rethinking the capabilities of their students. During Year 1, many of the teachers enthusiastically expressed their surprise at how the Research Lesson retained students' attention and facilitated widespread student engagement. Similar sentiments were repeated during Year 3. Teachers explained how PBHI got students "more involved." Others, including Felicia, described how they had not considered PBHI pedagogy from a student's point of view. For instance, she described her "shock" at students' desire to express their opinion on the Research Lesson assessment and even acknowledged that the Research Lesson "sparked some interest that my every day lessons evidently don't."

Beginning at the conclusion of Year 1, teachers appeared to more openly acknowledge

that the lesson study process had caused them to reassess their assumptions about students' ability to engage in challenging history instruction. Like the examples provided above, multiple teachers noted how their students responded in comparison to more traditional instruction using the textbook, saying that students found the Research Lessons fun and thought provoking. Many teachers pointed specifically to an overuse of the textbook as the main reason for prior student disengagement. Hallie extended the group discussion about improved engagement by encouraging the 4th grade teachers to consider their own expectations for students and whether they had been too low prior to lesson study.

Hallie: ...[Students] were more engaged. They wanted to discuss... [M]y kids didn't bicker and argue with each other. It was more of a discussion... I mean, it was like, oh, they can be *intellectual*. You know, you [the teacher] was kind of like wow, they actually discussing. And even some of my low ones was really involved. It was like a light bulb came on and they was like, "I got it."

Considering that Hallie also often represented the more pessimistic extreme in her comments about students, her shift in recognizing students' ability to be intellectual was remarkable.

Two additional years of lesson study seemed to solidify teachers' view that they had previously underestimated their students' capabilities. In particular, multiple teachers expressed surprise at how well their students accepted ownership of the Research Lessons. At the start of each lesson study cycle, the teachers were skeptical that their students could function well within a problem-based learning environment. The Research Lessons, however, confirmed that students were capable of expressing opinions, supporting arguments with evidence, and collaborating with their peers. In fact, many of the teachers advised other teachers contemplating lesson study to keep an open mind about their students' abilities and to avoid prejudging them as they had.

Although the 4th grade teachers continued to view students idiosyncratically and occasionally spoke skeptically about their students even in Year 3, they had largely shifted from cautious beliefs about their students to much more optimistic beliefs about their academic abilities. The teachers argued that students needed even more opportunities for critical thinking but for that to happen the teacher had to intentionally plan to give students more ownership of each lesson.

Of particular importance, the 4th grade teachers' increasing optimism about students' academic abilities appeared to encourage them to more willingly try PBHI learning strategies. Several teachers acknowledged, for example, that students learned in many different ways and that they needed to move beyond the textbook in order to cultivate the different "learning styles" in each classroom. Perhaps even more importantly, the teachers occasionally pointed to components of PBHI as the reasons that their students became increasingly more engaged in learning history. For example, teachers sometimes acknowledged the power of linking lessons to an ill-structured central question. The teachers also described how each year's unit grabber lesson made that question seem more authentic and personal. Other teachers described how the hard scaffolding built into the Research Lessons helped students accomplish more than anticipated. Although not every teacher recognized a link between elements of the PBHI Research Lessons and the improved student engagement and curiosity, multiple conversations throughout the three years of the project suggested that the teachers understood that there was a dramatic difference between the Research Lessons and their typical classroom instruction and that those differences were the cause of increased student engagement and curiosity.

Risk taking. The 4th grade teachers' tolerance for risk taking influenced their interpretation and adoption of professional teaching knowledge for PBHI. Those teachers who favored teacher-centered instruction or classroom control often saw PBHI as difficult to

implement consistently. In contrast, teachers who were unencumbered by professional authorities or who believed risk taking was worth the reward of improved student thinking more openly adopted it. As was true of the 4th grade teachers' epistemological beliefs, the teachers' tolerance for risk taking appeared inconsistent throughout the three years of the study. Yet collectively, there also appeared to be continual progress towards increased tolerance for risk. Many teachers, for example, appeared willing to allow their students the time and space needed to think and to articulate their personal views and even seemed open to the ambiguity associated with doing so. At the same time, several teachers remained reluctant to speak during planning sessions, expressed persistent skepticism about the Research Lessons, and sometimes even experienced isolation as the only team member from a particular school. The 4th grade teachers also differed in the degree to which they facilitated student learning during Research Lesson implementations. Several teachers took an active role in soft scaffolding and supporting student learning while others turned the lessons nearly completely over to students, allowing them to take it in directions that drifted from the central purposes of the unit. In general, the teachers' occasional hesitancy with the Research Lessons seemed to be due to continued uncertainty about the Research Lessons both in terms of their value but also their content and procedures.

Collectively, the 4th grade teacher's choices for PBHI learning strategies were telling with regard to their willingness to take risks. During Year 1, the two lesson study teams chose the two strategies for their Research Lessons that most resembled the traditional pedagogy the teachers had grown accustomed to implementing. For a Civil Rights Research Lesson on the nonviolent direct action strategy for bringing about social change, one lesson study team chose "interactive lecture" as their strategy while the second lesson study team chose "response group," a structured form of discussion. Although both of these strategies present opportunities for

student-centered learning, they are also strategies that clearly define the teacher's role within the lesson, particularly as it relates to didactic delivery of history content. The discussions surrounding these decisions revealed that the majority of 4th grade teachers wanted pedagogical strategies that limited classroom interruptions and that gave the teacher the maximum amount of control over classroom activities. Both lesson study teams resisted my subtle suggestions of alternative pedagogical strategies that were more ambitious in the sense that the locus for learning might be shifted even more in the students' direction. Additionally, throughout Year 1, the 4th grade teachers reminded PFG staff that they taught 4th grade whenever the lesson study team considered complex learning strategies. In this sense, the majority of 4th grade teachers appeared to initially seek to reduce the risk associated with implementing PBHI.

By Year 3, the 4th grade teachers remained somewhat fearful of unknown history content as evidenced by comments like, "I haven't read this stuff since college." Yet, the teachers' choice of textual analysis of foundational American documents, including the *Declaration of Independence*, followed by a Socratic seminar marked a significant improvement in the teachers' willingness to take risks in their instruction, at least as it relates to the pedagogical strategy chosen. Because the Socratic seminar strategy attempts to shift the majority of classroom discourse from the teacher to students, it represented a significant shift in teachers' comfort with student-centered instruction and its associated risks. The Socratic seminar strategy also held significant potential for exposing teachers' thin content knowledge as students responded to questions posed by the instructor, a potential that more than one teacher publicly acknowledged.

While many of the teachers continued to worry about managing student-centered discussions so that classroom interruptions did not occur, they also remained eager because they appeared to see the benefits of taking risks in their classrooms. Nearly all of the teachers

encouraged anyone considering scaffolded lesson study not to “doubt it before you try it,” while some even added that others experimenting with lesson study should “expect success.”

Comments like these suggested that the success teachers experienced implementing PBHI Research Lessons in their classrooms were encouraging enough to help them overcome fears of inadequate content or pedagogical knowledge.

Professional knowledge culture. Teachers traditionally regard their teaching practice as private and idiosyncratic (Lortie, 1975). In contrast, teachers who ground teaching in professional knowledge center instructional choices on generalizable principles drawn from research knowledge. Throughout the three lesson study cycles, there were numerous indications that lesson study contributed to the development of a shared professional knowledge culture that aided teachers in adopting the professional knowledge assumptions embedded in the PIH framework for PBHI. It was clear that the 4th grade teachers valued the opportunity to collaborate and dialogue about social studies lessons. Although the teachers encountered frustrations with regard to collaborative planning, numerous comments throughout the lesson study cycle suggested that the teachers found the professional development experience to be positive and beneficial for their classroom teaching. Rhetorically, the 4th grade teachers expressed strong support for grounding social studies teaching in their emerging understanding of PBHI research theory. However, actually applying theory to diagnose and resolve problems in their normal classroom practice, especially outside of the confines of lesson study, proved much more difficult.

One of the most consistent comments from Year 1 to Year 3 among all teachers was their appreciation and support for the collaboration afforded by lesson study professional development. Early during Year 1, a clear example of this attitude emerged during summer

planning as teachers discussed the possibility of engaging their students in discussions of racial discrimination within the emerging Civil Rights unit. As the teachers grew more comfortable sharing how they believed the lesson would help students wrestle with controversial issues surrounding race, they shared their own personal experiences with discrimination in a manner that united the group in their desire to help students understand that racial prejudice is a persistent problem that should not be ignored. Felicia, for example, described how she grew up as an “odddity,” being the only black child in her midwestern school, while Camille looked forward to using the lesson to explore the morality of discrimination. The teachers’ early discussions of race and discrimination in the classroom setting and in their personal lives may have been important not only because it seemed to unite the lesson study team around a challenging goal for students, but also because it appeared to lay the groundwork for the emergence of a supportive community of practice. Within the context of creating lessons on the Civil Rights Movement, teachers organically shared their own beliefs, values, and childhood experiences in a manner that demonstrated care and trust. Though teachers were not yet prepared during the Year 1 lesson study cycle to use PBHI theory to independently plan instruction, the lesson study team’s discussions of discrimination may have served as an early reminder to the teachers that they were not alone and that the potential existed for them to draw from their shared experiences to develop social studies instruction that would have an impact on the lives of their students.

Although there were clearly limits to teachers’ ability to ground their planning in PBHI principles throughout the three years of the study, teachers found the lesson study observations and debriefings to be nonthreatening opportunities to work on improving classroom instruction. Teachers reported that they found observers to be supportive in contrast to more formal

observations by administrators. For instance, Olivia voiced positive sentiments about lesson study observations even after realizing that six adults would observe her teach. She felt minimal pressure because “you’re not coming to look at me, you’re coming to look at the lesson.”

By Year 3, the teachers’ appreciation and support for the collaboration afforded by lesson study became more cemented. Every 4th grade teacher expressed support for collaboration, even those teachers who experienced feelings of isolation during the three years of the project. Teachers asked that the lesson study team “do it together,” whether that meant constructing Socratic seminar questions or planning lesson assessments. The frequency of these comments suggested that the lesson study team drew confidence from collaboration. As Hallie said, “I just liked the way that it wasn’t just my mind turning it was eight other minds turning at the table.” Even Felicia, who was among those teachers who appeared most resistant to collaborative planning, suggested that she benefitted from working together with other teachers who held different points of view and who approached their classroom instruction differently.

Although the 4th grade teachers appeared to value the collaboration afforded by lesson study by the conclusion of Year 3, the lesson study experience was not without frustrations. Teachers like Hallie sometimes expressed their frustration with the pace of lesson planning by using sarcasm or by responding to inquiries by saying “Yep,” “Ditto,” or “Sure.” At other times, teachers removed themselves from the room in which planning was taking place. Responses like these suggested that the teachers were perhaps unaccustomed to thinking deeply about their social studies instruction and that the process of planning Research Lessons was challenging. The teachers’ frustrations with the pace of lesson study could also be seen in their distractibility. For instance, teachers sometimes drifted off task by browsing the Internet or checking email during planning. Felicia even freely admitted during her exit interview that she frequently

“checked out” due to the time it took the team to make planning decisions.

For the 4th grade teachers, frustrations often appeared to be rooted in the fact that scaffolded lesson study was grounded in the ability of the team to reason collectively about social studies instruction. At times, the teachers expressed frustration with having their ideas ignored, passed over, or dismissed as unhelpful. Several teachers, including Paige, Wendy, and Olivia found it relatively easy to continue planning as a lesson study team, even after their ideas were not wholly accepted. In contrast, Camille, Hallie, and Felicia often withdrew from the planning process for a period of time after an idea they presented was ignored. The teachers’ collective behavior suggested that at least some of the teachers found the process of making their planning ideas public challenging. Yet, comments in exit interviews suggested that the teachers eventually realized the benefit of hearing others’ viewpoints on planning decisions in order to arrive at the best lesson possible for all involved. Wendy captured this sentiment well.

...Your [planning contribution] may not be the best piece of information to use in the lesson. And you have to be willing to say, hey that’s ok because it’s not for me, it’s for us collaborating together and ultimately it’s for our students. I think that was a hard lesson to learn but I did learn it.

Comments like Wendy’s suggest that collaboration may have sometimes proven difficult for teachers, because it forced them to alter behavior patterns rooted in their professional isolation.

Interestingly, the 4th grade teachers also reported some frustrations that emerged out of the interpersonal dynamics within the lesson study team itself. There appeared to be three sources for this frustration. First, several teachers grew frustrated with “negative people” who slowed the pace of lesson planning and diminished the efficiency of the lesson study team. Second, several teachers grew frustrated with “stubborn teachers” whom they viewed as being

“stuck in their ways.” Paige argued, for example, that the teachers needed to become more comfortable with “positive criticism” and work harder to accept it. Third, it is likely that some teachers more readily accepted their role as instructional gatekeepers (Thornton, 1991).

Teachers who saw themselves as instructional gatekeepers grew frustrated with those teachers who blamed their students or external forces for lesson shortcomings.

The final source for frustration was perhaps the most significant, particularly for future lesson studies. As I have discussed previously, four of the six 4th grade teachers taught at one elementary school. These teachers were accustomed to meeting and working together during their normal professional obligations. As it relates to teaching social studies, these four teachers were also accustomed to deferring to Paige’s discretion with regard to lesson plans since she served as the author and coordinator for social studies lessons. Although it was never readily apparent during planning sessions, both Wendy and Felicia mentioned feelings of isolation during portions of the lesson study process. For Wendy, the feelings were fleeting and easily overcome. For Felicia, feelings of isolation seemed to dominate her experience throughout the three years of the project. Felicia spoke infrequently and rarely elaborated on her thinking when she did contribute. Perhaps because Felicia viewed her teaching idiosyncratically, she very often seemed to find the collaboration required of lesson study difficult. In her exit interview, Felicia described how the other members of the lesson study team differed in their teaching philosophy, the technological resources available to them, and even the State History textbook employed. Felicia did not appear to believe a common set of assumptions about teaching and learning could or should guide decisions in classrooms because each class represented a unique body of students with unique needs. Because Felicia believed that students were different in each classroom, she may have found collaborating on one lesson designed for all those classrooms impractical and

frustrating. Combined with the fact that she was the only representative from her school on the lesson study team, Felicia's sense of isolation was perhaps strong. She may have disengaged from the lesson study process because she could not see how anything she learned from planning with and observing other teachers could be applied to her specific classroom. Yet, in spite of these sentiments, Felicia still voiced support for "hearing ideas of people outside of my area."

Though the teachers appeared to value the chance to observe each other teach and to work together to make changes to the Research Lessons, my repeated efforts to intentionally draw teachers' attention to the Research Lesson itself, and the student learning that resulted, seemed critical in relieving much of their anxiety about being observed and critiquing each other. Focusing on the lessons instead of the teachers, an essential feature of lesson studies, encouraged teachers to more willingly engage in public reflection about their instruction. Teachers described how debriefing meetings focused on student learning and on improving lessons as opposed to the mistakes teachers made implementing them. Throughout the study, there were strong indications that the teachers believed lesson study could not occur without the facilitation I provided. For instance, Felicia argued that individual teachers could not duplicate the success of the Research Lessons without the support and structure provided by the PFG Project, saying that "we could have pulled together some stuff [but] it would not necessarily have been good stuff."

Though there were benefits to my mentorship of the 4th grade lesson study team, there was a potential consequence to my presence that emerged by Year 3. For teachers like Hallie and Camille who were more reliant on professional authorities to guide and direct their instruction, lesson study sometimes morphed into small group "master classes" in which these teachers solicited directions from me as mentor before investing significant energy in the planning process. This morphing appeared consistent even when I tried to deflect their questions

by asking them what they thought should be done. In some senses, these teachers viewed me as their “coach” or “master teacher” who could prepare them for a “new way” of teaching.

However, not every teacher looked to me as the authority in the room. In fact, Paige, Olivia, and Wendy frequently rebuffed ideas I asserted, often with humor. In one memorable example, I argued that students should at least attempt to read scaffolded excerpts of the original *Declaration of Independence* instead of a “student-friendly” paraphrased version. In response, Olivia jokingly, but strongly, asserted, “[Students] are eight, nine, and ten years old. Now you coming back around? Come away from the college.”

Throughout the three years of the study, it seemed clear that the 4th grade lesson study team valued the opportunity to observe each other teach the Research Lessons, the opportunity to reflect together about their successes, and the chance to collaboratively improve the lessons. One reason that teachers may not have felt threatened by lesson study debriefings was the fact that the lesson “belonged” to the entire lesson study team, which may have compelled the teachers being observed to make their instructional mistakes more public. When these mistakes were made public, the teachers often responded by reflecting more deeply about whether the team had provided sufficient scaffolding for students. These collaborative reflection sessions might also explain why many of the 4th grade teachers pointed to the public nature of the lesson study process as a reason for the successes they experienced (Hiebert, et.al, 2002). The teachers noted differences, for example, between lesson study collaboration and collaborative efforts done in-house at their schools, which they described as hollow and inauthentic because, as Felicia said, “nobody ever comes to see [anything] so there’s nothing to change.”

In addition to reflecting together collaboratively, the teachers also explained how observing other teachers motivated them to independently reflect on their own instruction and to

prepare more thoughtfully for their own Research Lesson implementations. Hallie, for example, suggested that observing other teachers was helpful because it motivated her to work harder in order to achieve the same results she observed in others' classrooms. Olivia made this connection explicit. She was reassured by the recursive nature of lesson study because it meant that any problems she encountered would be addressed before the lesson was taught again.

[Observing Paige] was totally different from what I was expecting or from what I thought I was going to do compared to what Paige did, which made me turn my eyes around and say, "Paige can't do this better than me!" I was like, if she did it, I gotta step my game up. It was wonderful seeing somebody else and seeing their teaching style and the fact that we have a chance to sit down and actually talk about what worked. And then the work keeps us from making the same mistake over and over again.

Comments like Olivia's suggested that the teachers were given an alternative vision of teaching by observing PBHI implemented in each other's classrooms. Like Felicia who pointed to the absence of observations as the reason why collaborative efforts at her school had failed, Olivia's comments suggested that the recursive and public nature of lesson study contributed directly to instructional improvements. The collaborative nature of lesson study may have compelled the teachers to make their assumptions about learning public (Hiebert, et.al, 2002). For many of the teachers, the immediacy of examining student work following a Research Lesson implementation also appeared to reveal the importance of student data within the reflection process, because such data made clear where the lesson had failed. The improved overall reflective process that came from publicly working with the lesson study team may have encouraged the teachers to more willingly examine their own instructional effectiveness as well as potential changes that could be made to improve that effectiveness.

Teacher-selected Comparison Lessons

PIH lesson study was intended to develop professional teaching knowledge for problem-based historical inquiry and to develop a shared professional knowledge culture among participating teachers. As I have documented in previous sections, teachers demonstrated an emerging awareness of PBHI instructional principles when planning, implementing, and debriefing Research Lessons and came to value the shared professional knowledge culture resulting from lesson study. However, throughout each of those sessions, hard scaffolding was present in the form of planning logs, observation guides, or debriefing questions. Moreover, I facilitated each session, often asking spontaneous questions that originated in my own experience designing and implementing PBHI instruction. A clearer indicator for teachers' adoption of professional teaching knowledge for PBHI could be found in the degree to which teachers transferred that knowledge to typical social studies instructional settings when the scaffolding was removed. Research literature suggested that lesson study held promise for promoting greater transfer of knowledge than is typically the case. In reality, however, teachers appeared to transfer minimal knowledge from lesson study professional development to the design and implementation of their own teacher-selected lessons. Instead, their comparison lessons relied heavily on traditional pedagogy using the State History textbook and scored much lower on AIW pedagogy scales when compared to the Research Lesson implementations.

As an overview of the differences in the teacher-selected and Research Lessons, I offer Table 10, which details AIW instruction scores for all three years of the study. I have excluded task scores for two reasons. First, comparison lesson tasks were often shared among the teachers at River Elementary, thereby reducing the variability in how they scored. Second, Research Lesson tasks were collaboratively designed during lesson study planning sessions resulting in

near uniform scores. The only variability that emerged in both sets of tasks stemmed from the manner in which teachers situated them within the lesson. However, these variations were minimal. When such variability existed, it is captured in the teacher's instruction scores and reflected in descriptions of their Research Lesson implementations. The relative uniformity of both comparison lesson tasks (Mean = 4.3; SD = 1.4) and Research Lesson tasks (Mean = 8.7; SD = 1.6) make these data less useful for analysis.

In Table 10, I combined scores on each component of the AIW instruction rubric for a total instruction score. Each teacher's comparison scores are grouped by year and lesson type and then averaged across each year for comparison purposes. Possible AIW instruction scores ranged from 4 to 20. As the scores below demonstrate, virtually no features of authentic instruction were observed in comparison lessons throughout the three years of the project. Instead, traditional pedagogy was quite prevalent. Teachers typically relied on the textbook to guide these lessons. Higher order thinking, substantive conversation, and in-depth inquiry were rarely observed. Instruction typically focused on helping students comprehend textbook passages via power point lecture. Only Olivia and Paige demonstrated improvement in instruction scores and did so only in the third year of the study. I explore possible explanations for their improvement in the chapter that follows.

Table 10

Authentic Instruction Scores

Comparison Lessons							
	<u>Camille</u>	<u>Felicia</u>	<u>Hallie</u>	<u>Olivia</u>	<u>Paige</u>	<u>Wendy</u>	<u>Mean</u>
Year 1, Lesson 1	4.0	7.0	5.0	4.0	6.0	9.0	5.8
Year 1, Lesson 2	4.0	6.0	4.0	5.0	4.0	4.0	4.5
Year 2, Lesson 1	4.0	4.0	4.0	4.0	5.0	X	4.2
Year 3, Lesson 1	4.0	4.0	4.0	9.0	10.0	X	6.2
Years 1-3: Mean	4.0	5.3	4.3	5.5	6.3	X	5.1

Research Lessons							
	<u>Camille</u>	<u>Felicia</u>	<u>Hallie</u>	<u>Olivia</u>	<u>Paige</u>	<u>Wendy</u>	<u>Mean</u>
Year 1, Civil Rights	9.0	11.0	7.0	12.0	13.0	10	10.3
Year 2, Indian Removal	6.0	7.0	7.0	11.0	9.0	X	8.0
Year 2, Civil Rights	7.0	7.0	8.0	11.0	11.0	X	8.8
Year 3, American Rev.	16.0	10.0	12.0	14.0	11.0	X	12.6
Years 1-3: Mean	9.5	8.8	8.5	12.0	11.0	X	10.0

Note. Possible scores range from 4 to 20. Wendy was shifted to Kindergarten at the conclusion of Year 1 and was subsequently not observed.

Comparing 4th Grade Teachers to All PFG Teachers

In the section that follows, I address my fourth research question: How do levels of content knowledge and authentic pedagogy among 4th grade State History teachers compare to those of 5th, 6th and 11th grade teachers participating in a research-based professional development program? I compare the members of the 4th grade lesson study team to other teachers who participated in all three years of the PFG Project by examining pre/post content test scores and AIW pedagogy scores for Year 1 and Year 3.

Content tests. Of the 24 teachers who participated in the PFG Project for at least one year, there were 17 teachers who had pre/post content test scores for both Year 1 and Year 3. Of those 17, six were 4th grade teachers, three were elementary teachers (5th grade), and eight were secondary teachers. In Year 1, the 4th grade teachers' entering content knowledge was nearly 25% lower than their secondary peers, as might be expected considering elementary teacher's

preparation as subject-matter generalists (Conklin, 2007; Passe, 2006) and the paucity of professional development available to elementary social studies teachers (van Hover, 2008). The 4th grade teachers' entering content knowledge was also 19% lower than their elementary peers perhaps because the other elementary teachers taught U.S. History which was the primary focus for project assessments. In spite of the differences in entering content knowledge, the 4th grade teachers demonstrated the greatest mean change with a nearly 6-point improvement during Year 1. In Year 3, the 4th grade teachers' entering content knowledge was still nearly 27% lower than their secondary peers but just 10% lower than their elementary peers. All elementary teachers demonstrated greater mean change than the secondary teachers, suggesting that they may have benefited more from summer professional development and lesson study. In part, this change may have been due to their lower entering content knowledge scores and the opportunities for growth those scores represented. Table 11 below presents content test scores.

Table 11

Year 1 and 3 Pre / Post Content Test Scores

	4 th Grade Teachers	Other Elementary Teachers	Secondary Teachers
Year 1 Pre-test Mean	14.5	25.3	28.5
Year 1 Post-test Mean	20.2	22.7	32.1
Year 1 Mean Change	+ 5.7	- 2.6	+ 3.6
Year 3 Pre-test Mean	18.3	24.3	33.4
Year 3 Post-test Mean	25.2	32.7	35.5
Year 3 Mean Change	+ 6.9	+ 8.4	+ 2.1

Note. Year 1 and Year 3 content tests each contained 56 items.

AIW instruction scores. Of the 24 teachers who participated in the PFG Project for at least one year, there were 11 teachers who had observation scores for teacher-selected and Research Lessons for both Year 1 and Year 3. Of those 11, five were 4th grade teachers, three were elementary teachers (5th grade), and four were secondary teachers. For the reasons

discussed previously and to maintain consistency with within-group comparisons, I have excluded AIW task scores and focused only on AIW instruction scores.

If scores are viewed on an authentic instruction continuum [Minimal (under 5), Limited (5-9.99), Moderate (10-14.99), and Substantial (15 and above)], all of the teachers displayed Limited authentic instruction in their teacher-selected comparison lessons for Year 1 regardless of grade level. Low scores in the Limited quartile generally indicated teacher-centered instruction often consisting of didactic lecture or IRE whole-class questioning. For the Year 1 Research Lessons on the other hand, all teacher subgroups' mean AIW instruction scores were in the Moderate quartile. Scores in the Moderate and Substantial quartiles generally indicated more inquiry-based instruction that emphasized higher order thinking, substantive conversation, and connections between classroom knowledge and real world problems (Newmann et al., 2007). These data suggest that the 4th grade teachers demonstrated very similar authentic instruction during Year 1 when compared to the other teachers engaged in the PFG Project. The mean difference between teacher-selected comparison lessons and Research Lessons was similar across all subgroups.

For Year 3, the 4th grade teachers' and other elementary teachers' authentic instruction scores on teacher-selected comparison lessons remained in the Limited quartile suggesting that both groups had transferred little PBHI professional teaching knowledge to their typical classroom instruction. In comparison, secondary teachers' teacher-selected lessons moved into the Moderate quartile, suggesting that they had begun to apply some aspects of the PIH model for PBHI in their normal classroom practice. For lesson study Research Lessons, the 4th grade teachers' overall scores represented the greatest mean difference between the two types of lessons. These data suggest that the intellectual quality of instruction within 4th grade Research

Lessons improved more dramatically than those of participating secondary teachers. Table 12 below highlights teacher subgroups' mean AIW instruction scores for Year 1 and Year 3 on both their teacher-selected comparison lessons and the Research Lesson.

Table 12

<i>Year 1 Teacher-selected & Research Lesson AIW Mean Instruction Scores</i>			
	4 th Grade Teachers	Elementary Teachers	Secondary Teachers
Yr 1 Teacher-selected Mean	5	9	6
Yr 1 Research Lesson Mean	10	13	11
Yr 1 Mean Difference	+5	+4	+5
Yr 3 Teacher-selected Mean	6	7	10
Yr 3 Research Lesson Mean	13	12	11
Yr 3 Mean Difference	+7	+ 5	+ 1

Note. Possible instruction scores range from 4 to 20.

Summary

Although many of the 4th grade teachers appeared willing to move beyond a transmission approach to teaching social studies during lesson study planning and debriefing meetings and during implementations of Research Lessons, their inability to move beyond transmitting the past within comparison lessons suggested that they had transferred minimal knowledge of PBHI to their typical classroom instruction. However, there were indications that the teachers appreciated the shared professional knowledge culture that emerged as a result of lesson study as well as the opportunity to collaborate with others in the development of social studies lessons. Moreover, the 4th grade teachers collectively demonstrated willingness to engage their students in examinations of ill-structured unit questions, rhetorical shifts towards civic competence purposes for the teaching of history, increasing optimism regarding their students' academic abilities, and growing tolerance for the risk associated with implementing problem-based historical inquiry lessons.

Chapter Five: Individual Variations

In this chapter I examine the individual variations that existed within three teachers' experiences during the three years of the study. In so doing, I again address the research questions previously reviewed, but do so by examining data for individuals as opposed to the group as a whole. As was true of the previous chapter, I have addressed the research questions thematically, as opposed to individually in sequential order. Organizing themes include teacher epistemology, conceptions of the purposes for teaching history, beliefs about students, openness to risk taking, and participation in and endorsement for a shared professional knowledge culture. My intention in organizing my analysis in this manner is to maintain continuity with the previous chapter so that individual variations are made as clear as possible. I provide context for the teachers' comments by examining each teacher's teacher-selected and Research Lesson implementations at the conclusion of each profile. Organizationally, I have divided the chapter into four sections: three sections profiling individual teachers chosen for the variations in their experiences and a final section summarizing findings.

Teacher demonstrating limited growth: Camille.

In this section, I present a more in depth portrait of Camille – a teacher chosen to represent limited growth in professional teaching knowledge for problem-based historical inquiry (PBHI). Camille showed the least change in authentic intellectual work (AIW) instruction scores over the three years of the study and demonstrated the least growth in her conceptions of professional teaching knowledge for PBHI as evidenced by her implementations of both teacher-selected lessons as well as lesson study Research Lessons. In addition, she appeared most

resistant to the development of a shared professional knowledge culture within the 4th grade lesson study team.

Epistemology. At times throughout the three years of the study, Camille appeared to wrestle with her epistemological assumptions. Ultimately, however, she retained the absolutist assumptions she held upon entering the PFG Project. For Camille, experts, not individuals, created the knowledge worth knowing. Camille deferred not only to her textbook but to anyone she identified as an expert or authority, which may have limited her ability or willingness to transition to more constructivist epistemological assumptions.

Knowledge is fixed. During Year 1 lesson study planning sessions, Camille consistently voiced concern that her students would not succeed unless the lesson study team focused on developing prior knowledge in the lessons before the Research Lesson. For Camille, developing necessary prior knowledge generally meant that preparatory lessons should focus on vocabulary and manageable chunks of facts, which she believed could best be found in the textbook or course of study. For example, when consensus began to build around organizing the Civil Rights Movement unit using a thematic approach focused on the three change strategies used by Civil Rights activists, Camille held onto her need to cover the facts even at the expense of using the central question to guide unit construction.

I mean we're still going to have to cover it (the content listed) in some sort of way. I'm just saying that [this organization] could be one way of working in those people, not saying that would actually answer the question, you know? Cause some kind of way we'll bring in nonviolence even if we do go that way. And then after we discuss all of that, then we bring in the question. Or do we even have to bring it in?

Camille appeared to revert back to her experience conveying textbook facts to her students; her

proposals to the group during Year 1 rarely reflected an awareness of the unit structure developed by the team on the first day of lesson study.

By Year 3, Camille's tendency to prefer manageable chunks of facts she believed her students could easily digest continued largely unchanged. As the lesson study team contemplated the best way to scaffold students' reading of the *Declaration of Independence*, for example, Camille encouraged her peers to consider using pages of her textbook. These pages contained a reading of the Declaration, as well as a fill-in-the-blank type review of the reading which Camille favored because the "answers are in there with the explanations of the Declaration." Camille's reaction suggested there was a defined body of historical truth to be known and thinking needed to begin with some understanding of that knowledge. Because knowledge was fixed and knowable from Camille's perspective, she frequently argued that students needed "background knowledge" before working through any historical question or problem.

Camille consistently deferred to the textbook and its bold-faced vocabulary words for the background knowledge students needed. She preferred to lead students through vocabulary in isolation, outside of a central question or problem context, because she seemed to believe that students needed such knowledge first *before* they could ever address an ill-structured question. In addition, Camille appeared to assume that students would learn the necessary facts if they read them from the text or had them explained by the teacher. Camille seemed to confirm this interpretation in her exit interview during which she explained her difficulties with historian sessions throughout the three years of the project. After expressing how impressed she had been with historians in general, especially their content knowledge, Camille described how the pace of summer professional development activities prevented her from grasping as much factual

knowledge as she had hoped, which thereby limited her effectiveness conveying accurate information to her students. With her focus on learning the body of facts she believed students needed from her, Camille appeared to often ignore the pedagogical strategies modeled throughout the PFG Project.

Worthy knowledge is created by authorities. In addition to her tendency to prefer bodies of facts that could be clearly taught to her students, Camille also deferred to authority throughout the three years of the project. Reflecting her apparent belief that experts instead of individuals create knowledge, Camille looked to the textbook, state course of study, or experts as the sources for knowledge worth knowing. Throughout the three years of the project, Camille cleared every individual planning meeting she and I had with her principal even when they occurred after school hours. Whenever a future lesson study date needed to be placed on the calendar to align with teachers' existing scope and sequence, Camille asked for time to clear the date before agreeing, many times leaving the room to immediately phone her principal. In our early, informal conversations, Camille noted her need to focus on the academic subjects for which she was evaluated, particularly reading and mathematics, which she argued were her administration's priority.

When sources of authority were not immediately available, such as when the lesson study team considered new knowledge or PBHI pedagogies, Camille looked to me as the Persistent Issues in History (PIH) staff mentor for approval on her planning and instructional choices. For instance, Camille sought approval for each portion of a Year 3 lesson assessment she was tasked with developing. During a much longer discussion of the entire Year 3 lesson study cycle, Camille suggested that she believed her job was to convey the knowledge and develop the skills others found important. For example, Camille told the lesson study team, "I like to do things the

way that people want it done.” Later she described herself as a “leader-pleaser,” saying, “I want you to be happy and when you tell me to do something, well I’m going to do it just like you say.” After informing her that she was giving me too much credit and that I did not always have the answers or know exactly how a particular lesson component should be structured, Camille’s response revealed her hesitancy engaging in the social construction of knowledge. Noting her frustration, Camille said, “I thought you had the answer already and I’m like, why didn’t he just tell me to do it like that from the beginning?”

Camille’s deference to authority and her view that appropriate knowledge is created by those authorities appeared to cause her to question whether PBHI was possible in her classroom on a sustained basis. In her exit interview, Camille described what she thought would be required for PBHI to be possible by emphasizing her need for authoritarian oversight and endorsement.

...I wish we had something like [lesson study] for real in the school setting where we could have a professional historian come out... I really learned a lot but to be overall honest, I just don’t see it right now coming. I think the idea you all had, if we could send that information to the government, I really think if they would look into it and really put it in place, it would be good.

Camille typically resisted opportunities to socially construct knowledge as part of the lesson study team, passively resisted complex lessons containing multiple perspectives or multiple historical narratives by disengaging, but often advocated for examination of factual knowledge she believed her students were required to learn. Instead of arguing that students needed to know that content in order to identify with their nation or to understand their personal stories, Camille appeared most motivated by the accountability she believed existed within her school to cover

the textbook. Camille, did, however, acknowledge that the collaborative nature of lesson study had pushed her to consider the nature of knowledge and how individuals come to know what they know. She argued that lesson study forced her to consider the limits of her own knowledge and to depend on others when confronting challenges in lesson planning.

The functions of history. Camille’s tendency to focus first on foundational knowledge and vocabulary outside of an authentic problem context also suggested that she believed her role was to transmit an appropriate body of facts to her students. For Camille, the textbook or course of study defined the body of information to be transmitted to students.

Transmitting factual knowledge. Camille frequently encouraged the lesson study team to begin lessons with traditional expository instruction including lectures or vocabulary exercises because she appeared to believe they were necessary to develop the background knowledge students needed to address unit and lesson questions. Camille viewed the text as the authoritative voice on the minimum content that should be transmitted to her students. Besides focusing on vocabulary or facts, Camille’s desire to transmit the past to her students also manifested itself in a desire to develop pragmatic skills, which she believed would help them retain factual knowledge. For example, as the lesson study team considered their goals for the Year 3 Research Lesson, Camille urged the lesson study team to consider note taking as an important skill. She argued that note taking needed to be introduced before any consideration of the question posed within the lesson. To the skill of note taking, Camille would later add skills such as reading comprehension or listening. Camille’s emphasis on pragmatic skills may have reflected her desire to help students learn as much history content as possible and her apparent belief that students could not engage in higher order thinking until such content knowledge was developed. Camille made the latter claim often, even at one point saying, “The note-taking and

comprehension stuff can go with the critical thinking because we have to comprehend the vocabulary first.”

Consequences of an insufficient content knowledge. Flowing out of her assumption that students could not do meaningful, higher order thinking without first having a wide body of factual knowledge, Camille’s own lack of an in-depth content knowledge may have forced her to teach traditionally by transmitting knowledge about the past to her students. After acknowledging that she typically did little outside research prior to teaching social studies lessons from the textbook, Camille noted that her own lack of content knowledge provided the most frustration throughout the three years of the lesson study project. In this sense, she seemed to acknowledge that, like her students, she had to begin with understanding the content and this necessity limited her willingness or ability to move beyond transmitting the past to her students. Camille’s thoughts in this regard might also explain why she rarely grasped the idea that improved scaffolding could be used to help students think more deeply even when they lacked a full body of prior historical knowledge.

Camille’s lack of in-depth content knowledge combined with her desire to transmit factual knowledge to her students also seemed to interfere with her ability to implement Research Lessons with fidelity. During Year 1, Camille appeared to lose sight of helping students decide if nonviolent direct action was an effective means for ending discrimination. Instead, Camille focused her implementation of the nonviolence Research Lesson heavily on a single historical figure by redirecting a brainstorming activity on nonviolence to what students wanted to know about Martin Luther King, Jr. Even later in the lesson, as she attempted to transition to an examination of nonviolent methods, Camille incorrectly gave King credit for all nonviolent methods of resistance including sit-ins and the Freedom Rides. Camille’s students

became consumed with King as a result and failed to interrogate the lesson focus question centered on evaluating nonviolent direct action as a change strategy.

Improving traditional instruction. In her exit interview, Camille's views on the functions of history emerged more clearly. Because she seemed to view history teaching as the transmission of factual knowledge, Camille appreciated scaffolded lesson study, not because of its grounding in inquiry research, but because her students "could really retain [historical] information more." Her tendency to view history as a body of facts to be transmitted may have also complicated her efforts to measure learning using the more authentic writing assessments in Research Lessons which focused on student decision-making instead of discreet facts. Camille said, "I guess I'm so used to the worksheets that when [students] wrote a little, I wasn't sure how much they learned, you know?" Camille appeared to appreciate lesson study not because it helped her rethink the purposes she established for the teaching of history but because it provided her with additional resources and structures that helped her improve the factual knowledge she transmitted to her students. Indeed, in her exit interview, Camille argued that she needed to make history interesting because doing so helped students learn more historical content, which she believed was the primary purpose for teaching history.

Beliefs about students. Camille's general tendency to defer to authority, as well as her absolutist epistemology, often translated into cautious beliefs about her students' abilities throughout the three years of the study. While Camille rarely doubted that her students could learn, she consistently questioned whether they could engage in higher order thinking or that they would willingly engage in challenging social studies tasks.

Skepticism about students doing PBHI. Following her implementation of the Year 1 Research Lesson, Camille's comments reflected skepticism about whether students could

function appropriately within a problem-based learning environment, particularly when she believed that students lacked sufficient prior knowledge to do so. Camille encouraged her lesson study team to include a definition of nonviolent direct action at the start of the interactive slide lecture, fearing that students would not be able to make sense of various nonviolent methods without doing so. In another example, Camille independently altered the introduction to the Year 1 Research Lesson by adding the words “protesting injustice” above an image of young people protesting education cuts. While the lesson study team hoped to use the image to convey 21st century relevance regarding nonviolence as a change strategy, Camille began instead by having students define the words “protesting” and “injustice.” She explained her choice after reviewing videotape of the lesson by saying, “I figured the kids are not really going to know protesting, so that’s why I kind of brought that in because the kids didn’t really know what we were talking about.” For Camille, “building background knowledge” generally meant teacher-centered instruction, which may have reflected an assumption that if she lectured on the content or provided students with vocabulary exercises, students would learn the material sufficiently enough to do more challenging intellectual activities. However, those activities never appeared to emerge in Camille’s teacher-selected comparison lessons.

In addition to worrying that students did not have enough background knowledge to function within a problem-based learning environment, Camille also appeared to worry throughout the three years of the study that her students would not do well in student-centered lessons, even after seeing them engage and perform better than she had anticipated. For instance, Camille explained that having students investigate nonviolent methods of resistance on their own within the context of a question about ending discrimination would be insufficient for them to learn those methods. Instead, Camille believed that she needed to verbally explain the content to

students, saying, “You got to tell them this is a nonviolent method and this is a march because we’re on a lower level.” Her skepticism about students’ abilities persisted even though she acknowledged that students were “more engaged through the whole thing” and that students wanted to know “what are we doing tomorrow.”

By Year 3, Camille appeared to remain unsure about the academic ability of her students. While she vocally worried whether her “at-risk” students would be able to properly examine the *Declaration of Independence* even if scaffolded thoroughly, she argued that her special education students only needed to be “exposed” to the material, which seemed to indicate that those students did not need to engage in active inquiry. Yet, as the lesson study team completed a planning scaffold, Camille argued with Hallie that all students should be expected to do presentations even if they were shy because “that’s something that’s on the curriculum.” Her comment suggested that Camille might have been most motivated to require all students to participate in presentations because she believed that the state-mandated curriculum required it, not because she believed Hallie was underestimating their ability to do them.

While Camille worried about her students’ abilities, she also grew concerned about her students’ feelings throughout the project. During Year 1, these worries emerged most often when the lesson study team discussed questions of racial tension during the Civil Rights era. When, for example, the lesson study team worked through a planning scaffold, Camille reaffirmed the authenticity and relevance of the lesson study team’s focus on discrimination saying that the lessons would help students see what it looked like when students excluded one another or when one group bullied another. Camille’s comments suggested that her views about students were sometimes conflicted. On the one hand, she felt students would benefit from examining instances of racial discrimination and that they would be motivated to do so. On the

other hand, she seemed skeptical that students knew enough to address the question about discrimination posed within the unit.

Further evidence for Camille's fluctuating views about students emerged as each year's lesson study cycle continued. Camille did not seem to believe that students could develop foundational knowledge within the context of an authentic problem but appeared surprised by students' improved comprehension and retention of knowledge that resulted from investigating history within that problem context. Similarly, while Camille appreciated that the lessons caused students to think more deeply about the past, she seemed unconvinced that they could do so outside of a teacher-centered learning environment. Camille summed up this tension when discussing the lesson assessment for the Year 1 nonviolence Research Lesson – a letter to Martin Luther King, Jr. on whether nonviolent direct action would work to end discrimination. She argued that her students needed her to explain not only the format of the letter but the evidence they needed to include in the letter.

...Could [students] really pull [historical] examples out and actually put it down [in their letter]? I don't think they can. If I model it, they might could. But for them to just, if I just explain this format, I don't think so. But that could just be my students.

Idiosyncratic beliefs. Camille's statement that the problems she encountered "could just be my students" were typical of her reflective comments following Research Lesson implementations. When she observed improved student engagement and learning in her colleagues' classrooms or by video, Camille usually isolated those changes to the respective classrooms thereby limiting the transferability of those outcomes to her own classroom. While her concern may have stemmed from worries that her students would face difficulties engaging in the higher order thinking required of the assessment without proper scaffolding, her primary

motive seemed to be her belief that her specific students were incapable of writing a letter that required historical empathy and thinking even though she examined multiple student artifacts from other teachers' classrooms that showed students addressing the task properly. In this sense, Camille seemed to believe that she needed to explicitly preview and explain the process of writing the letter in order for her students to produce a product like that of other students. Her idiosyncratic views of her own teaching, classroom, and students may have limited her willingness to entertain PBHI as a research-based model of teaching that was appropriate for her classroom (Lortie, 1975).

At times, however, the reflective aspects of scaffolded lesson study appeared to help Camille consider ways that she might scaffold students' work more thoroughly in order to help them achieve greater results. While these instances were rare, they may have helped Camille retain more optimistic beliefs about students even in the face of poor student results. After viewing video of Wendy's Research Lesson implementation, for example, Camille recognized her own need to set up the assessment within a more authentic context. In the video seen by Camille, Wendy reminded students of the unit central question, briefly reconsidered the prior lessons, thoroughly reviewed a model letter, and informed students they had to use historical evidence to support their decision. Wendy's soft scaffolding of the lesson assessment helped Camille see why her students experienced so much confusion about the nonviolence lesson assessment. During the discussion that followed, Camille articulated a clear understanding that she had not soft scaffolded the assessment nearly as well as Wendy. Instead of arguing that students' confusion was due to their lack of ability or prior knowledge, Camille shifted, in this instance, to examine her own teaching practice and its impact on student learning.

Risk taking. In most instances, Camille viewed risk taking as unnecessary. She believed

that too many risks would lead to classroom disruptions and therefore preferred to maintain control through teacher-centered instruction.

Tempering planning risks. During group lesson planning sessions, Camille often focused on completing closed-ended tasks that were manageable such as developing rubrics or finding a video for a specific lesson. Typically, she volunteered only after other team members had taken more difficult tasks. However, even with such tasks Camille generally looked to me as the lesson study team mentor and authority in the room. In almost every case, she presented lesson components to me for my approval by asking questions such as “Is this what you want?” or by specifically asking me to tell her what to do. Camille’s instinct to defer to those in authority and her fear of taking risks that might raise the ire of parents or administrators was evident throughout the three years of the project. During one early lesson planning session, for example, Camille became concerned about parental reaction to a potential unit grabber scenario that would have students temporarily experience discrimination based on whether they wore glasses. She suggested placating those who felt discriminated against by offering them a reward the following day even though doing so might limit the lasting impact of the unit grabber.

When compared to her peers, Camille often demonstrated a greater awareness of scholarly texts even though she tended to remain quiet during planning and debriefing sessions. One might assume that Camille would use this awareness, as well as her long experience as a classroom teacher, to lead the lesson study team through examinations of appropriate content. Perhaps because of her resistance to risk taking, however, Camille preferred to remain in the background instead. For example, although Camille encouraged the team to use the *Brown vs. Board of Education* case in at least one lesson, and suggested using a response group learning strategy to do so, she withdrew from the conversation altogether when the lesson study team

began to determine what that might look like in actual practice. In fact, when the 4th grade teachers later completed a PBHI planning scaffold, Camille seemed to drift in and out of the conversation, even sometimes stopping the team by asking, “Are we right here?” When Camille did engage, she often pointed the lesson study team to the textbook or to the history text she had read, inviting the group to pull directly from the book for curriculum ideas.

Lesson study as risk taking. In spite of her preference to remain in the background, Camille served as one of the teachers who implemented the Year 1 Research Lesson for her colleagues to observe. She was thrust into the role when Hallie unexpectedly became sick the day before the scheduled observation. To prevent the lesson study team from having to come back another day, she volunteered to teach the lesson in Hallie’s place. While her choice had elements of risk taking because it required her to teach the Research Lesson for her colleagues to observe even though she was previously resistant to doing so, Camille’s primary motivation may have been to appease her school level administrator who had arranged for substitute teachers to cover classes while the team debriefed. Her decision to teach the lesson, however, was important for understanding her thinking. The scaffolded nature of PIH lesson study, especially the lesson study debriefing guidelines, which required those implementing lessons to speak first, prevented Camille from deferring to others’ interpretations of lesson outcomes. Camille asserted directly that the comfort provided by my facilitation as the team mentor gave her the confidence necessary to take a risk in teaching the lesson because she knew that the lesson debriefing would not focus on her teaching but on the lesson itself.

We need somebody like an administrator to take the words you gave us, “we’re not going to criticize.” We knew that. I mean when I was finished, I was finished. There was no, “Oh my gosh, look at how she’s talking!”

For Camille, focusing on the lesson itself may have provided necessary protection from criticism that might have otherwise limited her willingness to take the risk required to implement the Research Lesson for others to observe. In addition, my presence as mentor seemed to give her comfort in knowing that the process would unfold fairly.

Avoiding risks by deferring to authority. Camille’s behavior throughout lesson study planning consistently aligned with her desire to defer to the authorities in her professional life. She seemed reluctant to fully invest in the planning process perhaps because she feared making a mistake that she would later have to correct. Indeed, Camille was the most reluctant to engage with the lesson study team in socially constructing curriculum perhaps because she believed that I, as the authority and more knowledgeable expert, should instead just tell her what to do. In fact, Camille acknowledged these thoughts at the conclusion of Year 3 lesson planning during a group discussion about the lessons learned from that year’s lesson study cycle.

I mean if you just tell me how to do it and let me do it right the first time – to me that’s just repetition work... I don’t like to redo stuff... I don’t mind working under anybody. Just tell me what you want me to do... I’ll go straight to my principal and if she wants me to go outside and do something, before I go out there, I’m going to say, tell me how to do it....

Camille’s consistent deference to authority presented serious difficulties for her as she attempted to adopt PBHI in her classroom. Even though it seemed she understood that a more student-centered alternative for social studies instruction existed, she seemed unwilling to consistently accept the risk associated with giving students “more control over the lesson,” as she described it. Whether fearing the disapproval of me as her lesson study mentor or the potential for questions from her administrator or school system, Camille seemed to prefer maintaining her

traditional textbook-based pedagogy, perhaps because she believed it was the accepted norm within her school culture. Camille's general lack of overt engagement during planning sessions and her unwillingness to take risks during planning sessions may have resulted in her developing a thin understanding of the Research Lessons and their purposes. Because she seemed to never develop a nuanced understanding of those goals, Camille struggled to fully adopt a professional teaching knowledge for PBHI.

Shared professional knowledge culture. For Camille, planning social studies instruction was idiosyncratic in that she believed her students had specific and unique needs. There was minimal evidence that Camille integrated PBHI design characteristics into her planning, instead preferring to cover the topics provided by her textbook. Like her beliefs about students, Camille's thinking about the value of collaborative lesson planning also appeared to fluctuate frequently. While she seemed to appreciate working with her team to develop new lessons, she remained uncertain about the benefits of collaborative lesson planning perhaps because she was skeptical that her students could actually complete the work. Moreover, Camille's absolutist epistemology, deference to authorities outside of her classroom, and resistance to risk taking may have caused her to devalue collaborative planning aimed at developing PBHI professional teaching knowledge. For Camille, these may have represented significant obstacles for adopting a shared professional knowledge culture for problem-based historical inquiry.

Throughout the three years of lesson study professional development, Camille's full attention wavered. Occasionally she engaged fully, contributing her content awareness and understanding of young learners. At other times, however, Camille fully disengaged or seemed confused by the lesson study team's planning discussions. Camille's inconsistent attention to the

planning process proved frustrating for some members of the lesson study team. When, for example, Camille continued to discuss *Common Sense* even though the team had chosen to focus solely on the *Declaration of Independence*, Paige quickly corrected her and reminded her that the team had already taken the document off the table as something students would consider.

Making professional teaching knowledge public. Perhaps because she did not fully attend to lengthy planning sessions, Camille did appear to benefit from observing others actually implement the Research Lessons. Observing Paige, for example, seemed to help Camille prepare for her own implementation of the American Revolution Socratic seminar lesson. Camille said, "...When I saw certain things that didn't work well for them teaching, it kind of made me on the lookout...when I went into my classroom to do the same lesson." In addition, Camille recognized that the lesson debriefings improved the Research Lessons. She described the debriefings as "positive" and beneficial because "we sat down and talked about how could we improve the lesson." In fact, Camille described the collaboration afforded by lesson study as "the most positive aspect of the way we planned." In part this may have been due to her belief that collaborative planning resulted in meaningful lessons that differed from her historical tendency to "go from page to page in the textbook." For Camille, however, "meaningful" meant that her students retained more factual knowledge. In this sense, the PBHI lesson materials emerging out of lesson study became Camille's new textbook for that particular topic. She could use lesson study materials when available without fully abandoning her traditional reliance on the textbook.

The public nature of lesson study proved important for Camille's experience. Camille preferred to remain on the periphery of most conversations. Her tolerance for the collaborative nature of lesson study appeared quite low as evidenced by her tendency to remove herself during

difficult lesson planning sessions or her tendency to become passive as difficult decisions were made about lesson plans. However, Camille could not always remove herself due to the public nature of lesson study (Hiebert, et.al., 2002). Indeed, Camille was often made to contribute because of the scaffolded nature of PIH lesson study. When she volunteered to implement the Year 1 Research Lesson in Hallie's absence, for example, she thrust herself into a position of having to speak following the lesson implementation. As a result, Camille was forced to overcome her apparent fears of rejection. In addition, when other team members responded to her comments, Camille openly reflected and integrated her observations with those of her peers. Perhaps reflecting her second occupation as a Christian pastor, Camille offered a spiritual explanation for being made to collaborate in ways she might typically avoid, saying, "I couldn't get up and remove myself...and I think that was God allowing me, to make me sit there, and make me take it." Camille understood that she could not extricate herself from every uncomfortable situation. However, she also acknowledged that the messiness of collaborative planning was difficult for her as someone who preferred to complete tasks alone.

...I think [lesson study] made me really reflect on myself a lot. ...It really made me to learn it's ok if I suggest something because I'm more of a perfectionist...and I want everything done a certain way. But I had to really pull back with this thing and say, ok, it's not going my way...

Benefits of mentorship. Perhaps because of her consistent deference to authority, Camille argued that my facilitation and scaffolding of the lesson study process as 4th grade mentor was a critical part of the positive collaboration she experienced. Camille's comments suggested that the presence of a more expert guide was essential for her involvement. She especially appreciated that each implementation debriefing focused on the lesson instead of the

teacher. Camille openly acknowledged that she was hesitant about allowing others to observe her teach. The comfort I provided by focusing debriefing discussions on the Research Lessons and the student learning that resulted seemed to encourage Camille to engage in public discussion of teaching to a much greater extent than she would have had I focused the discussion on her teaching. In her exit interview, Camille argued that my presence was essential for her engagement, saying, “You made me comfortable and I was like, I like this.”

Culture of elementary schooling. For Camille, the culture of elementary schooling limited her willingness to fully participate in a shared professional teaching knowledge culture. In fact, the culture of elementary schooling seemed to strongly influence Camille’s thinking about PBHI. Camille found it difficult to value innovation and change in her classroom when, as she said, “With education, it’s hard to pull everything together.” As was true of her views on risk taking, Camille seemed skeptical that a true collaborative culture was possible until policy makers were supportive of its creation. In all likelihood this view flowed from Camille’s deference to authorities and her view that those authorities compelled her to focus more attention on subjects other than social studies. The cumulative effect may have been that the collaborative nature of lesson study and the PBHI instructional methods tied to it did not map well to Camille’s conceptions of teaching or her views on the role of a classroom teacher.

I would like to see us [collaborate] but to be honest, it’s not done like that. I’m not saying the training ya’ll gave us wasn’t good...but to come back and say we’re fixing to do it, I’m going to be honest with you, it’s the time. We were taught some valuable information. I think this information should...go to the state department and then trickle down to us.

Comparing research and teacher-selected lessons. Observations of Camille’s typical

classroom instruction as compared to the Research Lessons revealed many of the same tendencies discussed above. Her assertion, for example, that students were more engaged during lesson study Research Lessons as compared to her normal instruction was borne out in the classroom observations. Camille's two comparison lessons during Year 1 focused on discreet facts from her textbook. In the first, Camille conducted a power point review of vocabulary. In the second, she led small groups through a review of a *Newsweek* article on the Civil Rights Movement that focused exclusively on comprehending the material. Neither lesson required students to demonstrate higher order thinking or engage in challenging tasks, which might explain the differences in engagement described by Camille.

Camille's Year 1 Research Lesson implementation was also important because it demonstrated her overall uncertainty with a PBHI Research Lesson and her hesitancy implementing a lesson that required her to move beyond her more traditional approach. Camille's implementation of the Year 1 nonviolence Research Lesson diverged from the intended plan in many ways, only one of which appeared to be intentional. For instance, she failed to use preplanned questions designed to help students interpret an image of a sit-in protest and instead explained that the protestors were trying to "stop discrimination" more generally. Due to this and similar oversights, many of which she recognized during the debriefing, Camille's implementation of the Research Lesson was more fragmented resulting in missed opportunities for substantive conversation of the central themes within the lesson. However, Camille's implementation still marked a substantial improvement in authentic instruction when compared to her comparison lessons in part because the lesson had central themes built in as well as planned opportunities for the teacher to make connections to students' lives.

Table 13

Camille's Authentic Instruction Scores – Years 1 and 3

	Comparison Lesson Mean	Research Lesson
Year 1	4.0	9.0
Year 3	4.0	16.0

Note. Possible AIW instruction scores range from 4 to 20.

Camille's Year 3 Research Lesson implementation marked a substantial improvement in the intellectual quality of instruction offered to her students. In a Socratic seminar lesson focused on whether American colonists were right to revolt against the British government, Camille used a prepared question guide to facilitate a complex discussion in a student-centered learning environment. At one point in the discussion, Camille even directed the students to "piggy-back" off of each other by responding directly to their peers by name. In addition, Camille drew upon her knowledge of the *Declaration of Independence* to help students contemplate what it had to say about poor people, black people, and Native Americans. The result was a lesson where at least eight students performed higher order thinking, knowledge was tightly focused on a single question, all features of substantive conversation (including sensitivity) were present, and connections to students' sense of fairness were made. However, Camille still appeared uncertain about her role within this student-centered lesson. In large part, Camille did not engage in the conversation but instead simply read a question from the Socratic question script and then pushed ahead to the next question when she felt it time to do so. Regardless, the structure of the lesson including her use of a prepared question script that tiered from lower order to higher order questions greatly improved the quality of instruction within her classroom.

In spite of what had clearly been successful implementations of three years of lesson study Research Lessons by AIW standards, Camille's Year 3 teacher-selected comparison lesson

evidenced little change from either her baseline observation or her Year 1 teacher-selected comparison lessons. It seems likely that Camille's Research Lesson implementations were aberrations in her classroom throughout the three years of the project. In her Year 3 teacher-selected comparison lesson, Camille used a power point presentation focused on chapter vocabulary to introduce background knowledge on European exploration within her state. With little explanation or transition, Camille then had students watch a film clip on Christopher Columbus during which they were to "list three facts." Following the film clip, Camille placed students in groups of three and asked them to list the three best facts as a group. After listening to groups report their findings, Camille continued with her power point, which transitioned to Columbus instead of vocabulary. As the time for physical education neared, Camille asked the students to write one fact they learned on a sticky note as a "ticket out the door" activity. When most students listed Columbus' birthday as their fact, Camille directed the class to list another one. The lesson contained multiple contradictions, the most obvious of which was Camille's focus on Christopher Columbus as the person who discovered America in spite of her assertion that "the new world was actually discovered more than once." During the lesson, students focused on lower order recitation of factual knowledge, knowledge was extremely thin as no organizing construct or question was offered, there was no substantive conversation as the teacher tightly controlled discourse, and no justification for learning the content was provided.

Although Camille's Year 3 Research Lesson represented substantial improvement in the intellectual quality of social studies instruction offered to her students, she never transferred significant knowledge of PBHI to her typical classroom instruction as measured by teacher-selected comparison lessons. For Camille there seemed to be too many barriers to her adoption of PBHI reforms. Instead, Camille emerged out of the PFG Project with a desire to make a few

modifications to her normal teaching, including a hope to hold more discussions and a willingness to use more small groups. Camille's reliance on the textbook as the source for the curriculum appeared virtually unchanged. In addition, her belief that students needed significant background knowledge prior to doing any meaningful thinking seemed unchanged. The explanation for Camille's consistency across the three years of the project may lie in her strong absolutist epistemology and her deep desire to meet the expectations of the professional authorities in her life.

Teacher demonstrating moderate growth: Olivia.

In this section, I profile Olivia – a teacher selected to represent moderate growth in her conceptions of professional teaching knowledge for problem-based historical inquiry. Olivia showed growth in AIW instruction scores over the three years of the project. She also voiced considerable enthusiasm for PBHI and contributed significantly to the emergence of a shared professional knowledge culture within the lesson study team. However, Olivia's understanding of PBHI was inconsistent and she was unable to translate her enthusiasm into powerful social studies instruction within teacher-selected comparison lessons.

Epistemology. Like Camille, Olivia frequently wrestled with her epistemological assumptions. Unlike Camille, however, Olivia appeared open to shifting the absolutist assumptions she held upon entering the PFG Project. Olivia willingly engaged in the social construction of knowledge and deferred to knowledge authorities far less often than Camille. Olivia seemed to emerge from the PFG Project believing that social reality is complicated and that perspective shapes one's interpretation of it.

Olivia was probably the most eager and engaged participant among all of the 4th grade teachers. At the end of the first week of Year 1 professional development activities, for example,

Olivia noted how she believed what she was learning would equip her to develop care within her students. She argued that students would want to come to her class if they could participate in the model PBHI lessons she had experienced. Comments like these suggested very early on that Olivia was eager to participate in the PFG Project and that she believed that her own social studies instruction had substantial room for improvement. Olivia's initial enthusiasm often translated into consistent engagement with her lesson study team. She frequently made suggestions during planning sessions, offered feedback on emerging lesson plans, provided her opinions on lesson outcomes, and spoke eagerly about the differences between her past instruction and the instruction required by lesson study Research Lessons.

Shifting to constructivist knowledge assumptions. Although Olivia's experience during the first lesson study cycle was typified by her eagerness to participate, it was also characterized by her struggle to learn the content well enough to convey it to her students within a PBHI learning environment. Olivia's lack of content knowledge appeared to limit her ability to shift the locus of learning to students within a more constructivist learning environment. Her lack of content knowledge presented challenges even when she appeared to favor the chosen PBHI strategies. For example, even though Olivia preferred the response group strategy her lesson study team had chosen to use to examine the "legal strategy" of social change, the fact that she confused Jim Crow segregation with black separatism initially prevented her from helping the lesson study team develop meaningful instruction. In fact, her comment that "the children would be able to see separatism if we use some of those...signs that say blacks must enter through the back" caused the lesson study team to consider resources that were not appropriate for a lesson examining separatism as Civil Rights change strategy. Unlike Camille, Olivia appeared to want to move beyond having students work only with discreet lists of facts but her lack of content

knowledge often prevented her from doing so.

Perhaps because she lacked sufficient content knowledge to fully link content to pedagogy, Olivia initially supported traditional instructional practices when offering suggestions for Research Lessons. As the lesson study team considered an “interactive slide lecture” as a strategy to teach nonviolent direct action, for example, Olivia wanted to pair lecture with note-taking guides, which she believed was updated pedagogy because it included additional scaffolding for 4th grade students and because it would make the lecture more interactive. In contrast, she was initially ambiguous about the use of historical documents, powerful images, or quotes to encourage student interaction. Likewise, following Year 1 lesson implementations, Olivia initially held to teacher-centered assumptions. As the lesson study team discussed student difficulties, for example, she suggested that the solution was for the teacher to “explore it more” with students so that “they get a better understanding.” Such teacher-centered assumptions suggested that Olivia found it difficult to abandon an absolutist epistemology which assumed that students would learn the facts if she voiced them for students.

While both Olivia and Camille lacked a strong content knowledge, Olivia differed from Camille in an important regard; Olivia did not systematically defer to the professional authorities in her life. On numerous occasions, Olivia encouraged the lesson study team to be ambitious with regard to lesson strategies, suggesting that school-level administrators would support anything they wanted to do. Olivia also willingly pushed back against suggestions I made as the lesson study team mentor. She often joked about the lofty expectations of the PFG Project and encouraged the lesson study team to be more realistic in their expectations for students. Olivia’s strong sense of self and her willingness to speak her mind helped her to be an assertive participant throughout the years of the PFG Project. This active participation in virtually every

phase of the project may have encouraged her to reflect more frequently about her knowledge assumptions and likely made shifting to constructivism more palatable.

Olivia's desire to shift to more student-centered, constructivist approaches to teaching and her willingness to adopt a constructivist epistemology (at least in her rhetoric) could be seen in many comments she made during her exit interview. Often times, Olivia expressed her desire to shift her assumptions by comparing her prior instruction to the instruction she hoped to provide in the future. For example, she spoke several times about how the use of multiple perspectives within the Research Lessons had opened up her classroom to increased discussion and engagement from students within an inquiry framework.

In a normal lesson, we really don't discuss. It's just reading out of the book and then we give it to them. But our lessons, there's room to discuss. There's more information from different sources that causes the conversation to get started... With our lessons, [students] are like, Ms. Olivia, ...how we going to figure it out?

Olivia's desire to create instruction that gave students time and space to "figure it out" represented an important shift in her aims from the start of the PFG Project. At that time, she had focused almost completely on conveying factual knowledge from her textbook.

At the very conclusion of the PFG Project, Olivia again seemed to suggest that scaffolded lesson study had encouraged her to think differently about what knowledge was valuable. She described a trip her lesson study team took to a local Civil Rights memorial and the impact it had on her personally. In so doing, Olivia seemed to recognize that social reality is ill-structured and that each individual team members' experiences and perspectives shaped their interpretation of the field trip.

The best experience for me was when we went to [the memorial]... And how each of us

was touched individually but we all had each other's back cause we all felt something different. And we listened to one another. We cried with one another...

For Olivia, the trip reaffirmed her emerging understanding that perspective matters. Olivia accepted that each teacher could feel something different as they attended the Civil Rights Memorial, perhaps because her colleagues were of different races and had different childhoods.

The functions of history. Like Camille, Olivia appeared to begin the PFG Project assuming that the textbook provided the body of knowledge to be transmitted to students. She initially focused on developing foundational knowledge outside of an authentic problem context. However, Olivia never seemed to believe that students' lack of prior knowledge was insurmountable or that they were incapable of higher order thinking without it. As a result, Olivia shifted rather dramatically in her rhetoric towards civic competence purposes for the teaching of history. In particular, Olivia seemed to favor instruction that gave students opportunities to make decisions for themselves within an authentic problem context.

Transmitting knowledge. At the start of lesson study, Olivia seemed to favor a transmission approach to teaching social studies that made instruction unambiguous and controlled and that limited the exposure of her content knowledge deficiencies. For instance, as her lesson study team considered whether to help students complete a pro/con chart on the legal strategy by moving it out of small groups to whole class, teacher-centered discussion, Olivia argued that doing so was to the students' advantage because they would get a better understanding of the legal strategy if the teacher explained it. Her comments suggested that she initially believed students learned history best when the teacher transmitted the content to them in a simplified manner that limited complexity or the confusion that might result from it.

Shifting to civic competence purposes. Olivia faced difficulties as she attempted to shift

from transmitting the past to civic competence purposes for the teaching of history. She sometimes appeared confused about the sequence of Research Lesson components, suggesting that their complexity may have been a challenge. She consistently indicated throughout the three years of the PFG Project that the Research Lessons were a clear departure from her typical classroom instruction, which seemed to rely on the textbook and on conveying discreet facts. In contrast to Camille who seemed to struggle to push through any confusion she encountered, Olivia appeared to embrace it and to use the opportunities presented by lesson study to correct it.

Observing and debriefing Research Lessons presented Olivia with a chance to alter the purposes she established for the teaching of history. During the debriefing of Paige's implementation, for example, Olivia expressed her uncertainty with one scaffold used to structure the response group discussion strategy, asking, "We want them to focus on when integration was supposed to happen, right?" She seemed unsure about why students would need to focus on "when" forced integration should occur following the *Brown vs. Board of Education* Supreme Court decision. But during her implementation of the lesson, Olivia corrected herself following a student's question about the scaffold, stopped the whole class from working, and, using the language she had seen Paige use, emphasized students' need to focus on answering "when" forced integration should occur. Doing so brought greater focus to whether the legal strategy could be used to end discrimination, which was the central focus for the unit. By her own admission, Olivia would not have been able to address students' confusion about the purpose of the lesson scaffold without having discussed it following Paige's implementation. Without her correction, the lesson would have lost its focus on the unit central question and would not have encouraged students to focus as heavily on ethical decision-making.

Like Camille, Olivia did sometimes miss opportunities in her classroom instruction

during Year 1 that might have increased the rigor of her instruction. She did not, for example, explain the purpose of the lesson assessment by situating it within the larger unit or by linking it to the overall purpose for the Research Lesson. As a result, Olivia's students failed to truly apply the legal strategy to the modern day scenario posed within the assessment. Olivia's difficulty setting up the lesson assessment suggested that she remained uncertain about the overall unit structure and how the lessons fit together to help students address an ethical question even though she was beginning to experiment with alternative visions for teaching social studies. Olivia's general difficulty fully grasping PBHI learning strategies persisted to Year 3. Like Camille, Olivia wanted vocabulary exercises to be the entry point into each lesson even as Year 3 Research Lessons were planned. Unlike Camille, however, Olivia did not view students' lack of vocabulary knowledge as an insurmountable hurdle. For example, Olivia described how planning the unit central question helped her to think differently, saying, "...Coming up with a central question, having to go and look for the information, having to actually sit down and plan the lesson, is different from 'this is the textbook, you're going to read pages 12-14 and I'm going to give you a worksheet and then I'm going to check it and give you a State History grade.'" Olivia was willing to work within an inquiry framework and recognized how instruction grounded in a question was different from the textbook-based instruction she had previously provided. However, her inability to fully grasp PBHI limited her ability to shift towards more constructivist assumptions about teaching and learning.

By the conclusion of Year 3, Olivia openly expressed her desire to move beyond more transmission focuses for history teaching, saying, "I want [students] to have the knowledge necessary to make good decisions when they grow up because they are the next generation." It seemed that Olivia had begun to wrestle with more civic competence purposes for the teaching

of history by the conclusion of Year 3. She seemed to appreciate that students began to ask questions like, “How are we going to figure that out?” because she believed the quest to resolve the question motivated her students in ways she had not previously encountered. Unlike Camille, Olivia eventually recognized her need to assist or scaffold students in their quest to address important problems. She, for example, concluded Year 3 by describing how she sought out additional resources including historical documents to bring additional perspectives into her social studies teaching and how she “chunked” historical documents to make them more accessible to students. Olivia’s desire to scaffold historical documents may have represented hopes of letting students practice analytical and historical thinking skills. Olivia’s desire to bring in alternate sources that went beyond the textbook also seemed to reflect a new emphasis on big ideas. For example, Olivia described in her exit interview how she had completed an immigration lesson focused on the concept of freedom. In this lesson, students addressed the question, “At what cost is freedom?” Without observing the lesson she described, it is difficult to suggest that she fully adopted a PBHI planning paradigm. However, her organization of instruction around big ideas like “freedom” reflected PBHI’s emphasis on central problems and ideas.

On the whole, Olivia appeared to favor more civic competence purposes for the teaching of history by the conclusion of Year 3 but her ability to do so on a routine basis appeared tenuous. While Olivia established a citizenship goal for the teaching of social studies by the conclusion of Year 3, she remained unsure exactly how to accomplish that goal. In one instance, Olivia said, “I just want my kids to think” in response to a question about her goals for students. Yet at times she seemed unsure as to what students should think about. Again, while Olivia was among the first to offer a unit central question for the Year 3 lesson study unit, she seemed

satisfied with getting students “to care” as a goal for the teaching of the American Revolution. In this sense, Olivia seemed to flirt with citizenship and thinking goals for the teaching of State History but she struggled to articulate those thoughts into a clear set of theoretical principles or to transfer those thoughts to her typical social studies instruction. However, the fact that Olivia was able to articulate citizenship goals for the teaching of social studies marked an important transition. The quote from Olivia below provides one of the clearest examples of a teacher hopeful of developing citizenship skills in her students.

I see a purpose [for teaching social studies] now. Me teaching them this information is going to make them a better citizen of the United States. It’s gonna give them a desire to want to know more. To make this country a little better.

Beliefs about students. Among the 4th grade teachers, Olivia consistently maintained the most optimistic beliefs about students throughout the three years of the project. Even before lesson study ever commenced, Olivia’s enthusiasm was evident. When she saw an expert secondary teacher implement a model PBHI lesson before the start of the project, Olivia expressed her optimism about her students capabilities compared to the secondary students she had observed, saying, “My kids can’t get way up here [holds hand up as high as possible] but they can get here [holds hand slightly lower].”

Students will undertake meaningful tasks. From her comments in response to seeing an expert PBHI teacher to her assertion that her students would want to come to her class if she implemented PBHI, Olivia routinely expressed her opinion that student apathy and disengagement stemmed from her overreliance on the State History textbook and the lack of variety in her social studies instruction. Very early, Olivia appeared to grasp the idea that the Research Lessons emerging out of scaffolded lesson study were designed to help students make

informed decisions on ethical questions and she seemed eager to empower her students to make those decisions even though she was sometimes uncertain about the content and the lesson procedures needed to do so. In addition to her eagerness, Olivia frequently diagnosed student challenges within the Research Lesson by drawing the lesson study team's attention back to the teacher's role within the lesson. At the conclusion of Year 1, for instance, Olivia encouraged her team to consider the teacher's role in motivating students to put forth increased effort.

I think [the increased student motivation] has to do with us too because we were excited about our own lessons... I was like, "Hey, guess what we're going to do?" And so that made [students] want to do a little more. So I'm looking forward to the next lesson just to see how their reaction [is] going to be and then I'll have two [lessons]. And then history won't be so boring to me...

In line with her tendency to assess her own role in motivating students, Olivia consistently considered how changes to Research Lessons might improve student engagement and learning. As her lesson study team reviewed video of the legal lesson implementations, for example, Olivia very clearly identified that students had not grasped the central focus for the lesson and therefore would have difficulty addressing the unit central question. She described how students had failed to fully understand the notion of "separate but equal" and Civil Rights activists' use of the *federal* court system to overturn it. In response to such confusion, Olivia rarely blamed students' lack of prior knowledge as might have been true of Camille. Instead, she argued that improvements to the primary legal lesson scaffold would help students grasp why Civil Rights activists went to court in the hopes of ending discrimination. While Olivia did sometimes remind the lesson study team that it was dealing with 4th graders in the hopes of reducing the complexity of lessons, she rarely shied away from her view that students could

make decisions and use historical evidence to support them. In this sense, Olivia's general optimism about her students tended to ease any anxiety she might have felt about her own lack of content knowledge or the complexity of Research Lessons. She seemed to believe that her students could conquer any challenge so long as adequate scaffolding was provided and as long as she understood her role within the lesson.

Olivia's sense of optimism about her students' abilities continued into the third year of the project. She frequently urged the lesson study team to present challenging tasks to their students. As the lesson study team discussed the creation of a Socratic seminar Research Lesson during Year 3, for example, Olivia argued that students were perfectly capable of sitting in a circle discussing whether the Americans should have revolted. Olivia noted that adults do not raise their hands when they discuss so students should learn to listen and respect the views of others. She pushed back against lesson study team members who wanted to maintain stronger classroom control because she believed it would destroy the Socratic seminar and prevent students from talking freely. To make her point, she said, "You want great expectations from them? You got to give them to them." For Olivia, the risk of classroom disruption during an authentic discussion was worth the student thinking she believed would result.

Reassessing assumptions. In her exit interview, Olivia suggested that students' increased retention of historical knowledge from lesson study Research Lessons forced her to reflect on her past beliefs about students including her tendency to conclude that anything beyond the history textbook would be too difficult. Describing her students as "more open" when instruction moved beyond the textbook, Olivia noted how her views of students had shifted as a result of the PFG Project.

I used to be satisfied with them completing a State History sheet out of the practice book

and it was good. But now I expect more. I expect them to write me out some full-blown answers, to give me some paragraphs to tell me what they have learned.

She pointed specifically to her increased content knowledge as the reason she could now expect more from her students, saying that she felt comfortable asking students to summarize different points of view and even to consider changes over time. Before lesson study, Olivia had become satisfied with State History taught from the textbook because she believed students could not do more and because she feared exposing her thin content knowledge. Lesson study appeared to encourage Olivia to rethink her assumptions. In addition, her own improved content knowledge appeared to give her confidence as she attempted to implement PBHI strategies. In turn, the improved student engagement she observed further cemented her desire to change her social studies pedagogy.

Risk taking. With regard to risk taking, Olivia represented the opposite extreme when compared to Camille who viewed risk taking as unnecessary. Of all the 4th grade teachers, Olivia appeared to consistently embrace risk in part because she appeared confident in her own identity. Olivia seemed to believe that risk taking could lead to better teaching and that better teaching would improve student learning.

PBHI as risk taking. Olivia's willingness to try new strategies in her classroom and her eagerness to empower her students to make ethical decisions seemed to indicate that she was open to risk taking. During Year 1, she wanted her students to encounter multiple perspectives about the Civil Rights era even though it might potentially reveal her lack of in-depth content knowledge. In one instance, Olivia expressed openness to new pedagogies that clearly differentiated her from Camille. As the lesson study team considered strategies that might map to the content the teachers had identified for a lesson on the legal strategy, Olivia encouraged her

colleagues to consider having students do an actual protest against something past or present in their own school or community. While the lesson study team ultimately rejected her proposal for fear of parental backlash and for its lack of fit with lesson content, Olivia's assertion made clear that she was willing to go to great extremes to engage her students in learning about the past and that she had little fear of outside expectations. Following her implementation of the Research Lesson, Olivia argued that the risk was worthwhile because students understood that "yes, we can make a difference." Olivia seemed to recognize that giving students an opportunity to decide for themselves was empowering and that students learned meaningful, personally relevant content through their investigation of the legal strategy of Civil Rights change. For Olivia, such learning made the risk of implementing PBHI worthwhile.

Olivia appeared to view herself as the gatekeeper for the curriculum her students experienced and therefore seemed to embrace lesson study as an opportunity to change the pedagogy she used in her classroom even though it departed from her past instructional habits. Olivia appeared willing to take chances if she believed doing so would benefit her students. In her exit interview, she captured this sentiment well by saying, "I'm not the perfect teacher but I'm striving to be a better teacher and this stuff right here has helped." Olivia suggested that one of the greatest benefits associated with finding success, even in spite of the risk and the obstacles, was a renewed sense of self-confidence.

Researcher: What was the most positive aspect of the way that we planned?

Olivia: Learning the material and it's funny but it gave me confidence in teaching it.

Because I can teach reading... I can blow math out of the water... But social studies is the last thing because I hated social studies in school. I really didn't care if I taught it or not... Before it was like, oh well, we didn't have time for social studies today. But now,

it's a priority to make sure it's done.

Olivia's comments suggest that she had become willing to take risks in changing her social studies pedagogy, particularly as she gained confidence from a growing content knowledge. Her comments also suggest that she embraced the risk associated with resisting the culture within her own school, which prioritized the teaching of reading and mathematics.

Shared professional knowledge culture. One explanation for Olivia's openness to trying new strategies in her classroom and her desire to shift towards civic competence purposes for the teaching of history may have been that she appeared to draw strength from her colleagues and from the collaborative nature of lesson study. Whereas Camille seemed to engage in collaboration tentatively and out of obligation, Olivia appeared to truly enjoy the interpersonal aspects of collaborative planning. Olivia consistently believed that her colleagues at River Elementary would "collaborate and they'll work with me and they'll help me." She seemed to trust that her 4th grade colleagues would help her overcome any content or procedural misunderstandings she might encounter thereby assuaging her primary fears about PBHI – she didn't know the content and the lessons were complex. With the help of her colleagues and the support and structure provided by lesson study professional development, Olivia willingly tried lessons that were very different from her typical instruction.

Making professional teaching knowledge public. During lesson study planning sessions, Olivia eagerly engaged in discussions of the content including the lesson study team's attempts at matching PBHI strategies to it. Unlike Camille, Olivia very often pushed the lesson study team forward by her questions or her contributions. While Olivia's knowledge of PBHI and history appeared minimal by the conclusion of Year 1, her willingness to reveal her understanding of emerging lesson plans was encouraging because she engaged in a public

discussion of instructional options that benefited her peers. Oftentimes, Olivia was the first to attempt to map pedagogical strategies to the content under discussion, making many suggestions that were ultimately rejected by the group. To be clear, Olivia did not use PBHI theory in discussing her preferences for the Year 1 Research Lesson. She did, however, often open the door for the lesson study team to examine alternative strategies including the PBHI strategies modeled during professional development sessions. Following her suggestion for a note-taking guide, for example, she later shifted to an idea that called for students to step into an image and “sit down and do a sit-in, to make them get on the floor and see what it’s like”. While she was often uncertain how to implement problem-based instruction, she was publicly hopeful and willing to try it. In addition, her optimism and eagerness often lifted the spirits of the lesson study team in a manner that encouraged more of them to value the collaborative dialogue and planning associated with lesson study.

Olivia’s appreciation for the lessons that emerged out of lesson study and the collaborative process that created them can be seen in her comments at the conclusion of the Year 1 lesson study cycle. She expressed how excited she had been to observe Paige teach that year’s Research Lesson. Olivia seemed to value the collaborative experiences afforded by lesson study and looked forward to the upcoming lesson study cycle. She explained that the lesson study process motivated her to implement the lesson with greater energy because she drew confidence from collaborating with colleagues, historians, and PFG staff.

...My regular teaching style had gotten in that set mode of State History the last couple of years. But this lesson, it blew my mind - to know that I actually came and did research myself. And I listened to somebody and I got the information and it stuck with me. So I know if the way I learned it stuck in *my* head, imagine how my kids [are] going to be next

year...

Olivia directly expressed appreciation for what lesson study had done for her history teaching. Most importantly she valued the opportunity to socially construct lesson materials.

Olivia's excitement about the improved student learning she had experienced during the first lesson study cycle encouraged the 4th grade teachers to look forward to the next cycle in anticipation of more positive results. Part of the explanation for why Olivia enjoyed collaborative lesson study and the culture that resulted may be found in her comments on the compressed reflective cycle required of it.

The way [lesson study] is different was because we all sat down together and decided what worked and didn't work and then somebody else tried it next. So it gave us a chance to correct the material before somebody else presented it. The way I normally reflect, if it's wrong, then it will be a whole 'nother year before I actually fix it...

Research Lesson observation debriefings appeared to give Olivia the time and space needed to immediately make changes to lessons in a manner she believed would directly improve student learning. Coupled with her stated desire to be the best teacher she could be, it seems likely that lesson observations and debriefings affirmed her self worth as a teacher because they helped her accomplish her own goal of improving.

Valuing collaborative dialogue. Another possible reason that Olivia appreciated lesson study planning and the Research Lessons that resulted was that the collaborative dialogue within lesson study appeared to give her confidence. For Olivia, "having to actually sit down and plan the lessons" was different than simply using the textbook and worksheets. She found that she knew the historical content much more deeply after planning collaboratively in part because lesson study helped her learn that content and encouraged her to prepare more thoroughly.

Olivia recognized that lesson study was hard but argued that her old method of relying on the textbook was not better just because it was “less stress on us” and “less time consuming.” She argued that lesson study had given her another way of teaching history that was more rigorous, saying, “It gives us an alternative to not always taking the easy route because as a teacher I do take the easy route.” But it was the collaborative aspects of lesson study that seemed to provide Olivia with the confidence to implement PBHI in her classroom especially since she still wrestled with completely understanding the PIH model for PBHI. Collaboration appeared to help her overcome her own feelings of mental isolation as she thought about and planned social studies instruction.

Unlike Camille who was not eager to participate in the public aspects of lesson study, Olivia seemed to value its public elements. She described how ideas were “thrown on the wall” during lesson study, debated, and argued and that the resulting plans were the best that the entire team could produce. For Olivia, making her own social studies instructional materials was galvanizing, not only because she believed the best plans resulted, but because working and learning together collaboratively gave her the confidence she needed to teach social studies well.

...I know what I'm teaching. I have my own facts that I have learned from you all that gave me the confidence to say I truly know what Andrew Jackson did, I really understand the Trail of Tears. It wasn't just what the book told me to say but I learned from historians who knew what they were talking about who therefore gave me confidence when I stood up in front of my room to say ok, I know for sure, MLK is not the only person we're going to celebrate this month.

For Olivia, planning PBHI instruction as part of a lesson study team was empowering because she believed that she was an integral part of the process. The fact that the experience was a

shared one seemed crucial for Olivia. She consistently pointed to unique (fieldtrips) and mundane (lesson planning sessions) experiences that were part of lesson study as motivating factors within her larger experience. She described how these experiences “enlighten[ed] the way that I think” but also how they “enlightened other people”. For Olivia, the opportunity to work collaboratively with PFG staff and her colleagues was affirming because “it made me feel like I was going to do an excellent job as a teacher [and] I want to be excellent.”

Culture of elementary schooling. Like Camille, the culture of elementary schooling appeared to limit Olivia’s ability to transfer emerging PBHI professional teaching knowledge to her classroom teaching. She described, for example, how she was excited at the beginning of the Year 3 school year because she had two Research Lessons (and their units) to implement in her classroom. However, she also emphasized that after the winter holidays she would have to focus on preparing her students to test well during what she called “killing and drilling”. Olivia’s desire to prepare her students for the tests was in part due to her belief that her school and school system cared mostly about students’ success on reading and math exams and not on social studies or science more generally. She described reading and math, for example, as “our two main subject areas for elementary education.” For Olivia, the pressure to have students score highly on standardized tests in other subjects diminished the time she felt could be devoted to more rigorous instruction in social studies (VanFossen, 2005). Yet, even in spite of these cultural barriers, Olivia embraced the opportunities afforded by lesson study to focus on improving her social studies instruction.

Comparing research and teacher-selected lessons. Olivia’s Year 1 Research Lesson implementation marked a near 50% improvement in the intellectual quality of instruction when compared to her teacher-selected comparison lessons. This improvement was due in part to the

design of the Research Lesson itself. Olivia focused the lesson on whether the legal strategy could be used to end discrimination. Doing so raised the intellectual rigor and depth of the lesson by requiring students to decide how and when forced integration should occur. Within one sustained conversation on whether the legal system could be used to end discrimination, three students performed higher order thinking. Olivia also made overt attempts at connecting classroom knowledge to real world problems by continually asking students how they would personally respond to discrimination if they experienced it during their lifetimes.

Table 14

Olivia’s Authentic Instruction Scores – Years 1 and 3

	Comparison Lesson Mean	Research Lesson
Year 1	4.5	12.0
Year 3	9.0	14.0

Note. Possible AIW instruction scores ranged from 4-20.

These Research Lesson features contrasted markedly with Olivia’s Year 1 teacher-selected lessons during which students worked to comprehend textbook passages in a routine and rudimentary manner. These comparison lessons focused on the single, often celebratory historical narrative offered by the textbook. During lesson study sessions, however, Olivia argued very early on that students should encounter multiple perspectives on the legal strategy and its outcomes, suggesting that she was at least willing to move beyond the simple historical narratives provided by her textbook even though she failed to do so within comparison lessons.

Olivia’s Year 3 Research Lesson implementation was the strongest among all teachers during the three years of the study. As was true for Camille, the structure of the Socratic seminar strategy aided Olivia in helping students perform higher order thinking and to engage in substantive conversation with sensitivity. Using the Socratic question script, Olivia asked her students questions about why the *Declaration of Independence* was written, American

complaints about the British, the meaning of “all men are created equal”, what should happen if a government does not treat its people fairly, whether King George was truly evil, and whether the Americans were right to revolt. The lesson drew upon multiple perspectives including the Declaration and King George’s *Proclamation of Open Rebellion*. More importantly, students appeared to genuinely consider both the British and the American perspectives. Combined with the fact that Olivia focused the lesson on the question of whether or not the Americans were right to revolt, the lesson had significant depth. Because students were given a chance to decide if they personally would have revolted, the lesson also contained opportunities for students to make connections to real world problems and activities.

There were two aspects of Olivia’s Year 3 Research Lesson implementation, however, that suggested she remained somewhat unsure about executing PBHI in her classroom. First, Olivia continued to rely heavily on the teacher script for the Socratic. Yet, unlike Camille, Olivia engaged with her students in the discussion, often asking probing follow-up questions that pushed the students to think even more deeply. In addition, she specifically asked her students to respond to one another and to avoid repeating responses. Second, Olivia failed to situate the lesson within the unit central question, which caused the Socratic questions to exist somewhat in isolation. This became a particular problem when, at the conclusion of the lesson, students were asked to decide if they personally would have revolted against the king. Possible opportunities to prepare students for making these connections had been missed in earlier parts of the lesson because Olivia failed to situate the lesson within its larger unit context. Regardless, Olivia’s Year 3 Research Lesson marked a substantial improvement in the intellectual quality of instruction offered to students.

Olivia’s concluding teacher-selected lesson implementation provided an intriguing

insight into her thinking at the end of Year 3. Together with Hallie, Olivia had her students watch a live dramatization of the 2012 Republican and Democratic National Conventions during which student actors read excerpted transcripts from major political speeches. Olivia's purpose appeared to be for students to gain an understanding of the two parties and their candidates so that they could then participate in a school-wide mock vote for President. She also hoped to engage students in discussion of the 2012 election in a follow up lesson to the dramatizations. In her exit interview, Olivia described her intentions.

...I've gotten to the point where I just don't want to use the book. I want to come up with [lessons], like when me and Hallie, and we never would have thought...to collaborate together on history for an election [lesson] if it hadn't of been for you all because we would have been like, "Ok, today is election day, oh well, take your pencils out." But we made a big deal out of it... Our kids are going to remember when they [are] 18 that they need to register to vote cause I voted at my school when I was in the 4th grade... It teaches them a life long lesson.

It seems clear from observing the lesson and from her comments above that Olivia hoped students would connect knowledge from the two-part lesson to their future lives as citizens. The dramatization portion of the lesson, however, which was done by ten to twelve students in front of both Hallie and Olivia's classes, represented little innovation or aspects of PBHI. In fact, the actors simply read from the politicians' actual speeches in words that most 4th graders would find difficult to understand. In addition, the audience sat passively through the entire presentation. They were not allowed to ask any questions, did not take notes, and did not even appear to listen. Yet Olivia believed that this lesson was a step forward because it demonstrated Olivia and Hallie's willingness to collaborate on social studies lesson plans that she believed taught students

a valuable citizenship skill. Only when Olivia separated from Hallie's students and brought her students to her classroom were elements of PBHI professional teaching knowledge present. For example, Olivia worked to link content on the election to her students' lives and to citizenship by asking them to explain the "big deal about voting" and to convince her that she should go vote. Within this unscripted discussion, two students performed higher order thinking even though the lesson was not organized around a central theme or question. The presence of higher order thinking and Olivia's attempt at linking lesson content to students' lives represented substantial improvement over Olivia's traditional textbook-based instruction.

Teacher demonstrating substantial growth: Paige.

In this section, I examine the experiences of Paige – a teacher chosen to represent substantial growth in professional teaching knowledge for PBHI. Paige offers the best example of a teacher who came to understand problem-based historical inquiry and contributed meaningfully to the emergence of a shared professional knowledge culture. Paige showed the greatest growth in AIW instruction scores over the three years of the project and made substantial improvement on teacher-selected comparison lessons from Year 1 to Year 3.

Epistemology. Like Olivia, Paige appeared to shift towards constructivist epistemological assumptions as a result of scaffolded lesson study including a belief that her students were capable of socially constructing knowledge. However, Paige appeared to be open to constructivist assumptions much earlier than Olivia. This early openness could help explain why she demonstrated greater growth in professional teaching knowledge during the project. Paige spoke more frequently than many of her elementary colleagues during professional development activities. She appeared less intimidated by the presence of more knowledgeable secondary teachers and more willing to engage with them in discussing model lessons. Yet, she

did so in spite of her acknowledgement that she “didn’t take all the histories in college” like secondary teachers. Paige, like Olivia, was heavily involved in nearly every decision made by the lesson study team throughout the project.

Shifting to constructivist knowledge assumptions. Paige first relied on the textbook or course of study for ideas about the content to include within Research Lessons. At times, she even allowed the textbook to define the time she believed should be spent on the lessons, saying, “There’s three or four lessons in a chapter and we spend about two days on each lesson.” Considering her role as the social studies curriculum planner for her school, it seems likely that Paige entered the PFG Project with a higher level of comfort with State History content and with planning social studies lessons. Indeed, her experience using the textbook to plan social studies instruction appeared to give her confidence as the lesson study team collaboratively planned lessons. Paige’s initial reliance on the textbook for planning these lessons, however, suggested that she entered the PFG Project operating from the belief that it offered the fixed body of knowledge students needed to know. This belief can be seen in her desire for teacher scripting similar to that offered by textbook materials, “because with our teacher’s editions, they have everything there.” Much earlier than Olivia, however, Paige expressed reservations about excessive use of the textbook even as she continued to rely on it for planning purposes. In this sense, it seemed that Paige had developed some desire to shed the textbook as her primary source for planning social studies instruction. It may be that she entered the PFG Project more open to constructivist knowledge assumptions or that lesson study planning had reminded her of other curriculum options available for constructing social studies lessons.

When beginning the PFG Project, Paige’s past reliance on the textbook presented difficulties as she attempted to shift towards constructivist assumptions. For example, she was

initially hesitant about a thematically organized Civil Rights Movement unit. As the lesson study team attempted to map lessons to change strategies used by Civil Rights activists, Paige grew frustrated with her own inability to articulate each of them and argued that it would be easier for her students to “understand what’s fair as opposed to the different methods [of ending discrimination] because it’s more relatable with them...” Paige followed her comment by encouraging the lesson study team to find history materials that might help her students develop empathy. Yet, as was often the case, Paige eventually shifted her thinking as the lesson study team discussed the unit central question, which asked students to decide the best strategy for ending discrimination in their state. By the end of the planning session, Paige vocally advocated for the thematic organization she initially resisted. She seemed to realize that organizing lessons around individual change strategies scaffolded students’ thinking about the unit central question.

Individuals and communities create knowledge. By Year 3, Paige’s openness to constructivist assumptions about teaching and learning and her desire to abandon more absolutist assumptions appeared clearer. Paige entered the Year 3 planning process with greater understanding of the PFG Project’s desire to create lessons that helped students construct understandings of the past while also developing citizenship skills. She appeared to adopt this desire quite readily as evidenced by many of her comments. For instance, on the first day of summer lesson study planning, she encouraged the lesson study team to help students “take on the role of others’ thoughts, other perspectives.” In addition, Paige seemed to recognize and contend that her students were capable of constructing knowledge together. She argued, for example, that her students could “learn from other people’s opinions too” and that doing so would “help them form their own.” Additional comments also suggested that Paige had begun to recognize the ill-structured and ambiguous nature of social reality. For example, as the lesson

study team completed a planning scaffold, Paige noted the complexity of the materials the lesson study team was offering to students.

There are a whole lot of underlying back issues as to why [the British] are doing these things [during the Revolutionary era]... It's still such a difficult thing to wrestle with, like right and wrong, submissive authority. I think those are all complex enough ideas that even when they're broken down, it's still pretty complex... It's not always a black and white issue. There's a lot of grey area and that will connect to real life too.

As these comments suggest, Paige appeared open to constructivist assumptions about teaching and learning. She seemed to accept that her students could construct knowledge given the right materials, that social reality isn't always simple to understand, and even that one's perspective can influence one's interpretation of the past and the present. Paige believed that lesson study lessons presented opportunities for her students to "discuss it and give their opinions about it" in ways that went "way beyond just the facts of what's in the book."

The functions of history. Like Camille and Olivia, Paige seemed to begin the PFG Project assuming that the textbook provided the factual knowledge students needed to learn. Like Olivia, but unlike Camille, Paige never believed that students' lack of prior knowledge prevented them from performing higher order thinking. Instead, Paige readily adopted the notion that students could develop foundational knowledge within the context of an authentic problem context. Like Olivia, Paige shifted rather dramatically in her rhetoric towards civic competence purposes for the teaching of history. Paige was the only teacher, however, who proved capable of translating her rhetoric into classroom practice outside of lesson study.

Shifting to civic competence purposes. Throughout the first year of lesson study, Paige grew more confident in her ability to contribute to developing lessons within a PBHI framework.

Though still insufficient to plan PBHI instruction independent of lesson study, Paige's content knowledge compared well to her peers. Unlike Camille, Paige rarely disengaged from the planning process even in those few times when her content knowledge failed her. Her willingness to remain engaged may have been due to the greater focus she gave to historians and PBHI model lessons as compared to her colleagues. Perhaps she more quickly linked the content and model lessons from week one of professional development to the lesson study planning week that followed. Paige grew quickly in her ability to help the lesson study team use the unit central question as a planning tool. She often asked her teammates to explain how content or activities would help students answer the central question. Her ability to do so suggested that Paige was at least aware of the larger unit purposes during Year 1 lesson planning sessions including how the Research Lesson fit within that purpose. Following her own implementation of the legal lesson, Paige identified the greatest challenge to its success – she had allowed the lesson to drift too far from the legal strategy as a means of bringing about social change by not directing students to focus on “when” forced integration should have occurred. Her self-critique led the lesson study team to make meaningful changes to lesson materials so that they were more tightly focused.

In spite of a greater comparative content knowledge and an awareness of the unit goals, Paige, like Olivia, encountered difficulties as she attempted to transition to civic competence purposes for the teaching of history. She, for example, was among those teachers who frequently called for additional lesson scripts the teacher could use to guide instruction which suggested that she remained somewhat unsure about implementing PBHI in her own classroom. While focusing on easing the burden of PBHI for the teacher, Paige did not shy away from urging the lesson study team to consider ways to make the Research Lessons more relevant and engaging for students. Paige frequently encouraged the lesson study team to include real-world examples

that would grab students' attention. For instance, she suggested that the team add a "real life current example" to introduce the legal system to students, saying, "I sit there and tell them what the court is all the time and they're not going to know what it is, but I could put on Judge Judy or something and be like, this is what going to court is, to get something changed."

By Year 3, Paige's awareness of students' needs within a PBHI learning environment appeared to develop even more. As she expressed these needs, Paige revealed an emerging understanding of PBHI and its civic competence aims. She increasingly realized that students needed scaffolding to help them think deeply about the ill-structured issues raised within the Research Lessons. When deciding whether the Year 3 unit central question was strong enough, Paige drew upon her understanding of colonization to argue that her students could reasonably argue that the colonists were in America breaking the British king's rules and that they legitimately deserved punishment. She also encouraged the lessons study team to tier Socratic seminar questions from lower order to higher order by offering questions on King George's reasons for putting down the rebellion and a question asking students whether they would have stayed loyal to the king. Within the several questions offered by Paige, she revealed an understanding of both the American and British perspectives. Combined with her clear sense that students were to make a decision about whether the Americans were right to revolt, Paige seemed to grasp much of the content students would need in order to make a decision about the unit central question. In fact, when it came time to decide on a unit culminating assessment, Paige recommended an international newspaper containing each nation's point of view because she believed it would force students to wrestle with the two opposing perspectives.

Paige developed a strong ability to guide the lesson study team through examinations of content in light of the unit central question. Her understanding that there were historically valid,

competing perspectives on historical questions like the ones in the American Revolution unit helped her comfortably articulate a civic competence mission for her future social studies teaching by the conclusion of Year 3.

Before [the PFG Project], I thought [the purpose of teaching social studies] was just to learn the facts and the dates and stuff. But now I think it's to create well-rounded thinkers who can deal with the issues that have been happening throughout history...

Paige acknowledged that lesson study had encouraged her to change the way she planned. In her exit interview, she described how she hoped to build lessons around primary documents and around “listening to people talk and their experiences.” In addition, Paige noted that she hoped to research “cool new ways to teach things as opposed to just teaching it out of the book which I've been guilty of doing.”

Resisting history as literacy. On the whole, Paige appeared eager for something different in her social studies teaching. One important reason that Paige may have been more open to PBHI than her colleagues was that she appeared to resist using history as a literacy or reading tool alone whereas both Olivia and especially Camille talked of integrating social studies into their reading time in order to save much needed instructional time (Boyle-Baise, Hsu, Johnson, Serriere, & Stewart, 2008). Paige noted such a change in the purposes she established for teaching history.

A lot of my history teaching was I can use this as a teaching / reading tool. Let's get out our textbook and practice more reading. And now I know it's completely different. It's not just about reading the facts; it's about answering bigger questions.

Paige seemed to argue that treating her State History instruction as literacy instruction would detract from the new purpose she articulated above because it would limit students' ability to

address questions of the past that hold meaning today. Reflecting her desire to move beyond just the facts and beyond using social studies for literacy purposes, Paige, like Camille, was frustrated by her own lack of content knowledge. However, unlike Camille whose frustration stemmed from her desire to provide accurate factual knowledge to her students, Paige's frustration appeared to result from the difficulties an insufficient content knowledge presented when trying to adopt a PBHI approach for the teaching of State History. It seemed, therefore, that Paige had begun to recognize her own need to develop pedagogical content knowledge (Schulman, 1987). Paige's ability to consider the link between content and pedagogical knowledge may have resulted from her stronger comparative content knowledge. Without a strong content knowledge from which to consider pedagogical decisions, Olivia and Camille never seemed to explore the links between content and pedagogy.

Perhaps because of her richer content knowledge and an emerging desire to develop pedagogical content knowledge, Paige emerged as the teacher with the most nuanced understanding of the PIH framework for PBHI by Year 3. She frequently commented on having students interrogate "why" things occurred and what students would do in response to issues of the past. She grasped the significance of a unit central question, saying that it helped her to focus on "dealing with the issue at hand and not just the events that went on." In her exit interview, Paige revealed her understanding of PBHI by critiquing Felicia's implementation of the Year 2 Research Lesson. She described how Felicia revealed Andrew Jackson's decision to remove the Indians before students were fully allowed to form their own opinions on the question of whether removal was justified. Paige felt that Felicia had removed the element of surprise within the lesson, saying, "The element of [students] wondering what was going to happen was already gone and I was like, they don't need to know what happened yet!" Paige understood that the

question driving instruction within the lesson was for students to answer using the multiple perspectives provided. By revealing Jackson's decision before students were allowed to make their own, Paige seemed to understand that the inquiry students were undertaking was no longer worth their complete attention and effort. These comments suggested that Paige more fully understood the civic competence aims of the PIH framework for PBHI.

Beliefs about students. While Olivia may have publicly maintained the most optimistic beliefs about students throughout the three years of the project, Paige never shied from challenging her students. In fact, Paige seemed most willing to shift towards more student-centered approaches to teaching social studies. Perhaps because she had been exposed to student-centered approaches during her undergraduate training, Paige more quickly and more readily accepted the alternative vision for social studies teaching put forth by PFG staff, though this transition was not always fluid.

Students will undertake meaningful, challenging tasks. Paige's hopes for a more student-centered, constructivist classroom appeared to grow throughout the three years of the lesson study project. Like most of the 4th grade teachers, Paige was impressed by her students' ability to discuss and engage in the Research Lessons throughout the project. Paige noted, for example, that "the conversation that [was] sparked between the kids, especially just watching and knowing my students in my classroom, you would never think that they would get as into it because they don't with a lot of things." The degree of engagement and students' willingness to think more deeply about issues seemed to encourage Paige to continue reflecting about her students' academic abilities. Paige noted the differences between the assessments given within Research Lessons and those she traditionally used but hoped to abandon. She described lesson study assessments as "more advanced" because they did not require memorization like her

previous assessments but instead expected students “to think about it and form an opinion.”

Early on in the project, Paige appeared most optimistic about her students’ ability to address ethical questions given enough scaffolding. Even when others questioned whether students would be able to answer the unit central question for Year 1, Paige assured the team that students could as long as the teacher provided instruction on Civil Rights activists’ change strategies and then helped students weigh each method for whether it would be successful. Indeed, throughout the three years of the project, Paige was the quickest of the 4th grade teachers to offer suggestions for improved or additional scaffolding so that even more students could engage in the level of thinking she believed they were capable of doing. Paige frequently offered peer-to-peer scaffolding, changes to hard scaffolds, and even possible soft-scaffolding questions the teachers might ask to improve learning.

In addition to believing that students could answer challenging social studies questions given enough support, Paige also frequently proposed empathy as a goal for her students. From choosing resources to deciding between competing strategies, Paige favored instruction that she believed would engage her students most and help them to develop empathy for other people. During Year 1, for example, Paige encouraged the lesson study team to use a grabber scenario in which one group of students was treated unfairly. Unlike Camille who grew uncomfortable with the scenario, Paige urged the lesson study team to implement the grabber lesson so that students “have to deal with it all day and not just the first few minutes of the day.” Paige’s desire to connect her social studies instruction to her students’ lives so that they might develop empathy was consistent to the conclusion of the project. She offered examples for lesson grabbers like the one above, lesson questions, and even lesson activities that she believed students would immediately grasp as relevant to their own personal lives.

Reassessing assumptions. Like Olivia, Paige also sometimes looked to her own teaching as an explanation for the difficulties encountered by students within the Research Lessons. In this sense, Paige viewed herself as the gatekeeper for the curriculum her students experienced. She often encouraged her colleagues to reflect on how their choices impacted student engagement and thinking, saying things like, “That falls back on us and not just the kids!” Paige wanted to engage all of her students regardless of what she called “learning styles” and consistently sought ways to do so. Unlike every other 4th grade teacher, Paige even appeared to grasp how the content taught in previous State History instructional units could be adjusted to improve her students’ ability to more quickly understand content offered within the Research Lessons. In making these claims, Paige again drew the lesson study team’s attention to the larger forces impacting student achievement so that the teachers could work collaboratively to remove them whenever possible. Paige also believed that her students could do even more than she had seen them accomplish in the lesson study Research Lessons. In fact, Paige, along with Wendy, were the only teachers who openly expressed disappointment in the quality of student assessments resulting from Research Lessons. Paige argued that her students forgot many of the basic fundamentals of writing because they “would get so excited” and that the lesson study team needed to work harder to help students produce higher quality assessments.

Shifting students beyond egocentrism. One reason Paige may have supported using PBHI with her students was her belief that students were “egocentric” and that using multiple perspectives helped students to think beyond their narrow-minded views. Unlike Camille who preferred to use PBHI to develop pragmatic skills, Paige believed students developed those skills elsewhere and that history instruction should therefore focus on big ideas. But focusing on big ideas alone was not enough for Paige who argued that her students were “so constantly

stimulated from fancy gadgets that us talking to them about history isn't exciting to them at all.” Paige hoped that using multiple perspectives from sources beyond the textbook along with a meaningful, ill-structured question would encourage students to remain interested and engaged. Unlike Camille and Olivia, however, Paige seemed to believe that her students could develop foundational knowledge and think critically at the same time. Camille and Olivia, in contrast, suggested a more sequential order for student think. They argued that students had to become motivated and then develop sufficient body of foundational knowledge before thinking deeply. Paige appeared to believe that these things could happen simultaneously within an authentic problem context. The fact that Paige believed students' thinking was not always sequential seemed to permit her to be more open to launching directly into Research Lessons that required students to almost immediately perform higher order thinking. By the conclusion of the PFG Project, Paige succinctly described the changes in her beliefs about students: “I definitely give them a lot more credit and expect a lot more out of them because I know what they can do.”

Risk taking. Compared to Olivia, Paige was far more cautious with regard to risk taking. However, Paige recognized that risk taking was sometimes necessary to provoke thinking in students. In addition, she embraced the use of multiple perspectives to help encourage students to think more deeply even though doing so was a departure from her past instructional practices.

PBHI as risk taking. Paige was at the center of most discussions including those centered on the risk associated with implementing PBHI and of dealing with controversial issues like race and power. In many cases, when other teachers expressed concern about how authorities or parents might respond, Paige became a problem-solver. She often helped her colleagues arrive a solution that assuaged their fears and helped them to see the benefits of helping students navigate controversial issues. Paige served in this role during one particular

discussion of race. When several teachers grew concerned that their few White students might think that African Americans were still mad many years after the Civil Rights Movement, Paige volunteered that the team could warn their students in advance of the Civil Rights unit by telling them they would deal with a controversial issue. She went on to argue that students should learn about discrimination so that “it won’t ever happen again in the future.” Paige’s ability to help her colleagues work through their feelings about the controversy contained within the Civil Rights unit may have resulted from her experience doing something similar in her own mind prior to teaching the lesson.

I was worried, being a White person teaching it to Black children for them to be like, well why did *you* do that? I was fearful of like, would they feel angry towards me because I’m the one presenting them the information? And would it feel like almost the same thing? You know, I’m the one in charge here. I struggled with that before. I worried about it a lot. But it was ok.

Similar comments during lesson planning and debriefing meetings suggested that Paige was willing to set aside any discomfort she had with lesson content in order to implement the Research Lessons with fidelity. She seemed to believe that helping students make sense of multiple perspectives was worth her time, energy, and perhaps even discomfort. In addition, she appeared eager to help her students become more responsible citizens by presenting them with opportunities to make decisions even about controversial issues.

While Paige was willing to let the lesson study lessons unfold as designed and worked to implement them with fidelity, she did not see herself as being completely free from the curriculum and the pedagogy she believed it implied. In fact, she compared PBHI to the “old curriculum” on numerous occasions and implied that the old curriculum did not require the

teacher to take risks or for students to express their opinions thoughtfully. In this sense, Paige adhered to the curriculum as the authority on appropriate pedagogy. If she could replace the old curriculum with PBHI and receive support in doing so, she was completely willing to alter her approach. Paige's desire to motivate and engage her students and to help them develop empathy may have overridden any hesitation she might have felt. In fact, she was often quite vocal about using relevant and authentic examples for lesson activities she believed her students would find exciting. Within the framework of what she viewed as a "new" social studies curriculum, Paige proved willing to take risks.

Shared professional knowledge culture. At the conclusion of the Year 1 lesson study cycle, Paige had begun to reconsider her teaching of social studies content. Paige's reflective thoughts throughout the first lesson study cycle suggested lesson study might have contributed to a growing unease with her typical social studies instruction, so much so that she publicly acknowledged her dissatisfaction with past instructional practices. Paige's consistent contribution to every stage of lesson study suggested that she valued the dialogue and collaboration afforded by it.

Grounding planning and teaching in research theory. By Year 3, Paige directly discussed how her prior social studies planning, including its overuse of the history textbook, had been less than adequate. The collaboratively designed Research Lessons as well as their implementations had given her a more robust and rigorous vision for social studies teaching. Perhaps because of her past role as the 4th grade social studies planner and coordinator at her school, Paige believed that better teaching began with better planning, saying, "I have to be a better planner when it comes to this because it's real easy to be rushing through lesson plans because we have to plan for so much more in a day." Although Paige was not fully prepared to

ground all of her social studies planning in PBHI theory, she had begun to integrate aspects of it as evidenced by her concluding teacher-selected lesson, which I discuss below. Paige, like Olivia, enjoyed seeing the lesson study team's hard work pay off in the classroom and even indicated that she was reminded of the effort required to plan challenging social studies instruction, saying, "you never really think about what hard work it is to develop a lesson..."

Making professional teaching knowledge public. For Paige, the collaborative experience of lesson study and the impact it had on student learning reminded her of why she chose the teaching profession: "Its rewarding; it's like, oh, that's why I chose this job!" Observing other teachers as part of lesson study caused Paige to become more reflective about PBHI theory and to make her assessments public. She noted how observations often helped her to diagnose aspects of the Research Lesson that had created problems for the teacher and students. Indeed, Paige's ability to pick out elements of lesson implementations that differed from the original plans distinguished her from her peers. One result of this ability, however, was that she sometimes became frustrated with lesson study team members who either seemed unprepared or who implemented the Research Lesson differently as was the case when Felicia revealed Andrew Jackson's decision on Indian Removal too early in the lesson. Paige's frustration and sense of ownership may have reflected her personal integration of the PIH framework for PBHI and recognition that teachers who did not hold tightly to her understanding of how the Research Lesson should unfold limited its effectiveness. In spite of her occasional frustrations, Paige valued the public aspects of lesson study. She appreciated collaboratively designing instruction, perhaps because it removed the burden of planning social studies lessons on her own. Perhaps more importantly, Paige argued that others' opinions were valuable because "it helps you change what's going on with you."

Culture of elementary schooling. As was true of Camille and Olivia, the culture of elementary schooling appeared to influence Paige’s willingness to spend the time necessary to transfer her emerging professional teaching knowledge for problem-based historical inquiry to her typical social studies instruction (VanFossen, 2005). She described how she normally spent considerable time planning instruction for reading and math because they were made a priority at her school. Although Paige recognized the inadequacy of her prior social studies lessons, she felt somewhat constrained by her school’s emphasis on the teaching of reading and math. She described how history was taught in the afternoon at a time when interruptions such as library visits, counseling sessions, and guest speakers were frequent, saying that history was not “an early morning, bright brain subject.” To overcome the cultural and time constraints she described, Paige proposed a solution that she had seen function well through lesson study – “I think planning collaboratively should be a priority”. Following the conclusion of the PFG Project, Paige hoped that her 4th grade colleagues would want to “put their heads together” in order to craft more rigorous history lesson plans but she remained skeptical that such effort would be worth it when “reading and math is such a priority because it’s been made a priority.”

Comparing research and teacher-selected lessons. Evidence for Paige’s openness to PBHI could also be seen in her implementation of the Year 1 Research Lesson. Of all the 4th grade teachers, Paige had the highest AIW pedagogy score on her implementation of either the nonviolence or legal Research Lesson. The substantially higher scores in authentic instruction she demonstrated when compared to her Year 1 teacher-selected lessons was due to multiple factors, the most significant of which was time. Unlike her Year 1 teacher-selected lessons, Paige seemed to slow her pace and to give students far greater latitude in addressing the questions she posed. In contrast, during one teacher-selected lesson, she had students examine

an image of the Dust Bowl and asked strong questions but rushed through it so quickly that it became teacher-centered recitation. In another Year 1 teacher-selected lesson, Paige read a passage of text to students from the textbook and then had students verbally address comprehension questions in very quick succession. During the Research Lesson, Paige slowed her pace and used her own content knowledge and awareness of the larger unit and its purposes to transition between lesson segments, a task that proved challenging for the other 4th grade teachers. Unlike other 4th grade teachers who seemed to sometimes turn control of the lesson completely over to students, Paige facilitated student learning in ways that increased rigor. Her awareness of the larger unit structure and goals often helped her keep the Research Lesson implementation focused, much more so than her peers' implementations or even her own comparison lessons. Even though Paige would admit that her implementation of the Year 1 Research Lesson drifted too far from the lesson's central focus, it still included students performing higher order thinking, students engaged in substantive conversation as they compared segregated schools, and multiple examples of students making connections to situations outside of the classroom. The presence of an ill-structured question focused on discrimination within the Year 1 Research Lesson appeared to give Paige the mental structures she needed to lead students into a deeper understanding of the lesson's authenticity and relevance to their lives.

Table 15

Paige's Authentic Instruction Scores – Years 1 and 3

	Comparison Lesson	Research Lesson
Year 1	5.0	13.0
Year 3	10.0	11.0

Note. Possible AIW instruction scores ranged from 4-20.

Paige's Year 3 Research Lesson again marked significant improvement in the intellectual quality of instruction offered to students when compared to virtually all of her teacher-selected

comparison lessons. However, her AIW instruction score for Year 3 actually represented a decline when compared to Year 1 and was not the highest Year 3 score, which belonged to Olivia. In the Year 3 Socratic seminar Research Lesson, Paige, like Olivia, situated the lesson within the larger unit central question – Were the colonists right to revolt against the British government? However, unlike Olivia, Paige stayed much more passive during the discussion, perhaps reflecting some uncertainty with the Socratic strategy. While multiple perspectives emerged within the discussion, Paige failed to problematize students’ comments as Olivia had, which limited the higher order thinking and substantive conversation that emerged. In addition, Paige seemed to be unusually preoccupied with maintaining disciplinary control during the lesson, which may have limited students’ willingness to engage in a free-flowing discussion.

Although Paige’s Year 3 Research Lesson was not the highest score achieved by participating 4th grade teachers in part because of her unwillingness to probe students’ comments and her preoccupation with discipline on the day of the observation, her Year 3 teacher-selected comparison lesson was the highest scoring of all teachers. Since the final comparison lesson represented an important measure of the teachers’ ability to transfer learning from scaffolded lesson study to their typical classroom instruction, Paige’s 50% improvement compared to her Year 1 average was noteworthy. The lesson was also notable for its abandonment of the State History textbook that was so typical of most teacher-selected lessons including Paige’s Year 1 lessons. Paige’s final lesson featured the use of a primary account, which documented one woman’s travel across the southeastern United States in the early 19th century. To begin the lesson, Paige made a strong effort at connecting the content to students’ lives by dramatizing children fighting on a long journey and by asking students what they might do to keep themselves busy on a long trip. Within the body of the lesson, Paige worked to have students

examine the primary account from multiple perspectives by repeatedly asking what students learned about the Indians, white settlers, and their interactions after each passage of text. Paige first allowed small groups to discuss their findings before actively polling and questioning groups as they reported their findings to the entire class. To conclude the discussion, Paige asked the class to describe what was happening in the primary account that resulted in problems between Indians and white settlers and also how students would personally respond if people they didn't know were consistently "coming through your yard without permission." To assess students' understanding of the lesson content, Paige concluded the lesson by asking students to complete a graphic organizer listing observations found in the journal followed by a written explanation of how the journey would make them feel.

Paige's final teacher-selected comparison lesson contained elements of PBHI design that likely represented transference of knowledge from scaffolded lesson study to her typical classroom instruction. First, by repeatedly asking students to address what they learned about the Indians and white settlers, Paige provided interpretive questions that served as anchors for learning throughout the lesson. While she did not link these questions to an ill-structured, central question requiring ethical reasoning, her focus on a few questions helped several students perform higher order thinking and also pushed the lesson to greater depth. In addition, Paige actively attempted to link these questions to students' own personal experiences and even posed questions that directly linked historical content to their lives. Secondly, by having small groups interpret the documents before sharing with the entire class, Paige used student collaboration to encourage conversation and the development of more complex understandings of White settlers' interactions with Indians. Thirdly, by chunking the document and by leading students through the document as a class, Paige scaffolded their reading in a manner that aided students in

interpreting the meaning of a complex, primary source document, which is a challenging task requiring analysis, interpretation, and generalization.

Summary

Four interconnected factors appeared to influence the variations in Camille, Olivia, and Paige's enthusiasm for and adoption of professional teaching knowledge for problem-based historical inquiry: deference to authority, focus on prior knowledge, idiosyncratic views of teaching and learning, and comfort with socially constructing curricula. Here I briefly introduce these factors but examine them in greater depth in the concluding chapter of this dissertation. First, the factor that appeared most limiting was the degree to which each teacher deferred to authority. If the teachers' believed their school or school system had an alternative vision for social studies teaching and learning, they resisted PBHI professional teaching knowledge. Second, the degree to which the teachers focused on developing students' prior knowledge appeared to directly impact their enthusiasm for PBHI reforms. When the teachers believed that students could not develop foundational knowledge within the context of an authentic problem context, they focused significant attention on first developing prior knowledge, which slowed their adoption of professional teaching knowledge for PBHI. Third, the degree to which the teachers viewed teaching and learning idiosyncratically directly impacted their acceptance of professional teaching knowledge for PBHI because it limited their willingness to accept that a generalizable body of research knowledge could be applied to their unique group of students. The tendency to view teaching and learning idiosyncratically appeared to be exacerbated by the degree to which the teacher mentally placed students into ability-level subgroups. Finally, the degree to which the teachers felt comfortable socially constructing curricula appeared to directly influence their adoption of PBHI professional teaching knowledge and their willingness to

engage in the creation of a shared professional knowledge culture.

Chapter Six: Summary, Limitations, and Implications

Introduction

This study investigated the impact of scaffolded lesson study professional development on the development of professional teaching knowledge for problem-based historical inquiry (PBHI) and a shared professional knowledge culture among 4th grade State History teachers. I observed three years of lesson study professional development specifically designed to develop professional teaching knowledge for PBHI. In addition to lesson planning sessions, I observed each teacher implement social studies instruction a total of nine times over the three years of the study. Observed lessons included teacher-selected comparison lessons as well as lesson study Research Lessons, which reflected my desire to examine the extent to which the teachers transferred learning from professional development to more typical social studies instruction. My findings suggest lesson study can be used to facilitate the development of professional teaching knowledge for PBHI among elementary teachers though transfer of that knowledge to typical classroom teaching outside of lesson study is difficult. In this chapter, I conclude by summarizing findings with regard to each research question, discussing findings in light of relevant research, examining possible alternate explanations, considering limitations to the study in light of its outcomes, and by exploring implications and areas for future study.

Summary

This study included four research questions. The first research question was: *How do 4th grade teachers interpret a holistic, research-based framework for PBHI designed to increase professional teaching knowledge?* I concluded that all of the 4th grade social studies teachers

interpreted the research-based framework for PBHI as a more rigorous alternative to traditional textbook-based pedagogy and that all endorsed it as a means to develop content knowledge and important critical thinking skills in elementary students. Considering that all of the teachers entered the study with traditional assumptions about the teaching and learning of history, their recognition of an alternative means of teaching history was significant. However, there was substantial variation in the degree to which the teachers linked PBHI to citizenship education. Teachers who resisted using history instruction to develop literacy, who felt unencumbered by professional authorities, and who avoided viewing teaching and learning idiosyncratically demonstrated greater integration of PBHI into their practice. However, all teachers failed to fully integrate PBHI professional teaching knowledge into their typical classroom practice outside of lesson study though Olivia and Paige made the greatest strides in doing so.

The second research question asked: *Does lesson study facilitate the development of a shared professional knowledge culture among 4th grade elementary teachers?* I concluded that lesson study contributed to the development of a shared professional knowledge culture. However, there were important variations in the extent to which teachers embraced the public nature of lesson study and the degree to which the teachers integrated the PIH framework for PBHI into their curricular and instructional decisions. This variation likely resulted from a combination of factors including the extent to which the teachers shifted towards constructivist knowledge assumptions, their individual tolerance for socially constructing curricula, and the degree to which teachers acceded to cultural obstacles within elementary schooling. The foremost challenge, however, appeared to be the degree to which each teacher understood and integrated professional teaching knowledge for PBHI into their existing practice. Greater integration led to increased participation within and support for a collaborative and shared

professional knowledge culture. Collectively, those teachers who engaged in lesson study along with their grade-level colleagues appeared to have greater tolerance for the interpersonal dynamics of lesson study which led to increased participation within and support for a shared professional knowledge culture. Those teachers who were the sole representatives from their school on the 4th grade lesson study team experienced greater feelings of isolation and perceived less support from their administrators which may have limited their endorsement for and participation in a shared professional knowledge culture.

The third research question asked: *Do 4th grade teachers who exhibit greater understanding of PBHI demonstrate greater growth in professional teaching knowledge and higher levels of authentic pedagogy over time?* I concluded that those teachers who exhibited greatest initial understanding of PBHI demonstrated the greatest growth in authentic pedagogy over time. Olivia and Paige expressed initial enthusiasm for PBHI throughout the first year of the study, voiced consistent optimism about their students' ability to function within a problem-based learning environment, and publicly acknowledged their own frustration with their past use of the textbook to guide history instruction. Olivia and Paige were also the two teachers who most embraced risk taking as a means to motivate and engage students in challenging social studies instruction, which might partially explain why these teachers demonstrated greater growth in professional teaching knowledge and authentic pedagogy over time. Olivia and Paige's comments also suggested an emerging understanding of PBHI design principles by Year 3 including the use of ill-structured questions to frame instruction, the use of collaboration to facilitate student understanding, and the use of scaffolding to facilitate complex understanding. Of the 4th grade teachers, Olivia and Paige also demonstrated the greatest growth in authentic instruction for teacher-selected comparison lessons while the other 4th grade teachers' scores

remained virtually unchanged.

The fourth research question asked: *How do levels of content knowledge and authentic pedagogy among 4th grade State History teachers compare to other elementary and secondary teachers participating in a research-based professional development program?* I concluded that the 4th grade teachers entered Year 1 and Year 3 of the project with less content knowledge than their elementary or secondary peers. However, the 4th grade teachers' mean scores on content knowledge tests improved more than the other groups. With regard to authentic pedagogy, I concluded that the 4th grade teachers scored similarly in Year 1 compared to other elementary and secondary teachers participating in the project. In Year 3, however, secondary teachers demonstrated greater increases in authentic pedagogy scores within teacher-selected comparison lessons. The 4th grade teachers, however, showed the greatest overall increase in mean AIW instruction scores for Research Lessons as compared to teacher-selected lessons.

Discussion

Saye, Kohlmeier, Brush, Mitchell, and Farmer (2009a) found that mentoring caused veteran social studies teachers to reconceptualize their practice but that variations in the teachers' adoption of professional teaching knowledge for PBHI persisted throughout the study. Actively mentoring new teachers encouraged their participants to more fully integrate PBHI assumptions, but those teachers who already held PBHI teaching assumptions evidenced the greatest shifts in their teaching practice. In the present study, there were no elementary teachers who entered the study with PBHI teaching assumptions, though Paige began the project with some familiarity regarding student centered approaches to teaching history including the use of primary artifacts. However, scaffolded lesson study appeared to cause similar effects as mentoring perhaps because of the presence of a knowledgeable PBHI mentor and the teachers' three-year

involvement in professional development activities. Every teacher engaged in lesson study reconsidered their social studies teaching practice but only two integrated PBHI assumptions into more typical practice and only one did so outside of lesson study. Why was this the case?

One reason for the rarity of civic competence aims for the teaching of State History was likely the teachers' insufficient content knowledge. Without a strong content knowledge from which to make decisions about pedagogy, planning PBHI lessons proved challenging (Schulman, 1987). While Saye and colleagues acknowledge the complexities associated with introducing research-based teaching theory into a secondary school culture, the challenges seem more acute at the elementary level. As subject-matter generalists, elementary teachers may lack the content knowledge to develop the pedagogical content knowledge necessary for more complete integration of PBHI teaching assumptions. Moreover, the present focus within elementary schools on the teaching of reading and mathematics seems to exacerbate those challenges because teachers may conclude that intensive professional development is not worth their effort. However, my findings support those of Hiebert, Gallimore and Stigler (2002) who suggested that lesson study helps teachers link their craft teaching knowledge to more generalizable, theoretical principles because it requires that they make their assumptions about teaching and learning public. As was the case in Saye and colleagues' (2009a) work on mentoring, lesson study encouraged the 4th grade teachers in this study to encounter, interpret, and integrate researcher knowledge. Likewise, my findings support those of Lewis (2009) and Lieberman (2009) who separately concluded that lesson study encouraged teachers to reconsider their own views on professional teaching.

The 4th grade teachers in this study repeatedly expressed surprise at their students' level of engagement and ability to wrestle with challenging historical questions within Research

Lessons. Yet, during comparison lessons, teachers' persistent use of traditional instruction implied a belief that students were incapable of the deep thinking observed in Research Lessons, a belief that PBHI was too difficult or time consuming to implement on a normal basis, or that the teachers had not yet gained enough experience implementing PBHI to do so on their own. It seemed that lesson study had provided teachers with the structure, time, and content knowledge support to develop PBHI lessons and to implement them in their classrooms but when that structure was removed, most of the 4th grade teachers reverted to conveying knowledge in an orderly, teacher-centered environment as they had done in the past.

Individual variations. As briefly noted in the conclusion to Chapter 5, four primary factors seemed to influence the teachers' interpretation and adoption of professional teaching knowledge for problem-based historical inquiry. In addition, these factors appeared to directly influence the teachers' enthusiasm for PBHI as well as their willingness to engage in developing a shared professional knowledge culture. The factor that appeared most limiting was the degree to which each teacher deferred to authority. In Camille's case, her deference to authority consistently limited her willingness to adopt PBHI. In particular, her deference to authority appeared to have two primary impacts. First, because she believed she would primarily be evaluated based on her students' progress in reading and math, Camille remained skeptical about the value of collaborative lesson study in social studies. Her skepticism likely caused her to withdraw more frequently from socially constructing curricula for use in her classroom. Second, Camille's risk-adverse personality and the deference to authority that seemed to flow out of it limited her willingness to take the risks necessary to more consistently implement PBHI in her classroom. In contrast to Camille, both Olivia and Paige did not overtly defer to authority and were more tolerant of risk taking. Olivia worried far less than Camille about what others thought

and therefore became much more open to adopting PBHI even though she too acknowledged her school's overwhelming focus on reading and math. Most importantly, Olivia became much more willing to take the risks required to implement PBHI. Her strong sense of self limited the impact of outside authorities. Both Olivia and Paige came to tolerate the potential for management problems and the potential for exposing their content knowledge deficiencies because they believed that PBHI had improved student learning and that such improvement was worth the risk required to implement inquiry. Paige spoke of resisting the cultural pressure to turn history instruction into literacy instruction, which the other teachers reported doing in order to meet administrative demands on their time. Paige occasionally referred to "the curriculum" and implied that pedagogy flowed out of it but she was not resistant to altering that curriculum in order to change her instruction. In this sense Paige came to link curriculum and instruction (Thornton, 1991) as a result of lesson study, which seemed to permit her to adopt PBHI professional teaching knowledge more fully. By the conclusion of the project, Paige recognized that if she was to implement the "new" PBHI history curriculum offered by the PFG professional development project, her instructional practices had to change to reflect more constructivist knowledge assumptions.

The degree to which the teachers focused on developing students' prior knowledge appeared to directly impact their enthusiasm for and adoption of professional teaching knowledge for PBHI. Camille, Hallie, Wendy, and Olivia believed that students needed to hold a wide body of prior factual knowledge before they could do the higher order thinking necessary to address lesson and unit questions. The result of this belief was that these teachers first focused on vocabulary development or the development of substantial prior knowledge. Each appeared skeptical of lessons in which such vocabulary or foundational knowledge was developed within

the context of addressing a problem or question. The more teachers prioritized discreet facts or vocabulary development, the less credit or attention they gave to the role of scaffolding in helping students address challenging, ill-structured questions. However, at least in the case of Olivia, her own optimism about her students' abilities as well as her enthusiasm for lesson study buffered her thoughts about prior knowledge to a point that she became far more willing to adopt professional teaching knowledge for PBHI. It seems, therefore, that optimism about students and perhaps even teacher dispositions towards student exploration can help teachers overcome their skepticism about inquiry instruction. Paige demonstrates this well. While Paige began the first year focusing on vocabulary and discreet facts she appeared to do so out of habit, not because she believed students needed a wide body of prior knowledge before thinking critically. Paige, in fact, never questioned whether students could develop foundational knowledge within an authentic problem context. Instead, she suggested that the two could be developed simultaneously which, combined with her optimistic beliefs about students, allowed her to endorse PBHI even while struggling to fully implement it in her classroom.

The degree to which the teachers viewed teaching and learning idiosyncratically directly impacted their interpretation and endorsement for professional teaching knowledge for PBHI. The presence of idiosyncratic views about teaching and learning appeared to limit the teachers' willingness to participate within a shared professional knowledge culture. Although Camille, Felicia, and Hallie grew impressed with the teaching and learning they witnessed in their own and other teachers' classrooms when Research Lessons were implemented, they did not believe that those results could be duplicated in their classroom on a routine basis outside of lesson study. For Camille and Felicia, there was a mismatch between PBHI professional teaching knowledge and "their students" because they believed their students were different than other

students, particularly with regard to the amount of factual knowledge they held, their ability to think critically, or the school and community resources at their disposal. Because they believed their students and classroom settings were unique, these teachers struggled to adopt the shared, field-tested PIH framework for PBHI, and collaborative lesson designing within that framework was frustrating. In contrast, Olivia drew confidence from collaboration even as she struggled to fully understand and integrate the PIH model for PBHI into her typical classroom teaching. While Olivia also sometimes viewed her classroom idiosyncratically, her enthusiasm for PBHI and optimism about her students again seemed to buffer her doubts. Especially important for Olivia was seeing other teachers find success implementing PBHI because it provided her with a vision for what might be possible with her students. For Paige, collaboration was a messy process, but one that resulted in the creation of powerful social studies instruction focused on developing important citizenship skills within all students, which she valued. Paige recognized that the PBHI design principles embedded within Research Lessons were what made the lessons powerful and therefore began to include portions of them within her typical instruction by the conclusion of Year 3.

Finally, the degree to which the teachers felt comfortable operating within the social space afforded by lesson study influenced their adoption of PBHI professional teaching knowledge and especially their willingness to engage in the creation of a shared professional knowledge culture. In large part, the teachers' comfort level appeared to flow out of their views on risk taking. If the teacher deferred to authority often or viewed classroom teaching and learning idiosyncratically, they resisted the risk associated with collaborative planning and became far more passive during lesson study sessions. If, however, the teacher believed that risk taking might promote student learning, they were more inclined to accept interpersonal

difficulties presented by lesson study. It may be that teachers' entering dispositions (Nespor, 1987) also influence their comfort level with the process of socially constructing curricula. As a result of her work as a Christian pastor, for example, Camille may have entered the PFG Project with existential dispositions that encouraged her to view knowledge as fixed and to view authorities as the authors of worthy knowledge. If PBHI presented a less fixed knowledge paradigm for her, it seems likely that she would resist the collaboration required of scaffolded lesson study. Felicia appeared to believe that her instructional setting was less than ideal both in terms of her students but also the resources and support available to her. Her view that an ideal teaching environment existed elsewhere may have caused her to accept the status quo in her own teaching. Any shared professional knowledge culture that developed as a result of lesson study would likely have little practical importance for a teacher like Felicia because she believed her environment was constraining. Hallie appeared not to enjoy teaching social studies, even at one point acknowledging her preference for Language Arts. If teachers entered into lesson study professional development without positive feelings towards social studies content, perhaps as a result of being a subject matter generalist, they too might reject participation in a shared professional knowledge culture.

Common experiences. As a group, the 4th grade teachers' struggled to ground much of their planning and teaching outside of lesson study in PBHI research theory, which suggested that the research theory had not become fully integrated into their practice. While most 4th grade teachers appeared to value collaborative dialogue and even showed signs of using unit and lesson questions to make decisions about lesson changes, they did not draw on that dialogue to independently design lessons that made use of PBHI design principles. These findings conflict with Lieberman's (2009) work using lesson study as a vehicle to bring about mathematics reform

among middle school teachers. In her case study, the teachers not only came to value the collaborative dialogue associated with lesson study, but they also embraced a shared professional knowledge vocabulary to describe their desires for mathematics instruction. In contrast, the 4th grade teachers in this study often appeared to use the public aspects of scaffolded lesson study to further refine their craft teaching knowledge. By employing new techniques or tools they learned through lesson study, the teachers hoped to expand their teaching craft in order to implement strategies that might result in increased student retention of content knowledge and improved performance on school and state assessments. Unlike Lieberman's teachers, the 4th grade teachers in the present study sometimes missed opportunities to explore whether or how students learned within an inquiry framework. As a result, teachers may have missed opportunities throughout the project to observe and discuss the challenges associated with implementing PBHI in their classrooms, which could have resulted in the development of a more nuanced professional teaching knowledge. The explanation for the difference between Lieberman's teachers and the 4th grade teachers in this study may be explained by differences in their entering content knowledge. Assuming that the secondary mathematics teachers entered her study with a more in-depth content knowledge, it seems likely that they could more easily develop the pedagogical content knowledge necessary to adopt reform-oriented teaching methods.

Throughout the study, it appeared that the 4th grade teachers remained skeptical that textbook-based instruction could ever be fully replaced, particularly in light of cultural expectations with regard to the teaching of reading and mathematics in elementary schools. The 4th grade teachers continued to rely on the textbook outside of lesson study. The result of this reliance may have been that the teachers missed opportunities in their typical classroom

instruction to transfer knowledge of PBHI. In fact, the teachers' use of the textbook in almost every teacher-selected comparison lesson suggested that they remained skeptical that students could learn the content through student-centered learning activities alone or that they had little time to devote to independently developing history lessons given their school's focus on reading and math. If this skepticism were common among those 4th grade teachers who implemented social studies lessons on a daily basis or if the culture of elementary schooling was indeed constraining, it might explain the teachers' continued reliance on the textbook within teacher-selected comparison lessons. While the teachers were pleased to have three PBHI units at the conclusion of the PFG Project, they were not yet fully prepared to create new units of instruction on their own. In fact, only Paige was able to abandon the textbook during typical social studies instruction and she did so at the very conclusion of the project.

On the whole, the teachers continued to rely on the textbook as the curriculum authority for their typical social studies teaching and did so within lessons that were often fragmented and disorganized. This fragmentation may have resulted from what McNeil (1986) described as "defensive teaching." The 4th grade teachers may have frequently relied on fragmented instruction of discreet facts because doing so prevented them from exposing their thin content knowledge in State History. In addition, relying on the textbook potentially reduced the risk and uncertainty associated with teaching a subject for which they likely felt ill-prepared. Like the elementary teachers described by Barton and Levstik (2003), the 4th grade teachers may also have resisted inquiry instruction if they believed that it would limit their ability to control behavior and cover content quickly. Considering their history of using the textbook to guide social studies instruction and the likely existence of persistent memories about what history teaching should look like through their "apprenticeship of observation" (Lortie, 1975), it makes

sense that the teachers would continue to rely on the textbook outside of lesson study.

As an outsider coming into 4th grade classrooms for the first time, the teachers' observations regarding the limiting effects of the culture of elementary schooling on social studies instruction seemed accurate. In addition to using lesson study to improve craft knowledge and their continued reliance on the textbook, a culture of elementary schooling that focused on the teaching of reading and math often stood in opposition to the teaching of social studies using PBHI (VanFossen, 2005). All of the teachers suggested that they had very little time to plan powerful social studies instruction. Another indication that the cultural pressures to focus on reading and math were strong could be seen in the teachers' belief that they could not sustain lesson study at their schools without the support of the PFG Project. In fact, virtually all of the teachers agreed that lesson study was impossible outside of the project, which may have limited their willingness to fully adopt the teaching reforms presented by it.

Although the 4th grade teachers never directly admitted it, perhaps because the state technically required them to teach social studies, they often appeared throughout the three years of the project to teach social studies lessons only for the purpose of being observed. Teachers' chronological sequencing of teacher-selected lessons was often erratic. For example, they often referenced content they had taught many weeks prior at the start of teacher-selected comparison lessons. These behaviors suggested that the lesson study project forced the teachers to teach social studies when they might have ignored it altogether or taught it less frequently. The fact that the 4th grade teachers prioritized simply getting the comparison lessons completed may have been due to their school's greater emphasis on reading and math and the devaluing of social studies that resulted. The teachers unanimously asserted that their administrations supported the teaching of reading and math more than they did the teaching of social studies. When teachers

engaged in lesson study as an entire faculty from one school such as occurred with the teachers from River Elementary, they appeared to draw support from one another in their efforts to resist this marginalization of elementary social studies. In contrast, teachers who engaged in lesson study as the sole representative from their school felt that their administrations cared little about their work with the PFG Project. In the absence of at least tacit administrative approval, more isolated teachers concluded that school leaders did not value the teaching of social studies at all. They, therefore, felt less compelled or willing to resist the marginalization of social studies. These findings align with those of professional development reform advocates who suggest that teacher change becomes more likely when teams of teachers from single schools are involved because they are able to cooperate in overcoming cultural constraints (Garet et al., 2001).

In the absence of lesson study, the 4th grade teachers reported that they felt pressured to integrate social studies instruction with reading to compensate for their school's cultural emphasis on reading and math. Only Paige expressed a desire to resist this pressure. Boyle-Baise and colleagues (2008) contend that when social studies instruction is integrated with literacy instruction the two are often indistinguishable while Levstik (2008) argues that "integration" often results in a reduced focus on the knowledge, skills, and dispositions necessary for effective citizenship. If this is true, Paige's resistance to integrating social studies instruction with literacy by the conclusion of Year 3 may explain her greater integration of professional teaching knowledge.

Findings from the present study also support Van Fossen's (2005) conclusions regarding time spent on social studies teaching at the elementary level. In his study of social studies teaching in Indiana, teachers devoted little time to the teaching of social studies because of indirect and direct pressures from outside their classrooms. But unlike Van Fossen's teachers

who felt free to choose the length of time spent on social studies instruction, the 4th grade teachers in this study never reported that they were free to devote significant time to social studies instruction outside of lesson study. In fact, they lamented the lack of time they believed they had to teach it and argued that school leaders' emphasis on the teaching of reading and math made teaching social studies less worthwhile. As a result, it may be necessary to integrate local administrators into social studies lesson studies in order for teachers to resist cultural pressures and more fully adopt professional teaching knowledge for PBHI.

In light of the cultural obstacles confronting them as well as their unfamiliarity with research-based instructional methods, teachers' difficulty applying professional teaching knowledge for PBHI when developing plans outside of lesson study should not be surprising. While three years of lesson study may seem to be a substantial period of time, altering cultural scripts is a time consuming and challenging process (Stigler & Hiebert, 1999). In spite of the many obstacles, there were indications that teachers were receptive to PBHI instruction throughout the lesson study cycles and open to continued experimentation with research-based methods for teaching social studies. Most encouraging was the team's willingness to take a risk in teaching the Civil Rights Movement and the American Revolution differently than they had in the past, particularly a willingness to move beyond textbook-based instruction even if temporarily. Moreover, teachers' willingness to engage in public dialogue about their instructional choices as well as their personal experiences as classroom teachers suggested that they had begun to value collaboration and the opportunity to work together to develop plans that could be tested and refined in their own classrooms. However, it seems clear that helping teachers to more fully integrate professional teaching knowledge into their typical classroom practice would take ongoing support even beyond three years.

Alternative Explanations

In the previous chapters and in the section above, I have provided my interpretation of the data using the multiple sources available. There are, however, possible alternative explanations for the outcomes of the study. First, the teachers may have passively rejected professional teaching knowledge for problem-based historical inquiry perhaps because it represented too big of a pedagogical change. Instead of actively and vocally resisting lesson study professional development, the teachers may have engaged in the process because of administrative pressure to do so or because they did not want to offend Persistent Issues in History (PIH) staff persons including me. Because of the strong collaborative element within lesson study, it is possible that the teachers felt compelled to accede to the lesson study team's wishes even when they disagreed or when they felt lesson plans were inappropriate for their classroom. In this sense, it is possible that the teachers participated in lesson study professional development for reasons other than to improve their social studies instruction.

A second and related explanation for the outcomes may be found in the frequency with which the 4th grade teachers appeared to teach social studies lessons of any kind. There were numerous suggestions through the three years of the study that the teachers taught social studies lessons when I was present to observe them but far less frequently when I was not. If the teachers were indeed "dropping" lessons in for observation purposes only, they may have gamed the system in a way that produced results that were not representative of their typical practice. It is possible, in other words, that the situation with regard to social studies instructional time was actually far worse than observed. If so, the findings for this study could paint a picture that is far rosier than actual reality. While it seems unlikely that the teachers completely abandoned social studies, a subject they are required by law to teach, more consistent attention to the teaching of

social studies by the teachers may have altered this study's results.

Limitations

There are several important limitations of this study that impact the appropriateness of findings for other settings. One limitation of the study resulted from my role as a participant observer (Denzin, 1978). At times, participating teachers (for example, Camille) gave too much credence to me as the authority during professional development sessions. While I attempted to give the teachers greater creative and editorial control over the lesson study process as the years unfolded, doing so proved more difficult than I initially anticipated. This difficulty was due to two factors. First, I had not fully anticipated the teachers' entering content knowledge. When questions of content emerged, the teachers often looked first to me for answers. In response, I attempted to direct the teachers to available resources where the content could be learned, but time constraints posed by the lesson study process often made it difficult for me to remain fully nondirective. Second, even when I attempted to remain naïve in response to teacher questions, the teachers persisted in viewing me as their "coach" perhaps because, as mentor, I was still responsible for directing each stage of the lesson study process. I led sessions that employed lesson study scaffolds, for example, and by leading discussions of these scaffolds, the teachers may have further solidified their perception of my role as the unrivaled leader of lesson study. These factors resulted in greater direct involvement in Year 3 than I had initially hoped when planning the study and could limit the comparability of findings to lesson studies in which the researcher is able to effectively reduce their role as participant observer as the years of lesson study unfold.

A second limitation resulted from limits on my ability to reliably collect data as the lesson study mentor and the primary researcher for this study. While I completed one to two

classroom observations of teacher-selected lessons each year, these observations were likely insufficient to gain a full understanding of the teachers' typical classroom practice. Comparison lessons were also sometimes completed at times in the school year when teaching and learning were less of a priority (for example, before a school break). In addition, the teachers appeared to choose comparison lessons based more on convenience than on whether they engaged students in powerful social studies instruction as they had been requested to do. Had additional observations been completed altogether or observations completed at more opportune times, my findings with regard to teachers' limited transfer of professional teaching knowledge to their typical classroom instruction might be more informative for those operating in other settings.

A third limitation resulted from my choice not to evaluate student work. An important measure of a professional development program's impact on actual classroom practice is its impact on student learning (Guskey, 2000). Assessing student work was beyond the scope of this investigation. However, examining the connection between teacher learning and student learning should be an important part of any evaluation of professional development (Sykes, 1999). As a result, the absence of student data represents a significant limitation.

A fourth limitation resulted from the use of a sample drawn from three different schools with varying resources and support available for social studies instruction. While this variability also represented a strength of the study since cultural factors appeared to directly influence the teachers' adoption of professional teaching knowledge for PBHI, it also limits the applicability of findings to other settings, especially those where lesson study would be conducted at a single school with an entire social studies faculty or grade level.

A final limitation resulted from alterations made to the lesson study process as a result of changing project resources, including the loss of funding for a full Year 3 lesson study cycle.

Due to the initial size of the 4th grade lesson study team during Year 1 summer professional development activities, two project staff persons including myself were assigned in order to facilitate the development of two Research Lessons. While the second staff person was a senior doctoral candidate in secondary social science education, and while we met frequently to discuss his interactions with the 4th grade teachers, the division of the lesson study team limited my ability to fully collect all available data. The loss of funding in Year 3 had a similar impact because 4th grade team members were not able to complete observation, debriefing and revision sessions, which limited the data available to me for analysis. Had these data been included in the study, my findings may have been altered.

Implications and Areas for Further Study

Teachers' epistemology had a strong influence on their openness to PBHI professional teaching knowledge especially because it influenced the degree to which the teachers prioritized vocabulary and discreet facts, their openness to civic competence purposes for the teaching of history, and their willingness to socially construct curricula as part of a lesson study team. Shifting epistemological assumptions is quite difficult but necessary if professional development is to help teachers adopt reform-based pedagogies including inquiry instruction. Lesson study appears to present an environment in which those shifts become possible, but my findings suggest that doing so requires ongoing professional development over more than three years. Additional work must determine how best to help teachers more openly acknowledge their conceptions of knowledge within lesson study so that they might be shifted more easily. For instance, integrating the arts into scaffolded lesson study might force elementary teachers to more openly acknowledge their conceptions of knowledge as they examine artists' intent. Allowing the teachers to score classroom instruction using AIW rubrics, as I did, might also help

teachers publicly acknowledge their epistemological assumptions though doing so might also negatively impact the supportive nature of collaborative lesson study described in this study.

The present culture of elementary schooling, which emphasizes the teaching of subjects evaluated by No Child Left Behind, limited the teachers' willingness and ability to adopt professional teaching knowledge for PBHI. These cultural barriers appeared to be intensified when the teacher felt isolated as the only representative on the lesson study team from their respective school or when the teacher deferred to the expectations they believed had been posed upon them by administrators. Additional research must determine whether those barriers exist in reality or only in the minds of the teachers and the extent to which lesson study can help teachers overcome those barriers. Assuming these barriers exist in reality, it seems likely that addressing them would take considerable time and resources. Perhaps more directly including school-level administrators in the lesson study process might be one means by which to limit cultural barriers and to alter the cultural scripts within elementary schools (Stigler & Hiebert, 2009).

While my findings suggest that scaffolded lesson study can be used to help teachers develop professional teaching knowledge for problem-based historical inquiry, the process is a slow one. At the conclusion of Year 3, only two teachers had begun to integrate professional teaching knowledge for PBHI into their typical classroom instruction. Too often, however, policy makers prefer reforms whose benefits are easily and quickly measured. But changes in teachers' knowledge and in the culture of schooling are often incremental and more difficult to measure. The results of my study suggest that helping teachers adopt reform-based pedagogies requires a much more sustained commitment of time and resources than are typical within American schools. Additional work must be done to learn how to best manage what is obviously a complicated and time consuming process. If alterations to scaffolded lesson study could be

made that would improve the acquisition of professional teaching knowledge for elementary teachers, those changes should be implemented.

Conclusion

At the elementary level especially, lesson study appears to give teachers the time and space needed to begin pushing back against the marginalization of social studies. In fact, many of the teachers in my study discussed how lesson study had given them the time and space to plan powerful social studies instruction when they might have ignored the subject entirely otherwise. While the teachers adopted a problem-based rhetoric to express their hopes for classroom social studies teaching, they were not yet prepared to translate that rhetoric into typical classroom practice. Moving forward it seems clear that a sustained commitment to professional development that encourages teachers to take what they learned back into their classrooms is critical to helping them adopt research-based pedagogies. This represents a significant commitment on the part of stakeholders. In light of the marginalization of social studies, administrative and policy makers' support is essential in assisting teachers in their efforts to more regularly implement powerful social studies teaching. Lastly, attention must be given to the cultural barriers that may limit teachers' willingness to adopt new social studies pedagogies including limits on the time spent teaching social studies, a typical reliance on textbook-based approaches to teaching social studies, and a current focus on the teaching of reading and mathematics at the expense of science and especially social studies.

References

- Avery, P. G. (2001). Authentic pedagogy seminars: Renewing our commitment to teaching and learning. *The Social Studies*(May/June), 97-101.
- Barton, K., & Levstik, L. (2003). Why don't more history teachers engage students in interpretation? *Social Education*, 67(6), 358-362.
- Barton, K. C. (1997). "I just kind a know": Elementary students' ideas about historical evidence. *Theory & Research in Social Education*, 25(4), 407-430.
- Barton, K. C., & Levstik, L. S. (2004). *Teaching history for the common good*. Mahwah, N.J.: Lawrence Erlbaum Associates.
- Bausmith, J. M., & Barry, C. (2011). Revisiting professional learning communities to increase college readiness: The importance of pedagogical content knowledge. *Educational Researcher*, 40(4), 175-178.
- Beck, I., McKeown, M. G., & Gromoll, E. (1989). Learning from social studies text. *Cognition and Instruction*, 6(99-158).
- Beck, I., McKeown, M. G., & Worthy, J. (1995). Giving text a voice can improve students' understanding. *Reading Research Quarterly*, 30, 220-238.
- Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher*, 33(8), 3-15.
- Borko, H., Liston, D., & Whitcomb, J. (2007). Apples and fishes: The debate over dispositions in teacher education. *Journal of Teacher Education*, 58(5), 359-364.

- Boyle-Baise, M., Hsu, M.-C., Johnson, S., Serriere, S., & Stewart, D. (2008). Putting reading first: Teaching social studies in elementary classrooms. *Theory & Research in Social Education, 36*(3), 233-255.
- Bransford, J. D., Brown, A. L., & Cocking, R. R. (2000). *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academy Press.
- Brophy, J., VanSledright, B., & Bredin, N. (1992). Fifth-graders' ideas about history expressed before and after their introduction to the subject. *Theory & Research in Social Education, 20*(4), 440-489.
- Brophy, J. E., & Alleman, J. (2006). A reconceptualized rationale for elementary social studies. *Theory & Research in Social Education, 34*(4), 428-454.
- Brown, A. L. (1992). Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *The Journal of Learning Sciences, 2*(2), 141-178.
- Brush, T., & Saye, J. W. (2003). Persistent Issues in History Network. Retrieved September 1, 2006, from <http://www.pihnet.org>
- Callahan, C. (2009). *Using educative curriculum materials to promote the development of professional teaching knowledge*. (Unpublished doctoral dissertation). Auburn University, Auburn, AL.
- Caskey, M. M. (2007). Methods and the middle: Elementary and secondary preservice teachers' views on their preparation for teaching middle school methods. *Research in Middle Level Education, 31*(4), 1-16.

- Clark, C., Moss, P. A., Goering, S., Herter, R. J., Lamar, B., Leonard, D., . . . Wascha, K. (1996). Collaboration as dialogue: Teachers and researchers engaged in conversation and professional development. *American Educational Research Journal*, 33(1), 193-231.
- Collins, A., Joseph, D., & Bielaczyc, K. (2004). Design research: Theoretical and methodological issues. *Journal of Learning Sciences*, 13(1), 15-42.
- Conklin, H. G. (2007). Methods in the middle: Elementary and secondary preservice teachers' views on their preparation for teaching middle school social studies. *Research in Middle Level Education*, 31(4), 1-16.
- Darling-Hammond, L., & McLaughlin, M. W. (1995). Policies that support professional development in an era of reform. *Phi Delta Kappan*, 76(8), 597.
- Davies, P., & Dunnill, R. (2008). "Learning Study" as a model of collaborative practice in initial teacher education. *Journal of Education for Teaching: International Research and Pedagogy*, 34(1), 3-16.
- Denzin, N. K. (1978). *The research act*. New York: McGraw-Hill.
- Design-Based Research Collective. (2004). Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher*, 32(1), 5-8.
- Dewey, J. (1998). *Experience and education* (60th anniversary ed.). West Lafayette, Ind.: Kappa Delta Pi.
- Dewey, J. (2005). *Democracy and education: An introduction to the philosophy of education*. New York: Cosimo Classics.
- Duplass, J. A. (2007). Elementary social studies: Trite, disjointed, and in need of reform? *The Social Studies*, 98(4), 137-144. doi: 10.3200/tsss.98.4.137-144

- Duplass, J. A., & Cruz, B. C. (2010). Professional dispositions: What's a social studies education professor to do? *The Social Studies, 101*, 140-151.
- Evans, R. W. (2004). *The social studies wars: What should we teach the children?* New York: Teachers College Press.
- Evans, R. W., Newmann, F., & Saxe, D. W. (1996). Defining issues-centered education. In R. Evans & D. W. Saxe (Eds.), *Handbook on teaching social issues*. Washington, D.C.: National Council for the Social Studies.
- Fernandez, C. (2002). Lesson Study Research Group. Retrieved September 17, 2010, from <http://www.tc.edu/centers/lessonstudy/>
- Fernandez, C. (2005). Lesson study: A means for elementary teachers to develop the knowledge of mathematics needed for reform-minded teaching? *Mathematical Thinking & Learning: An International Journal, 7*(4), 265-289.
- Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon., K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal, 38*(4), 915.
- Gillaspie, M. K., & Davis Jr., O. L. (1998). Historical constructions: How elementary student teachers' historical thinking is reflected in their writing of history. *International Journal of Social Education, 12*(2), 35-45.
- Goodman, J., & Adler, S. (1985). Becoming an elementary social studies teacher: A study of perspectives. *Theory & Research in Social Education, 13*(2), 1-20.
- Grant, S. G. (2003). *History lessons: Teaching, learning, and testing in U.S. high school classrooms*. Mahway, NJ: Erlbaum.

- Greeno, J. G., Collins, A., & Resnick, L. B. (1996). Cognition and learning. In R. C. Calfee & D. C. Berliner (Eds.), *Handbook of educational psychology*. New York: Macmillan.
- Grossman, P., Wineburg, S., & Woolworth, S. (2000). *What makes teacher community different from a gathering of teachers?* University of Washington: Center for the Study of Teaching and Policy.
- Guskey, T. R. (2000). *Evaluating professional development*. Thousand Oaks, CA: Corwin Press Inc.
- Guskey, T. R. (2002). Professional development and teacher change. *Teachers and Teaching: Theory and Practice*, 83(4), 381-391.
- Hanna, P. R. (1937). Social education for children. *Childhood Education*, 14, 74.
- Harnett, P. (2000). History in the primary school: Re-shaping our pasts. The influence of primary school teachers' knowledge and understanding of history on curriculum planning and implementation. *International Journal of Historical Learning, Teaching, and Research*, 1(December), 1-13.
- Hess, F. M., & Petrilli, M. J. (2006/2007). *No Child Left Behind: A Peter Lang primer*. New York: Peter Lang.
- Hickey, D. T., Moore, A. L., & Pellegrino, J. W. (2001). The motivational and academic consequences of elementary mathematics environments: Do constructivist innovations and reforms make a difference? *American Educational Research Journal*, 38(3), 611-652.
- Hiebert, J., Gallimore, R., & Stigler, J. W. (2002). A knowledge base for the teaching profession: What would it look like and how can we get one? *Educational Researcher*, 31(5), 3-15.
doi: 10.3102/0013189x031005003

- Hofer, B. K., & Pintrich, P. R. (2002). *Personal epistemology: The psychology of beliefs about knowledge and knowing*. Mahwah, N.J.: L. Erlbaum Associates.
- Howard, R. (2003). The shrinking of social studies. *Social Education*, 67, 285-288.
- Jackson, P. W. (1968). *Life in classrooms* (Reprint ed.). New York: Teachers College Press.
- King, M. B. (2008). [Personal Communication between Social Studies Inquiry Research Collaborative (SSIRC) Project Director, John W. Saye and Authentic Intellectual Work (AIW) Consultant M. Bruce King].
- King, M. B., Schroeder, J., & Buckley, J. (2003). Authentic pedagogy and achievement in inclusive classrooms. In R. A. Phelps, M. B. King & Associates (Eds.), *Authentic learning in inclusive high schools: Evidence-based practices that make a difference for all learners*. Madison, Wisconsin: Wisconsin Center for Educational Research.
- King, P. M., & Kitchener, K. S. (2002). The reflective judgement model: Twenty years of research on epistemic cognition. In B. K. Hofer & P. R. Pintrich (Eds.), *Personal epistemology: The psychology of beliefs about knowledge and knowing* (pp. 37-62). Mahwah, N.J.: L. Erlbaum Associates.
- Kortecamp, K., & Steeves, K. A. (2006). Evaluating professional development of American History teachers. *Theory & Research in Social Education*, 34(4), 484-515.
- Kuhn, D. (2005). *Education for thinking*. Cambridge, MA: Harvard University Press.
- Kvale, S., & Brinkmann, S. (2009). *InterViews: Learning the craft of qualitative research interviewing* (2nd ed.). Los Angeles: Sage Publications.
- Land, S. M. (2000). Cognitive requirements for learning with open-ended learning environments. *Educational Technology Research and Development*, 48(3), 61-78.

- LeCompte, M. D., & Schensul, J. J. (1999). *Designing & conducting ethnographic research*. Walnut Creek, Calif.: AltaMira Press.
- Leming, J., Ellington, L., & Schug, M. (2006). The state of social studies: A national random survey of elementary and middle school social studies teachers. *Social Education*, 70, 322-327.
- Levstik, L. S. (2008). What happens in social studies classrooms? In L. Levstik & C. Tyson (Eds.), *Handbook of Research in Social Studies Education* (pp. 50-62). New York: Routledge.
- Levstik, L. S., & Barton, K. C. (2008). *Researching history education: Theory, method, and context*. New York: Routledge.
- Lewis, C. (2002). Does lesson study have a future in the United States? *Nagoya Journal of Education and Human Development*, 1(January), 1-23.
- Lewis, C. (2009). What is the nature of knowledge development in lesson study? *Educational Action Research*, 17(1), 95-110. doi: 10.1080/09650790802667477
- Lewis, C., Parry, R., & Murata, A. (2006). How should research contribute to instructional improvement: The case of lesson study. *Educational Researcher*, 35(3), 3-14.
- Lieberman, J. (2009). Reinventing teacher professional norms and identities: The role of lesson study and learning communities. *Professional Development in Education*, 35(1), 83-99. doi: 10.1080/13674580802264688
- Lortie, D. (1975). *School teacher: A sociological study*. Chicago, IL: The University of Chicago Press.
- Maddox, L. (2012). *The impact of authentic pedagogy on student learning in tenth grade history courses*. (Doctoral dissertation), Auburn University, Auburn, AL.

- Marble, S. (2007). Inquiring into teaching: Lesson study in elementary science methods. *Journal of Science Teacher Education*, 18(6), 935-953.
- McCall, A. (2006). Supporting exemplary social studies teaching in elementary schools. *The Social Studies*, 97(4), 161-167.
- McNeil, L. M. (1986). *Contradictions of control: School structure and school knowledge*. New York: Routledge & K. Paul.
- McNeil, L. M. (2000). *Contradictions of school reform: Educational costs of standardized testing*. New York: Routledge.
- N.C.S.S. (1994). *Expectations of excellence: Curriculum standards for the social studies*. Washington, D.C.: National Council for the Social Studies.
- National Council for the Social Studies. (2002). National standards for social studies teachers. Vol. 1. Retrieved October 14, 2011, from <http://www.socialstudies.org/standards/teacherstandards>
- Nespor, J. (1987). The role of beliefs in the practice of teaching. *Journal of Curriculum Studies*, 19(4), 317-328.
- Newmann, F. M., & Associates. (1996). *Authentic achievement: Restructuring schools for intellectual quality*. San Francisco: Jossey-Bass.
- Newmann, F. M., King, M. B., & Carmichael, D. L. (2007). Authentic instruction and assessment: Common standards for rigor and relevance in teaching academic subjects: Prepared for the Iowa Department of Education.
- Newmann, F. M., Lopez, G., & Bryk, A. S. (1998). The quality of intellectual work in Chicago schools: A baseline report. Chicago: Consortium on Chicago School Research.

- Newmann, F. M., Marks, H. M., & Gamoran, A. (1996). Authentic pedagogy and student performance. *American Journal of Education*, 104(4), 280-312.
- Nias, J., & Aspinwall, K. (1995). Composing a life: Women's stories of their careers. In D. Thomas (Ed.), *Teachers' stories* (pp. 52-66). Buckingham: Open University Press.
- Oakland Unified School District. (2009). The Oakland History Collaborative: Teaching American History in an Urban School District. Retrieved September 17, 2010, from <http://teachingamericanhistory.us/>
- Oliver, D. W., Newmann, F. M., & Singleton, L. R. (1992). Teaching public issues in the secondary school classroom. *Social Studies*, 83(3), 100-103.
- Onosko, J. J. (1991). Barriers to the promotion of higher order thinking in social studies. *Theory & Research in Social Education*, 19(4), 341-366.
- Onosko, J. J., & Swenson, L. (1996). Designing issue-based unit plans. In R. W. Evans & D. W. Saxe (Eds.), *Handbook on teaching social issues* (pp. 89-98). Washington, D.C.: National Council for the Social Studies.
- Oshima, J., Horino, R., Oshima, R., Yamamoto, T., Inagaki, S., Takenaka, M., . . . Nakayama, H. (2006). Changing teachers' epistemological perspectives: A case study of teacher-researcher collaborative lesson studies in Japan. *Teaching Education*, 17(1), 43-57. doi: 10.1080/10476210500527931
- Parker, W. C., Mueller, M., & Wendling, L. (1989). Critical reasoning on civic issues. *Theory and Research in Social Education*, 27(1), 7-32.
- Passe, J. (2006). New challenges in elementary social studies. *The Social Studies*, 97(5), 189-192.
- Patton, M. Q. (1987). *How to use qualitative methods in evaluation*. London: Sage.

- Perry, R., & Lewis, C. (2009). What is successful adaptation of lesson study in the US? *Journal of Educational Change*, 10(4), 365-391. doi: 10.1007/s10833-008-9069-7
- Pesick, S., & Weintraub, S. (2003). DeTocqueville's Ghost: Examining the struggle for democracy in America. *The History Teacher*, 36(2), 231-251.
- Powell, A. G., Farrar, E., & Cohen, D. K. (1985). *The shopping mall high school: Winners and losers in the educational marketplace*. Boston: Houghton Mifflin.
- Rock, T., Heafner, T., O'Connor, K., Passe, J., Oldendorf, S., Good, A., & Byrd, S. (2006). One state closer to a national crisis: A report on elementary social studies education in North Carolina schools. *Theory & Research in Social Education*, 34(4), 455-483.
- Rossi, J. A. (1995). In-depth study in an issues-centered social studies classroom. *Theory & Research in Social Education*, 23(2), 87-120.
- Rossman, G. B., & Wilson, B. L. (1984). Numbers and words: Combining quantitative and qualitative methods in a single large-scale evaluation study. *Evaluation Review*, 9(5), 627-643.
- Rossman, G. B., & Wilson, B. L. (1991). Numbers and words revisited: Being "shamelessly" eclectic. *Evaluation Review*, 9(5), 627-643.
- Saye, J. W., & Brush, T. (1999). Student engagement with social issues in a multimedia-supported learning environment. *Theory and Research in Social Education*, 27(4), 472-504.
- Saye, J. W., & Brush, T. (2002). Scaffolding critical reasoning about history and social issues in multimedia-supported learning environments. *Educational Technology Research and Development*, 50(3), 77-96.

- Saye, J. W., & Brush, T. (2004a). Promoting civic competence through problem-based history learning environments. In G. E. Hamot & J. J. Patrick (Eds.), *Civic learning in teacher education* (Vol. 3, pp. 123-145). Bloomington, Indiana: The Social Studies Development Center of Indiana University.
- Saye, J. W., & Brush, T. (2004b). Scaffolding problem-based teaching in a traditional social studies classroom. *Theory and Research in Social Education*, 32(3), 349-378.
- Saye, J. W., & Brush, T. (2006). Comparing teachers' strategies for supporting student inquiry in a problem-based multimedia-enhanced history unit. *Theory and Research in Social Education*, 34(2), 2-32.
- Saye, J. W., & Brush, T. (2007). Using technology-enhanced learning environments to support problem-based historical inquiry in secondary school classrooms. *Theory & Research in Social Education*, 35(2), 196-230.
- Saye, J. W., Kohlmeier, J., Brush, T., Maddox, L., & Howell, J. (2007). *Using Lesson Study to Build a Professional Knowledge Community for Problem-Based History Study*. Paper presented at the National Council for the Social Studies, CUFA, San Diego, CA.
- Saye, J. W., Kohlmeier, J., Brush, T., Mitchell, L., & Farmer, C. (2009a). Using mentoring to develop professional teaching knowledge for problem-based historical inquiry. *Theory and Research in Social Education*, 37(1), 6-41.
- Saye, J. W., Kohlmeier, J., Howell, J., Maddox, L., Brush, T., Wang, Y., & Lee-Watson, S. (2009b). *Assessing Program Effectiveness for Promoting Professional Teaching Knowledge about Problem-based Historical Inquiry*. Paper presented at the American Education Research Association.

- Saye, J. W., Kohlmeier, J., Maddox, L., Howell, J., Brush, T., Wang, Y., & Lee-Watson, S. (2009c). *Assessing Programmatic Effects on Preservice Social Studies Teachers' Instructional Decision-Making*. Paper presented at the College and University Faculty Assembly of the National Council for the Social Studies, Atlanta, GA.
- Saye, J. W., Kohlmeier, J., Maddox, L., Howell, J., Brush, T., Wang, Y., & Lee-Watson, S. (2013a). Assessing Programmatic Effects on Preservice Social Studies Teachers' Instructional Decision-Making. *International Journal of Social Education*, 24(2).
- Saye, J. W., & Social Studies Inquiry Research Collaborative. (2013b). Authentic pedagogy: Its presence in social studies classrooms and relationship to student performance on state-mandated tests. *Theory & Research in Social Education*, 41(1), 89-132. doi: 10.1080/00933104.2013.756785
- Scheurman, G. (1998). From behaviorist to constructivist teaching. *Social Education*, 62(1), 6-9.
- Schneider, R. M., Krajcik, J., Marx, R. W., & Soloway, E. (2002). Performance of students in project-based science classrooms on a national measure of science achievement. *Journal of Research in Science Teaching*, 39(5), 410-422.
- Schulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-22.
- Shaver, J. P. (1996). The prospects for issues-centered education. In R. M. Evans & D. W. Saxe (Eds.), *Handbook on teaching social issues*. Washington, D.C.: National Council for the Social Studies.
- Sizer, T. R. (1992). *Horace's school: Redesigning the American high school*. Boston: Houghton Mifflin.

- Social Studies Inquiry Research Collaborative. (2011). *Authentic intellectual challenge in social studies classrooms and its relationship to student learning*. Paper presented at the College and University Faculty Assembly of the National Council for the Social Studies, Washington, D.C.
- SSIRC. (2010). *The Social Studies Inquiry Research Collaborative (SSIRC): Authentic Intellectual Challenge in the Social Studies Classroom*. Paper presented at the College and University Faculty Assembly of the National Council for Social Studies, Denver, CO.
- Stewart, R. A., & Brendefur, J. (May 2005). Fusing lesson study and authentic achievement: A model for teacher collaboration. *Phi Delta Kappan*, 86(9), 681-687.
- Stigler, J. W., & Hiebert, J. (1999). *The teaching gap: Best ideas from the world's teachers for improving education in the classroom*. New York: Free Press.
- Stigler, J. W., & Hiebert, J. (2009). *The teaching gap: Best ideas from the world's teachers for improving education in the classroom* (1st Free Press trade pbk. ed.). New York: Free Press.
- Swan, K., Hoffer, M., & Locascio, D. (2008). Historical scene investigation (HSI) project: Examining the use of case based historical instruction in the fifth grade social studies classroom. *International Journal of Social Education*, 22(2), 70-100.
- Sykes, G. (1999). Teacher and student learning: Strengthening their connection. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 151-180). San Francisco: Jossey-Bass.

- Thomas, G., Wineburg, S., Grossman, P., Myhre, O., & Woolworth, S. (1998). In the company of colleagues: An interim report on the development of a community of teacher learners. *Teaching and Teacher Education, 14*(1), 21-32.
- Thornton, S. J. (1991). Teacher as curricular-instructional gatekeeper in social studies. In J. P. Shaver (Ed.), *Handbook of research on social studies teaching and learning* (pp. 237-248). New York: Macmillan.
- Thornton, S. J. (2001). Educating the educators: Rethinking subject matter and methods. *Theory into Practice, 40*(1), 72 - 78.
- Troman, G., & Raggi, A. (2008). Primary teacher commitment and the attractions of teaching. *Pedagogy, Culture & Society, 16*(1), 85-99.
- Valli, L., & Stout, M. (2004). Continuing professional development for social studies teachers. In S. Adler (Ed.), *Critical issues in social studies teacher education* (pp. 165-188). Greenwich, CT: Information Age Publishing.
- van Hover, S. (2008). The professional development of social studies teachers. In L. Levstik & C. Tyson (Eds.), *Handbook of research in social studies education*. New York: Routledge.
- VanFossen, P. (2005). "Reading and math take so much time...": An overview of social studies instruction in elementary classrooms in Indiana. *Theory & Research in Social Education, 33*, 376-403.
- VanSledright, B. (2002). *In search of America's past*. New York: Teachers College Press.
- VanSledright, B., & Franks, L. (1998). Literature's place in learning history and science. In C. R. Hynd (Ed.), *Learning from text across conceptual domains* (pp. 117-138). Mahwah, NJ: Lawrence Erlbaum Associates.

- VanSledright, B. A., & Franks, L. (2000). Concept- and strategic-knowledge development in historical study: A comparative exploration in two fourth-grade classrooms. *Cognition and Instruction, 18*(2), 239-283.
- Windschitl, M. (2002). Framing constructivism in practice as the negotiation of dilemmas: An analysis of the conceptual, pedagogical, cultural, and political challenges facing teachers. *Review of Educational Research, 72*, 131-175.
- Wineburg, S. (1991). Historical problem solving: A study of the cognitive processes used in the evaluation of documentary and pictorial evidence. *Journal of Educational Psychology, 83*, 73-87.
- Wineburg, S. (1999). Historical thinking and other unnatural acts. *Phi Delta Kappan, 80*(7), 488-499.

Appendices

Appendix 1: Planning Scaffolds

Establishing Goals

PIH goal: Competent Citizen Decision-makers who can use history as a tool to make sound decisions

Unit Goal: Students can make defensible, evidence-based decisions about a historical dilemma

Lesson Goal: On what challenges will this lesson focus?

PBHI Challenges

- Engagement with content
- Historical Thinking
 - *Model-building*
 - Mastering and Linking New Knowledge
 - Recognizing the need for prior knowledge
 - Developing and implementing problem-solving strategies
 - Applying historical standards to weighing evidence
 - Sourcing
 - Contextualization
 - Corroboration
 - *Recognizing the Perspectives of Figures in the Past*
 - How differs from the present
 - Varied perspectives among people in past
- Dialectical Reasoning about Ethical Issues
 - Postponing judgment
 - A genuine effort to understand and evaluate arguments from competing points of view
 - Addressing competing arguments in defending your final decision

PIH Planning Log: Conceptualizing Instruction- Framing the Unit

Name _____

My Content Topic	The Persistent Issue	The Topic-Specific Central Question	The Culminating Activity
<p>What is a topic that is rich and significant enough to deserve in-depth treatment?</p>	<p>What is the broad, recurring issue that might serve as a focus for organizing content related to my topic?</p> <ul style="list-style-type: none"> • Does my question apply to a number of topics across time? • Is this question evaluative and ill-structured? <ul style="list-style-type: none"> ○ Would people disagree about the answer? ○ Could evidence be offered for at least two different, defensible answers? • What values are in conflict that make this a persistent, troublesome issue? 	<p>What is a more specific question that requires students to make a specific, evaluative judgment for which they will have to use knowledge gained from activities in this unit?</p> <ul style="list-style-type: none"> • Does the question relate directly to the broad, persistent issue? • Is the question sharply focused so that students it calls for a clear student decision that they must defend with evidence? 	<p>What will my students do at the end of the unit to answer the unit central question?</p> <ul style="list-style-type: none"> • Is the activity authentic? Is it something people might do in the real world? • Does the task clearly address the central question? • Have I planned for both individual and group accountability? • Is there a public performance that requires defense of position before peers? • Have I accounted for multiple intelligences so that all can contribute and demonstrate knowledge?

Identifying the Research Lesson

Considerations

- Where in the unit does the lesson fall?
- What prior unit knowledge & experiences do students need?
- What lessons have greatest potential for answering questions my team most wants to know?
- What lessons are most complex? Most likely to benefit from collaborative planning efforts?
- For what lessons do we have the most intriguing ideas?
- Does the lesson have one or more key activities that could be observed in a single day?
- Does the lesson have a measurable student performance or product?

Lesson Study Planning Log: Conceptualizing Instruction- Planning a PBHI Learning Activity

<p>Lesson Goals/Focus:</p> <ul style="list-style-type: none">• How do my goals for this lesson allow students to make progress toward completing the culminating unit activity?• What larger goals do they help students achieve beyond this unit?• What state and national standards are addressed in this lesson?	
--	--

Assessment:

- How will I judge what students have learned from the lesson's activity (prior to final unit assessment)?
 - Does the assessment require explanations of generalizations, classifications & relationships relevant to a situation or problem, AND require students to substantiate them with examples, illustrations, details, or reasons?
[Examples include attempts to argue, convince or persuade and to develop and test hypotheses. It might include elaborated consideration of alternative points of view.]

Lesson Content	
<ul style="list-style-type: none"> • How will the lesson demonstrate relevance to students' lives and experience? How will activities communicate this to students? <ul style="list-style-type: none"> ○ Is there a connection to the larger social context within which students live? Does the task connect to: (a) a real world persistent public problem (i.e., students confront an actual contemporary or past issue); or (b) students' personal experiences (i.e., the lesson focuses directly or builds upon students' actual experiences or situations)? [Defending a position on compulsory community service could qualify as a real world problem, but describing the origins of World War II generally would not. Certain kinds of school knowledge may be considered valuable in situations beyond the classroom (e.g., knowing how a bill becomes a law). However, a demand for "basic" knowledge is not relevant unless the task requires applying such knowledge to a specific problem likely to be encountered beyond the classroom.] 	

Lesson Content [Continued]	
<ul style="list-style-type: none"> • How will the content that students encounter reflect the complexity of the topic under study so that it more closely matches the real world? <ul style="list-style-type: none"> ○ Does the task go beyond teaching discrete facts to promote understanding and use of the big ideas and key concepts of the academic disciplines of history and the social sciences? [Examples in social science could include democracy, social class, market economy, or theories of revolution.] ○ Does it call for interpretation of nuances of a topic that go deeper than surface exposure or familiarity? [Reference to isolated factual claims or definitions do not indicate significant disciplinary content unless the task requires students to apply powerful disciplinary ideas to connect, organize, and interpret the information.] ○ Does the task ask students to consider alternative solutions, strategies, perspectives and points of view? 	

Lesson Content [Continued]	
<ul style="list-style-type: none"> • How will the lesson encourage and support active higher-order thinking? <ul style="list-style-type: none"> ○ Does the task ask students to organize, interpret, evaluate, or synthesize complex information in novel ways to address an authentic problem, rather than to retrieve or to reproduce isolated fragments of knowledge or to repeatedly apply previously learned procedures? ○ What academic and historical thinking skills are essential to completing the lesson? ○ How might students respond to the questions and activities in the lesson? ○ What problems and misconceptions might arise? ○ Is the task structured in ways that anticipate student difficulties and guide students toward deeper, more expert thinking and conclusions? What hard scaffolds might support students in more expert thinking? 	

Lesson Content [Continued]	
<ul style="list-style-type: none">• How will activities incorporate multiple intelligences? In what other ways will the activities account for diversity and promote positive collaboration?	

Lesson Content [Continued]	
<ul style="list-style-type: none"> • What physical materials and technical resources might help accomplish lesson goals? What source documents and artifacts might assist in this task? 	

What question(s), about the topic of your lesson do you want students to answer?

What question(s) about teaching and learning will you be studying through the lesson you are teaching?

Appendix 2: Observation and Debriefing Scaffolds

Research Lesson Teaching/Observation Guide

Planning for Students:

- *What does the task require of students?*
- *What problems may the students experience with the task?*
- *What may be causing student problems?*

Planning for Teaching:

- *What should the teacher remember to do/not do?*
- *Are there reminders that should be given to students?*
- *How might the teacher respond to potential questions, problems, misconceptions?*

Lesson Study Protocol - Observing the Lesson

I - Question to consider: How can we learn from Lesson Study

1. Before teaching the lesson - planning for observation and discussion:

- Remember the lesson belongs to the whole study group; it is OUR lesson, not YOUR lesson
- Discussion of the lesson will focus on the data collected during the lesson. The focus is on the students and the lesson, not the teacher.
- Remember we are pioneers. Mistakes are to be expected (and even valued). Many other teachers will be eager to learn from us about how to do problem-based historical inquiry.
- What evidence do we need to collect in order to find out if our goals for the lesson were met? How will that evidence be collected? (Each observer should have a copy of the lesson on which they can make notes and a copy of the seating chart.)
- How will we know what students learned?

2. After teaching the lesson - questions to consider:

- To what degree did we meet our goals?
- What are the implications for how we develop and teach this and other lessons?
- What instructional question were raised that we did not anticipate?

II - Working together during the lesson:

1. Observing the lesson and taking notes:

- Remember the focus is on how students respond. What did they learn? What did they come to understand? What areas were challenging?
- Observers should distribute observations among themselves. For example, a few observers might watch assigned groups of students while another observer records lesson segment times, etc. A seating chart or some other identification strategy will help observers conveniently refer to students by name when discussing observations.

Adapted from materials developed by OUSD Teaching American History Grant; Catherine Lewis, Mills College; and the Lesson Study Research Group (lsrg@columbia)

Lesson Study Protocol - Debriefing the Lesson

1. Before the debriefing discussion:

- The lesson study team should assign roles among themselves in order to keep the discussion focused and on track. These roles include: moderator/ facilitator, timekeeper, and recorders.

2. Discussing the lesson:

- (5 - 10 minutes) The moderator/facilitator outlines the agenda for the discussion.
- The teacher who taught the lesson should have the first opportunity to comment on his/her reactions to the lesson, followed by the other planning group members. This format allows the teacher who taught the lesson to begin by sharing insights about what was being studied, what worked, what did not work, what he/she would change about the lesson, etc. He/she will try to answer three questions
 - 1) What happened that you expected?
 - 2) What happened that you didn't expect and
 - 3) To what degree were the goals achieved?
- (15 - 20 minutes) The observers discuss what they saw happening in terms of the same three questions, using evidence they collected during the lesson. Each observer should comment on one question, and then give other observers the opportunity to comment on similar or related aspects of the lesson, so everyone who would like to comment has an opportunity to share their insights. This prevents the feedback session from becoming dominated by one observer. Once that question has been discussed thoroughly the moderator can move the group to the next question to be considered.
- (15 minutes) All participants examine whatever student products were produced during the lesson. For example, if the teacher asked students to write a letter to the editor at the end of the period that argues for a position on an issue, all participants would read samples of the letters. During the reading, teachers should look to find evidence of the goals being achieved, or evidence that shows where students had problems in achieving the goals.
- (15 minutes) Discuss what everyone saw in the student work. Does examining students' work change any of the original impressions of whether or not the goals of the lessons were met?
- (5 - 10 minutes.) The teacher who taught the lesson should wait until all feedback about a particular aspect of a lesson has been received before responding to the observers. This waiting etiquette prevents the discussion from becoming a point-volleying session, and allows all participants to voice and absorb the feedback in a reflective manner. The moderator should be responsible for keeping the debriefing session on track.
- (5-15 minutes) The timekeeper should remind the group when time is running short so that they can get meaningful closure on their debriefing. In the final phase, the group discusses how the lesson might be revised to be taught in other classrooms. In this discussion they address these four questions:
 - 1) What specific problems occurred in the lesson?
 - 2) Did the "flow" work? (For instance, did the sequence of reading, writing, speaking, seem to go in the right order?)
 - 3) How would you revise the lesson? What would be helpful to you in this revision? (For example, you would need to know more about reading strategies to do a better job.)
 - 4) What new issues or problems came up that you would like to address in the next research lesson cycle?

Adapted from materials developed by OUSD Teaching American History Grant; Catherine Lewis, Mills College; and the Lesson Study Research Group (lsrg@columbia)

Research Lesson Teaching/Observation Guide:

LESSON PURPOSES:

1. —
2. —
3. —

Lesson Segment	Students	Teacher	Evidence of Learning	Observer's Comments
<p><u>Lesson Introduction</u></p> <p>1. —</p>	<p><u>Require:</u></p> <p><u>Problems:</u></p> <p><u>Causes:</u></p>	<p><u>Teacher Reminders:</u></p> <p><u>Remind Students:</u></p> <p><u>Teacher Responses:</u></p>		
	<p><u>Require:</u></p> <p><u>Problems:</u></p> <p><u>Causes:</u></p>	<p><u>Teacher Reminders:</u></p> <p><u>Remind Students:</u></p> <p><u>Teacher Responses:</u></p>		
	<p><u>Require:</u></p> <p><u>Problems:</u></p> <p><u>Causes:</u></p>	<p><u>Teacher Reminders:</u></p> <p><u>Remind Students:</u></p> <p><u>Teacher Responses:</u></p>		

Appendix 3: AIW Scoring Criteria for Social Science Instruction

Scoring instructions: To determine scores for the four standards, follow the technical scoring criteria as outlined in the tips below. Consider the descriptions for scores 1-5 on each standard to constitute the *minimum* criteria for that score. If you find yourself between scores, make the decision by asking whether the minimum conditions of the higher score have been met. If not, use the lower score. In determining scores for each standard, the observer should **consider only the evidence observed** during the lesson observation. “Many” students refers to **at least 1/3 of the students in a class**; “most” refers to **more than half**; “almost all” is **not specified numerically, but should be interpreted as “all but a few.”**

Date: _____ Class Observed: _____ Observer: _____

Score	HOTS <i>To what extent do students use lower order thinking processes? To what extent do students use higher order thinking processes?</i>	Deep Knowledge <i>To what extent is knowledge deep? To what extent is knowledge shallow and superficial?</i>
	Lower Order thinking only 1 2 3 4 5 Higher Order thinking is central	Knowledge is shallow 1 2 3 4 5 knowledge is deep
5	Almost all students, almost all of the time, are performing HOT.	Knowledge is very deep because the teacher successfully structures the lesson so that almost all students sustain a focus on a significant topic and do at least one of the following: demonstrate their understanding of the problematic nature of information and/or ideas; demonstrate complex understanding by arriving at a reasoned, supported conclusion; or explain how they solved a complex problem. In general, students' reasoning, explanations and arguments demonstrate fullness and complexity of understanding.
4	Students are engaged in at least one major activity during the lesson in which they perform HOT operations, and this activity occupies a substantial portion (at least 1/3) of the lesson and many students are performing HOT.	Knowledge is relatively deep because either the teacher or the students provide information, arguments or reasoning that demonstrate the complexity of an important idea. The teacher structures the lesson so that many students sustain a focus on a significant topic for a period of time and do at least one of the following: demonstrate their understanding of the problematic nature of information and/or ideas; demonstrate understanding by arriving at a reasoned, supported conclusion; or explain how they solved a relatively complex problem.
3	Students are primarily engaged in routine LOT operations a good share of the lesson. There is at least one significant question or activity in which some students perform some HOT operations.	Knowledge is treated unevenly during instruction; i.e., deep understanding of something is countered by superficial understanding of other ideas. At least one significant idea may be presented in depth and its significance grasped, but in general the focus is not sustained.
2	Students are primarily engaged in LOT, but at some point they perform HOT as a minor diversion within the lesson.	Knowledge remains superficial and fragmented; while some key concepts and ideas are mentioned or covered, only a superficial acquaintance or trivialized understanding of these complex ideas is evident.
1	Students are engaged only LOT operation; i.e., they either receive, or recite, or participate in routine practice and in no activities during the lesson do students go beyond LOT.	Knowledge is very thin because it does not deal with significant topics or ideas; teacher and students are involved in the coverage of simple information which they are to remember.

Tips for Scoring HOTS

- Lower order thinking (LOT) occurs when students are asked to receive or recite factual information or to employ rules and algorithms through repetitive routines. As information receivers, students are given pre-specified knowledge ranging from simple facts and information to more complex concepts. Such knowledge is conveyed to students through a reading, work sheet, lecture or other direct instructional medium. Students are not required to do much intellectual work since the purpose of the instructional process is to simply transmit knowledge or to practice procedural routines. Students are in a similar role when they are reciting previously acquired knowledge; i.e., responding to test-type questions that require recall of pre-specified knowledge. More complex activities still may involve LOT when students only need to follow pre-specified steps and routines or employ algorithms in a rote fashion.
- Higher order thinking (HOT) requires students to manipulate information and ideas in ways that transfer their meaning and implications. This transformation occurs when students combine facts and ideas in order to synthesize, generalize, explain, hypothesize or arrive at some conclusion or interpretation. Manipulating information and ideas through these processes allows students to solve problems and discover new (for them) meanings and understandings.
- When students engage in HOT, an element of uncertainty is introduced into the instructional process and makes instructional outcomes not always predictable; i.e., the teacher is not certain what will be produced by students. In helping students become producers of knowledge, the teacher's main instructional task is to create activities or environments that allow them opportunities to engage in HOT.

Tips for Scoring Deep Knowledge

- Knowledge is shallow, thin or superficial when it does not deal with significant concepts or central ideas of a topic or discipline. Knowledge is also shallow when important, central ideas have been trivialized, or when it is presented as non-problematic. Knowledge is thin when students' understanding of important concepts or issues is superficial such as when ideas are covered in a way that gives them only a surface acquaintance with their meaning. This superficiality can be due, in part, to instructional strategies such as when teachers cover large quantities of fragmented ideas and bits of information that are unconnected to other knowledge.
- Evidence of shallow understanding by students exists when they do not or can not use knowledge to make clear distinctions, arguments, solve problems and develop more complex understanding of other related phenomena.
- Knowledge is deep or thick when it concerns the central ideas of a topic or discipline and because such knowledge is judged to be crucial to a topic or discipline.
- For students, knowledge is deep when they develop relatively complex understandings of these central concepts. Instead of being able to recite only fragmented pieces of information, students develop relatively systematic, integrated or holistic understanding. Mastery is demonstrated by their success in producing new knowledge by discovering relationships, solving problems, constructing explanations, and drawing conclusions.
- In scoring this item, observers should note that depth of knowledge and understanding refers to the substantive character of the ideas that the teacher presents in the lesson, or to the level of understanding that students demonstrate as they consider these ideas. It is possible to have a lesson that contains substantively important, deep knowledge, but students do not become engaged or they fail to show understanding of the complexity or the significance of the ideas. Observers' ratings can reflect either the depth of the teacher's knowledge or the depth of understanding that students develop of that content.

Score	Substantive Conversation	Connectedness to the Real World
	<i>To what extent is classroom discourse devoted to creating or negotiating understandings of subject matter?</i>	<i>To what extent is the lesson, activity, or task connected to competencies or concerns beyond the classroom?</i>
	no substantive conversation 1 2 3 4 5 high level substantive conversation	no connection 1 2 3 4 5 connected
5	All features of substantive conversation occur, with at least one example of <u>sustained</u> conversation, and almost all students participate.	Students study or work on a topic, problem or issue that the teacher and students see as connected to their personal experiences or actual contemporary or persistent public issues. Students recognize the connection between classroom knowledge and situations outside the classroom. They explore these connections in ways that create personal meaning and significance for the knowledge. This meaning and significance is strong enough to lead students to become involved in an effort to affect or influence a larger audience beyond their classroom in one of the following ways: by communicating knowledge to others (including within the school), advocating solutions to social problems, providing assistance to people, creating performances or products with utilitarian or aesthetic value.
4	All features of substantive conversation occur, with at least one example of <u>sustained</u> conversation, and many students participate in some substantive conversation (even if not part of the sustained conversation).	Students study or work on a topic, problem or issue that the teacher and students see as connected to their personal experiences or actual contemporary or persistent public issues. Students recognize the connection between classroom knowledge and situations outside the classroom. They explore these connections in ways that create personal meaning and significance for the knowledge. However, there is no effort to use the knowledge in ways that go beyond the classroom to actually influence a larger audience.
3	Substantive Conversation Feature # 2 (sharing) and/or #3 (coherent promotion of collective understanding) occur and involve at least one example of <u>sustained</u> conversation (i.e., at least 3 consecutive interchanges).	Students study a topic, problem or issue that the teacher succeeds in connecting to students' actual experiences or to actual contemporary or persistent public issues. Students recognize some connection between classroom knowledge and situations outside the classroom, but they do not explore the implications of these connections which remain abstract or hypothetical. There is no effort to actually influence a larger audience.
2	Substantive Conversation Feature # 2 (sharing) and/or # 3 (coherent promotion of collective understanding) occur briefly and involve at least one example of two consecutive interchanges.	Students encounter a topic, problem or issue that the teacher tries to connect to students' experiences or to actual contemporary or persistent public issues; i.e., the teacher informs students that there is potential value in the knowledge being studied because it relates to the world beyond the classroom. For example, students are told that understanding Middle East history is important for politicians trying to bring peace to the region; however, the connection is weak and there is no evidence that students make the connection.
1	Virtually no features of substantive conversation occur during the lesson.	Lesson topic and activities have no clear connection to anything beyond itself; the teacher offers no justification beyond the need to perform well in class.

Tips for Scoring Substantive Conversation

- This scale measures the extent of talking to learn and to understand in the classroom. There are two dimensions to this construct: one is the substance of subject matter, and the other is the character of dialogue.
- In classes where there is little or no substantive conversation, teacher-student interaction typically consists of a lecture with recitation where the teacher deviates very little from delivering a preplanned body of information and set of questions; students typically give very short answers. Because the teacher's questions are motivated principally by a preplanned checklist of questions, facts, and concepts, the discourse is frequently choppy, rather than coherent; there is often little or no follow-up of student responses. Such discourse is the oral equivalent of fill-in-the-blank or short-answer study questions.
- In classes characterized by high levels of substantive conversation there is considerable teacher-student and student-student interaction about the ideas of a topic; the interaction is reciprocal, and it promotes coherent shared understanding. (1) The talk is about subject matter in the discipline and includes higher order thinking such as making distinctions, applying ideas, forming generalizations, raising questions; not just reporting of experiences, facts, definitions, or procedures. (2) The conversation involves sharing of ideas and is not completely scripted or controlled by one party (as in teacher-led recitation). Sharing is best illustrated when participants explain themselves or ask questions in complete sentences, and when they respond directly to comments of previous speakers. (3) The dialogue build coherently on participants' ideas to promote improved collective understanding of a theme or topic (which does not necessarily require an explicit summary statement). In short, substantive conversation resembles the kind of sustained exploration of content characteristic of a good seminar where student contributions lead to shared understandings.
- To recognize sustained conversations, we define an interchange as a statement by one person and a response by another. Interchanges can occur between teacher and student or student and student. Sustained conversation is defined as at least three consecutive interchanges. The interchanges need not be between the same two people, but they must be linked substantively as consecutive responses. Consecutive responses should demonstrate sensitivity either by responding directly to the ideas of another speaker or by making an explicit transition that shows the speaker is aware he/she is shifting the conversation. Substantive conversation includes the 3 features described above. Each of the features requires interchange between two or more people. None can be illustrated through monologue by one person.

Tips for Scoring Value Beyond School

- This scale measures the extent to which the class has value and meaning beyond the instructional context. In a class with little or no value beyond, activities are deemed important for success only in school (now or later), but for no other aspects of life. Student work has no impact on others and serves only to certify their level of competence or compliance with the norms and routines of formal schooling.
- A lesson gains in authenticity the more there is a connection to the larger social context within which students live. Two areas in which student work can exhibit some degree of connectedness are: (a) a real world public problem; i.e., students confront an actual contemporary or persistent issue or problem, such as applying statistical analysis in preparing a report to the city council on the homeless. (b) students' personal experiences; i.e., the lesson focuses directly or builds upon students' actual experiences or situations. High scores can be achieved when the lesson entails one or both of these.

All rubrics adapted by the Social Studies Inquiry Research Collaborative from Newmann et al. (2007). Rubric form adapted from templates developed by Quest High School, Humble, TX in collaboration with Fred Newmann. Template available at: http://www.ceschangelab.org/cs/clpub/view/cl_cat/7. Template is licensed under Creative Commons license. See <http://creativecommons.org/licenses/by-nc-sa/2.0/> for the terms of use for this work.

Appendix 4: AIW Scoring Criteria for Social Science Tasks

<u>General Rules</u>		
<p>The main point here is to estimate the extent to which successful completion of the task requires the kind of cognitive work indicated by each of the three standards: Construction of Knowledge, Elaborated Communication, and Connections to Students’ Lives. Each standard will be scored according to different rules, but the following apply to all three standards.</p>		
<p>➤ If a task has different parts that imply different expectations (e.g., worksheet/short answer questions and a question asking for explanations of some conclusions), the score should reflect the teacher’s apparent dominant or overall expectations. Overall expectations are indicated by the proportion of time or effort spent on different parts of the task and criteria for evaluation, if stated by the teacher.</p>		
<p>➤ Take into account what students can reasonably be expected to do at the grade level.</p>		
<p>➤ When it is difficult to decide between two scores, give the higher score only when a persuasive case can be made that the task meets minimal criteria for the higher score.</p>		
<p>➤ If the specific wording of the criteria is not helpful in making judgments, base the score on the general intent or spirit of the standard described in the tips for scoring a particular AIW standard.</p>		

	Construction of Knowledge	Elaborated Communication	Connection to Students’ Lives
4	N/A	Analysis / Persuasion / Theory. Explicit call for generalization AND support. The task requires explanations of generalizations, classifications and relationships relevant to a situation, problem, or theme, AND requires the student to substantiate them with examples, summaries, illustrations, details, or reasons. Examples include attempts to argue, convince or persuade and to develop and test hypotheses.	N/A
3	The task’s dominant expectation is for students to interpret, analyze, synthesize, or evaluate information, rather than merely to reproduce information. To score high the task should call for interpretation of nuances of a topic that go deeper than surface exposure or familiarity.	Report / Summary. Call for generalization OR support. The task asks students either to draw conclusions or make generalizations or arguments, OR to offer examples, summaries, illustrations, details, or reasons, but not both.	The question, issue, or problem clearly resembles one that students have encountered or might encounter in their lives. The task explicitly asks students to connect the topic to experiences, observations, feelings, or situations significant in their lives.
2	There is some expectation for students to interpret, analyze, synthesize, or evaluate information, rather than merely to reproduce information.	Short-answer exercises. The task or its parts can be answered with only one or two sentences, clauses, or phrasal fragments that complete a thought.	The question, issue, or problem bears some resemblance to one that students have encountered or might encounter in their lives, but the connections are not immediately apparent. The task offers the opportunity for students to connect the topic to experiences, observations, feelings, or situations significant in their lives, but does not explicitly call for them to do so.
1	There is very little or no expectation for students to interpret, analyze, synthesize, or evaluate information. The dominant expectation is that students will merely reproduce information gained by reading, listening, or observing.	Fill-in-the-blank or multiple choice exercises.	The problem has virtually no resemblance to questions, issues, or problems that students have encountered or might encounter in their lives. The task offers very minimal or no opportunity for students to connect the topic to experiences, observations, feelings, or situations significant in their lives.

Tips for Scoring Construction of Knowledge

- ❑ The task asks students to organize and interpret information in addressing a concept, problem, or issue.
- ❑ Consider the extent to which the task asks the student to organize, interpret, evaluate, or synthesize complex information, rather than to retrieve or to reproduce isolated fragments of knowledge or to repeatedly apply previously learned procedures. To score high the task should call for interpretation of nuances of a topic that go deeper than surface exposure or familiarity. Nuanced interpretation often requires students to read for subtext and make inferences. Possible indicators of interpretation may include (but are not limited to) tasks that ask students to consider alternative solutions, strategies, perspectives and points of view.
- ❑ These indicators can be inferred either through explicit instructions from the teacher or through a task that cannot be successfully completed without students doing these things.

Tips for Scoring Elaborated Communication

- ❑ The task asks students to elaborate on their understanding, explanations, or conclusions on important social studies concepts.
- ❑ Consider the extent to which the task requires students to elaborate on their ideas and conclusions.

Tips for Scoring Connection to Students' Lives

- ❑ The task asks students to address a concept, problem or issue that is similar to one that they have encountered or are likely to encounter in life outside of school.
- ❑ Consider the extent to which the task presents students with a question, issue, or problem that they have actually encountered or are likely to encounter in their lives. Defending one's position on compulsory community service for students could qualify as a real world problem, but describing the origins of World War II generally would not.
- ❑ Certain kinds of school knowledge may be considered valuable in social, civic, or vocational situations beyond the classroom (e.g., knowing how a bill becomes a law). However, task demands for "basic" knowledge will not be counted here unless the task requires applying such knowledge to a specific problem likely to be encountered beyond the classroom.

All rubrics adapted by the Social Studies Inquiry Research Collaborative from Newmann et al. (2007). Rubric form adapted from templates developed by Quest High School, Humble, TX in collaboration with Fred Newmann. Template available at: http://www.ceschangelab.org/cs/clpub/view/cl_cat/7. Template is licensed under Creative Commons license. See <http://creativecommons.org/licenses/by-nc-sa/2.0/> for the terms of use for this work.

Appendix 5: School System Profiles

School system profiles at start of study

School system	Type of community	Largest racial group	Residents living below federal poverty line	4 th grade students average SAT percentile
Eastern City School District	urban	60% Black	22%	56 th percentile
Central County School District	rural with some small suburban area	70% White	21%	61 st percentile
Western County School District	rural	70% White	18%	57 th percentile

Appendix 6: 4th Grade Interview Guide

1. In your opinion, what should be the central purpose or goal for teaching social studies?

Planning

2. How different was this experience from the way you normally plan and design instruction?
3. Did the opportunity to talk about the lesson with other people change ideas you had about teaching this content?
4. What was the most positive aspect of this kind of planning?
5. What was the area of this kind of planning that could be most improved?

Implementation

6. Did anything surprise you about the how the lessons went?
7. How did student work and student discussions compare to what they typically do?
8. How did watching other people teach affect your thinking about teaching these kinds of lessons?
9. If you could tell other teachers who are new to PBHI three things about this kind of teaching, what would you share? Is the time that this type of teaching takes worth the investment?
10. Was there anything that limited your ability to implement the lessons / units we designed together?

Debriefing process

11. How was debriefing the lesson with other people different from the reflection you normally do after teaching a lesson?

Planning for the Future

12. What advice would you give to other teachers considering doing a Lesson Study project?
13. Have LS and other PFG activities affected your teaching beyond the lessons we have developed together? If so, how?
 - Changed the way you plan?
 - Changed what you emphasize in your units?
 - Changed what you expect from your students?
 - Changed the way you assess the success of lessons after you have taught them?
 - Changed the overall goals you try to accomplish with your whole course?
14. What has been most valuable to you from our PFG experience?

Appendix 7: Field Report Examples

Case 8 Summary: PEBC02 (Camille)

[TEACHER-SELECTED LESSON]

General Information

Task title: Christopher Columbus Movie Facts

Collection Date: 10/31/12

Class period: 4th grade, self-contained

Identifiers: ___ Document Analysis ___ Technology-enhanced ___ Groupwork
 ___ Extended Writing ___ Concept Lesson ___ Simulation
 ___ Lecture ___ Seminar Discussion ___ Deliberative Discussion
 ___ Culminating Activity ___ IRE recitation ___ Perspective-Taking Exercise
 ___ Published Curriculum Package ___ Other

Observation Scoring: [Enter numerical scores for the primary and secondary rater]

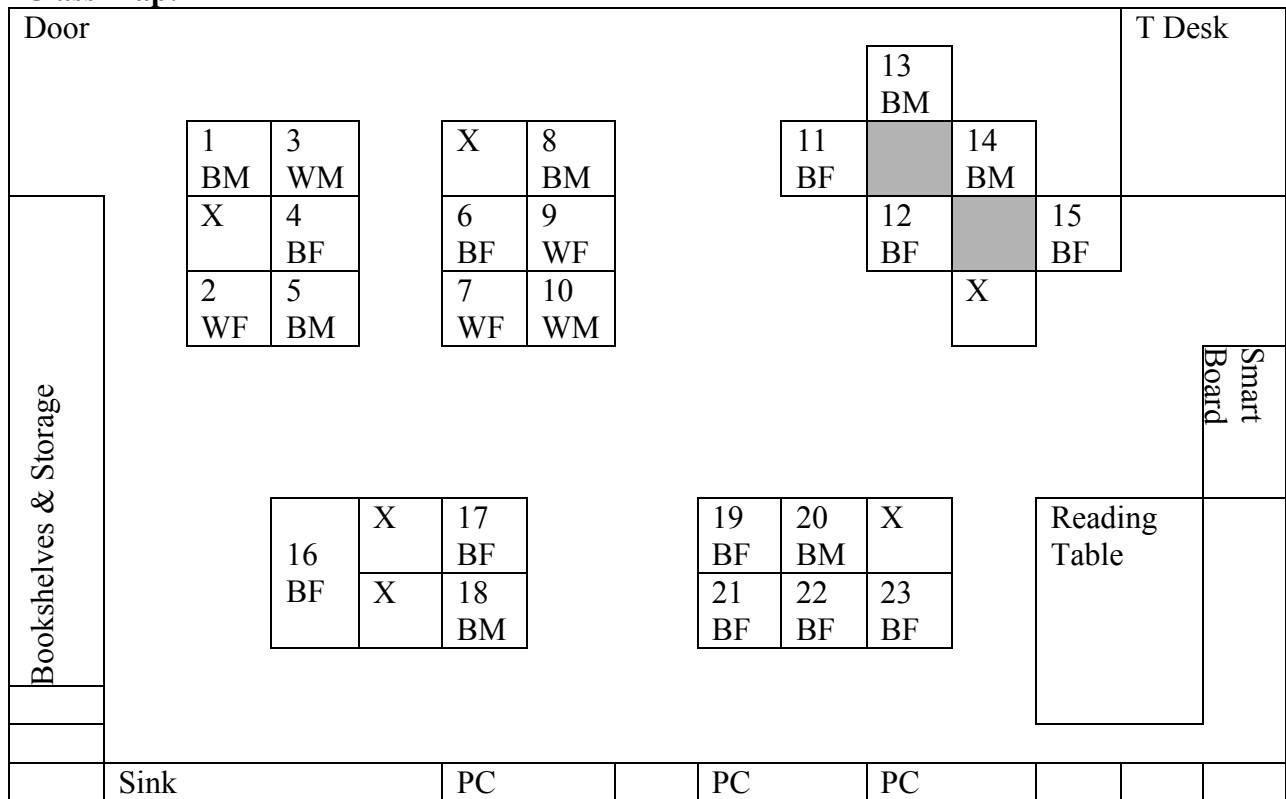
Rating Type	Researcher	High Order Thinking	Deep Knowledge	Substantive Conversation	Connectedness
Primary Rater – Initial	Howell	1	1	1	1
Secondary rater- Initial					
Consensus					

Task Scoring: [Enter numerical scores for the primary and secondary rater]

Rating Type	Researcher	Construction of Knowledge	Elaborated Communication	Connection	Scored After Observation
Primary Rater -	Howell	1	2	1	Yes

Initial					
Secondary Rater – Initial					Yes
Consensus					

Class Map:



Lesson Summary Narrative:

Time: 10:00am – 10:35am (35min)

Context:

The context for this lesson is largely unknown. The lesson relied primarily on Chapter 2, Section 1 of the students’ Alabama History textbook but it was not clear if students had just completed Chapter 1. It seems unlikely since the lesson was taught in very late October. It was also not clear what the teacher would do following today’s lesson. The remaining portion of Chapter 2 examines European exploration of Alabama and contact with Indians so one can assume that later lessons would focus there.

Demographic Breakdown:

Black male: 7
White male: 2
Black female: 11
White female: 3

Lesson Time Breakdown:

10:00-10:15 – PPT Lecture / Discussion (15 min)
10:15-10:28 – Christopher Columbus Film Clip, Fact Listing, & Discussion (13 min)
10:28-10:35 – Ticket Out the Door Fact Task (7 min)

The Task:

The teacher did not provide a task sheet. She orally explained the task to students. They were directed to “write down one fact they learned from the lesson.” Later the teacher added that if students’ one fact was Christopher Columbus’ birthday, they should write one additional fact.

Lesson Summary:

10:00am - “Pages 37-39” is written on the board. Students work to finish up a math test. The teacher asks students to get their tennis shoes on for P.E., which begins at 10:30. Students take out their Alabama History textbooks upon completion of the math test and turn to Chapter 2, Section 1, pages 37-39. The section is entitled, “Discovering Alabama.”

The teacher asks students to turn to face the smart board. She then orally assigns students sitting in groups of 5-6 to smaller groups of 2-3 students.

The teacher then pulls up a power point presentation entitled, “Discovering Alabama.” On the title screen was also a map of European explorers’ routes around the world. She asks students to speculate in their 2-3 person groups about what they will be talking about in the lesson today. Students do so for about two minutes. The teacher then asks students to speculate on why she chose to show them a map of the explorers’ routes.

S11- To show us what events took place.

S6- The explorers went a long way around the world to discover Alabama.

T- Say that again. Listen to her class.

S6- Europeans came to discover Alabama.

The teacher moves forward in the presentation to a slide containing vocabulary words. She has several students read the definition from the screen. For one word, “navigator”, she asks the class to speculate on why she might have included that word in the lesson. S21- It helps us to understand what S6 said earlier about the map. It helps people move around. For the word cartographer, the teacher reminds students that the explorers did not have computers to make maps so someone had to do it. The teacher moves forward to a slide on the New World. She emphasizes that the New World was actually discovered more than once. Here she pauses and asks student groups to speculate on why the book says that the New World was discovered more than once.

After just a minute or two:

T: Why was the New World discovered more than once?

S8: Because it was explored by the Spanish and then by others.

S5: Christopher Columbus discovered it, wrote about it, and then others wanted to go back and discover more. [HOT]

T: Right. Communication was slow. You couldn't text that you discovered it. So we have no way of knowing who discovered it.

The teacher then had several students repeat what she said about slow communication to ensure that everyone understood. She then reiterates that the land was so big that it was hard to know who discovered it.

10:15am - The teacher next shows a Discovery Education video on Christopher Columbus with little transition from the prior content. The focus on Columbus is never explained or clarified. She asks the class to list three facts during the movie. Following the 5-minute video, the teacher again splits the class into small groups of about 3. She asks these groups to write three things they learned from the group with the youngest student acting as recorder. At one point during this group activity, the teacher showed the video again for about 30 seconds so struggling students could list one fact. Many students listed Columbus's birthday as their fact. Perhaps the teacher chose Columbus for the lesson because the observation date corresponds with his birthday. Following the group work, the teacher asked each group to report out their facts. Facts included Columbus's birthday, the names of his ships, Marco Polo as inspiration, and Columbus as friend to Indians.

The teacher continued with her power point slides to a slide discussing Columbus. The teacher asks various students to read the facts from the screen. At times she also asks very simple recall questions about the facts that require students to say the fact back to her. The teacher also shows a map of Columbus's voyage but offers little in the way of explanation. She continues with a few more facts.

10:28am – With P.E. approaching, the teacher tells students they will pick up the next day with the Spanish [sic] explorer Amerigo Vespucci. To close the lesson, she asked students to write one fact that they learned from the day's lesson onto a sticky note she provided. When most of the class provided Columbus's birthday as their fact, she asked the class to list another fact. During this activity, the teacher moved around the room reviewing students' facts, often praising students' efforts. There is no whole-class discussion as most students held their hands up until the teacher arrived at their side. Finally, the teacher asked students to rotate their sticky notes around the group so that each student could read each other's facts. The lesson concluded with students lining up for P.E. [10:35am]

[For each of the AIW standards below, provide an explanation/rationale for the rating. Include an additional explanation if the 2nd rater came up with a different score than the primary rater. Note the consensus score if one was reached.]

Observation: Higher Order Thinking – 1

Students are engaged almost exclusively in LOT operations. Students received facts, recited them to their teacher allowed, and then listed them on their own papers. At one point, a single student performed HOT but this is insufficient for a score of 2.

Observation: Deep Knowledge – 1

Knowledge is extremely thin. No central theme, topic, or big idea is presented to students as an organizer. The knowledge presented by the teacher is fragmented, discreet, and simple.

Observation: Substantive Conversation – 1

Conversation is teacher led and controlled. At one point, sharing might have occurred when a student discussed how more than one group of people might claim to have discovered a land first but the teacher failed to follow up with questions that might have produced consecutive interchanges.

Observation: Connectedness to Real World – 1

The teacher offers no justification for the content taught and lesson activities bear no resemblance to anything one might do outside of school. At times the teacher makes connections to texting and to modern technologies that might have helped students understand but these were no offered within the context of a topic, problem, or issue.

Task: Construction of Knowledge – 1

Students list facts about Christopher Columbus. There is no expectation for interpretation, analysis, synthesis, or evaluation.

Task: Elaborated Communication – 2

The task requires students to list a single fact or two, which was written in sentence form.

Task: Connection to Students' Lives – 1

No problem was offered as part of the task. The task does not require students to address problems or questions relevant to their lives.

General Information

Task title: The American Revolution Seminar Assessment

Collection Date: 12/7/12

Class period: 4th grade, self-contained

Identifiers: Document Analysis Technology-enhanced Groupwork
 Extended Writing Concept Lesson Simulation
 Lecture Seminar Discussion Deliberative Discussion
 Culminating Activity IRE recitation Perspective-Taking Exercise
 Published Curriculum Package Other

Observation Scoring: [Enter numerical scores for the primary and secondary rater]

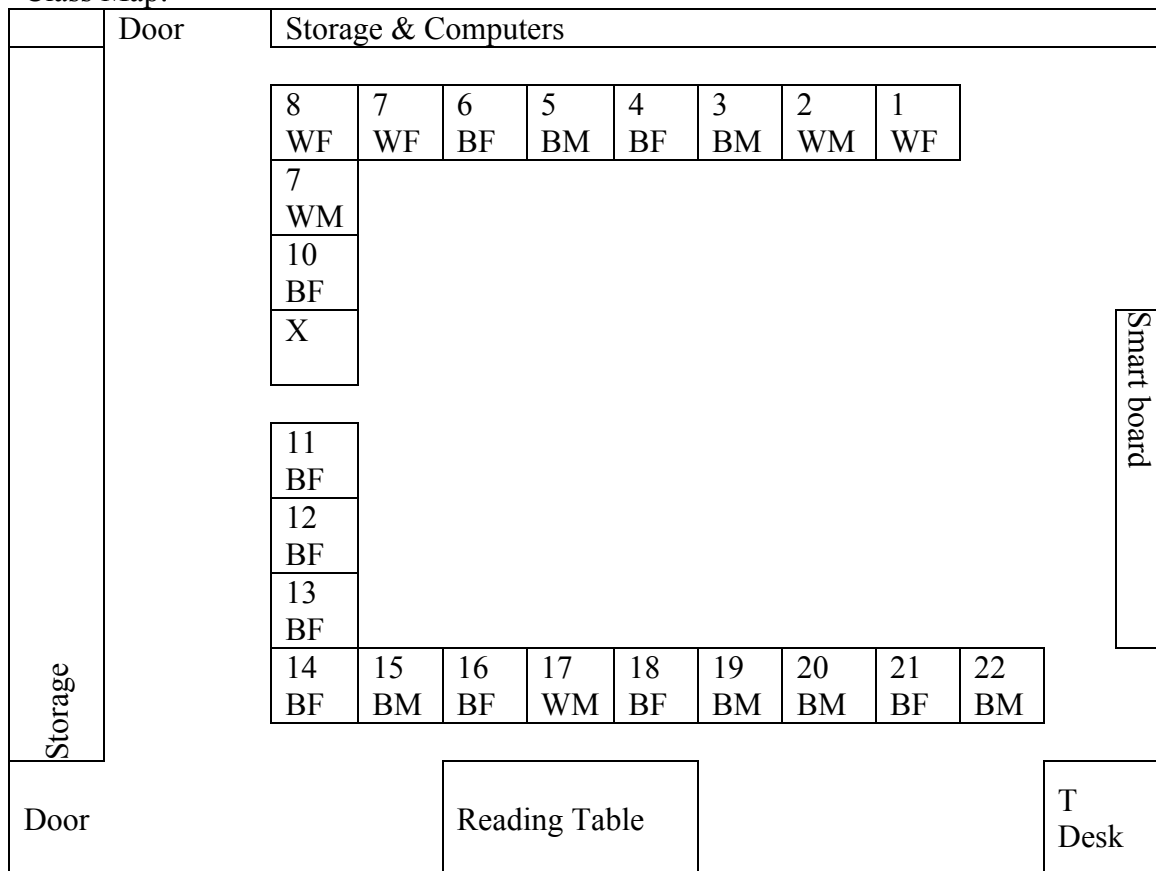
Rating Type	Researcher	High Order Thinking	Deep Knowledge	Substantive Conversation	Connectedness
Primary Rater – Initial	Howell	3	3	3	2
Secondary rater-Initial					
Consensus					

Task Scoring: [Enter numerical scores for the primary and secondary rater]

Rating Type	Researcher	Construction of Knowledge	Elaborated Communication	Connection	Scored After Observation
Primary Rater - Initial	Howell	2	4	2	Yes

Secondary Rater – Initial						Yes
Consensus						

Class Map:



Lesson Summary Narrative:

Time: 10:01 – 10:33

Context:

The 4th grade lesson study team through the Plowing Freedom’s Ground TAH grant created the observed lesson during the 3rd year of the project. Prior to this lesson students engaged in a timeline activity on the American Revolution and a lesson that dealt with the causes of the American Revolution. Following the lesson, students should have created a children’s book addressing the unit CQ: Were the colonists right to revolt against the British government?

Demographic Breakdown:

Black male: 6
Black female: 10
White male: 3
White female: 3

Lesson Time Breakdown:

10:01 – 10:10: Introduction, Model Socratic Seminar video
10:10 – 10:33: Socratic seminar

The Task:

Students wrote a paragraph of 5 to 6 sentences addressing the following question: If you lived during the American Revolution, would you have revolted against the king? The task calls for students to use evidence from the documents and the discussion in support of their reasoning.

Lesson Summary:

The teacher begins the lesson by telling students that they have been talking about the Declaration of Independence and that they will do a Socratic seminar today. She tells students the purpose will be to better understand the Declaration of Independence. The teacher uses a power point to review rules for a Socratic – be respectful, jump directly into the discussion, talk to each other, and use the documents often. She tells students that the big question they want to answer is “Were the colonists right to revolt?” She then transitions to a model video of a Socratic taught by an elementary art teacher. She tells students “this is how it should look and sound.” After starting the clip, she tells students that the clip isn’t their topic but an example of what they’ll be doing. The model shows students speaking with sensitivity, sharing, and doing HOT.

The teacher then tells the class they will start their Socratic.

T: Why was the Declaration of Independence written?

S7: To declare independence.

S4: To say the king’s laws were unfair.

S17: To stop the king from owning us.

S14: To say he doesn’t rule us.

T: What is the most important job of government?

S5: (inaudible)

S1: To get people to follow the laws.

S20: To protect the people. [HOT]

T: What were the Americans’ complaints?

S18: He (the king) taxed too much.

S16: He didn’t want to listen. He was mean. He did bad things.

S5: He taxed everything.

S22: He didn’t let fair trials. [HOT]

S5: He chose the judges. They were on his side.

S18: He sent criminals away.

S11: He wouldn't sign the papers for Americans to have their own laws.

S5: There were too many taxes.

S9: There was no representation.

T: Why was the king wrong?

S?: He was unfair.

S1: He was greedy.

S2: He was being mean.

T: The Declaration says all men are created equal. What does that mean?

Students begin discussing amongst each other.

S18: All men are treated the same. They should be treated the same.

T: What should happen if the government takes away people's rights?

S18: We should do something to the government. We should start a war.

S7: Start a war and take the government back.

S5: We should go to England and talk to them. We should communicate to them. We should write a letter.

T: In the Declaration it says that the king was evil. Is that fair?

Class: Yes!

S22: Even though he's mean, he's still the king. [DEPTH: Alt perspective]

S5: No. He's trying to get money for the war. He's fighting to protect the Americans from the Indians.

S18: He is evil because he was trying to get money for the war. That's wrong. He was selfish and greedy.

T: Was it fair to call him evil?

S8: He's not evil but he should treat all people fair.

S18: He's been doing what he wanted.

T: Is that a good enough reason to get rid of him?

S7: No because all men are created equal.

T: He puts in rules, takes money, etc. Is that still unfair?

S1: No because he's king. The people still have rights. [HOT]

S18: He did more stuff than that. [HOT]

10:21 – At this point the teacher distributed a piece of paper to students containing King George's Proclamation of Open Rebellion. She tells the class that they will look at King George's side of everything.

S9: The king should be killed and thrown into a dungeon.

T: You have to pay taxes now. What if you didn't pay taxes now (to 1 student)?

T to class: He's king because his family was king.

S18: He's worse than Obama.

At this point, the teacher reads the top part of the document. She pauses to ask for the definition of revolt to which S5 says, "It's when one group walks away from another." The teacher then reads the Proclamation aloud to the entire class. Once read, the teacher begins asking additional questions.

10:26 – T: Why would they have written this proclamation?

S18: It tells the king's side.

S17: It says Americans are evil men.

T: What would happen to someone if they helped?

S?: You would be arrested, reported, and punished.

T: What is a traitor?

S17: Somebody who is betraying someone else.

T: What does it mean?

S7: It means shooting your teammates.

S1: It means you're disobeying.

S11: It means you're trading. [Misconception]

T: Were they really traitor?

S20: The king told them to do something.

Note: Throughout the above the teacher seemed to become most concerned with rule following. She corrected several students who talked out of turn or who were up out of their seats. Each time the discussion was awkwardly interrupted.

T: The king said they have forgotten their loyalty. Have they?

S18: No. They only stopped because the king was being mean. They were being treated unfairly. [HOT]

T: Were the colonists right to revolt?

S5: The king isn't trying to do mean stuff. He's trying to pay for a war that protected them (the colonists). He needs money to pay it back. [DEPTH: Alt perspective.]

S7: Yes because he wouldn't listen to what the colonists said.

S1: It's the king's land. They should do it his way.

T: Was there a better way to handle the problem besides a revolt?

S17: They could go talk to the king.

S5: They could write a Declaration. They could say please stop raising taxes.

T: What if he doesn't listen?

S5: Then shoot him.

T: Last question. If you were alive back then, would you have revolted even if it meant going to jail?

At this point, the lesson ended because the P.E. teacher arrived to pick up the kids. The teacher informed the class that they would continue the discussion and complete an assessment after P.E.

[For each of the AIW standards below, provide an explanation/rationale for the rating. Include an additional explanation if the 2nd rater came up with a different score than the primary rater. Note the consensus score if one was reached.]

Observation: Higher Order Thinking – 3

Students were engaged in at least one major activity during the lesson (the Socratic) and it did occupy a substantial portion of the lesson. Four students were recorded performing HOT. The “many” threshold required for score 4, however, was not met.

Observation: Deep Knowledge - 3

The teacher frames the lesson around a focus question, which assists with establishing depth. Moreover, questions during the Socratic seminar built towards the focus question culminating with students deciding whether they personally would have revolted. At two points in the lesson, alternative perspectives (the king’s) were voiced which also contributed to increased depth. Many students sustained focus within the lesson; however, many students did not demonstrate an understanding of the problematic nature of ideas.

Observation: Substantive Conversation – 3

Multiple sustained conversations were observed throughout the lesson. Sharing was also evident throughout the lesson. However, all feature of substantive conversation were not present. In particular, the students did not show sensitivity to one another’s comments in such a manner that it would result in an improved collective understanding. Students, instead, seemed to simply voice their comment without even considering what was said previously.

Observation: Connectedness to Real World – 2

The topic is one that the teacher tries to connect to persistent public issues. However, there was no evidence that the teacher succeeded in connecting the lesson to students’ lives. Had the last question been answered the score might have gone up depending on how students responded.

Task: Construction of Knowledge – 2

The task calls for students to synthesize knowledge about the lead up to the American Revolution in order to decide whether they would personally revolted. To do so well, students must pull from a class discussion as well as two source readings. However, the task does not require students to address opposing perspectives or to move into more nuanced views.

Task: Elaborated Communication – 4

The task calls for students to make a decision about whether they would have revolted against the British king in five to six sentences. The task specifically calls for students to provide evidence from the discussion and from source documents to support their point of view.

Task: Connection to Students’ Lives – 2

In a democracy, students may be confronted with questions about the appropriateness of responses to governmental actions including whether rebellion is justified. The task calls for students to connect the topic to their personal lives by asking them directly how they would have responded to the king’s actions but it does not explicitly do so.