

## Using Mentoring to Develop Collaborative Communities of Inquiry-based Practice

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*Abstract: This paper examines how mentoring within a collaborative community of university researchers and peer teachers might encourage teachers to de-privatize their teaching knowledge and use each other as resources for making connections to common principles that build a professional knowledge base of wise inquiry practice.*

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### **INTRODUCTION**

Social educators have persistently advocated investigation of social issues as a way to engage students with content, cultivate critical reasoning, and develop better decision-makers. However, inquiry about social issues remains rare in social studies classrooms. Studies have identified obstacles to problem-based inquiry that originate within organizational structures (Cuban, 1984; Onosko, 1991), learners (Newmann, 1991; Rossi, 1995), and teachers. Work in teacher thinking, collaboration, and the design of authentic learning environments has offered insight into how some teacher-based obstacles to inquiry might be overcome. In previous research, members of our project team conducted a series of design experiments applying these theories to the design and testing of a problem-based historical inquiry (PBHI) learning framework and an Internet-supported learning community to aid practitioners in implementing PBHI (Brush & Saye, 2000; 2001; 2004; Saye & Brush, 1999; 2002; 2004a; 2004b). The new project phase reported in this paper extends our inquiry to an examination of how intensive mentoring within a collaborative community of researchers and peer teachers might mitigate obstacles to PBHI and encourage veteran teachers to first consider and then adopt a problem-based pedagogy. Specifically, we ask:

1. How do teachers interpret a holistic, research-based framework for PBHI?
2. How might researcher-provided mentoring support influence the conceptualization, endorsement, and implementation of PBHI by prospective peer mentor teachers?
3. How might assuming the role of peer mentor affect mentor teachers' integration of the PBHI framework into their own practice?

### **OVERVIEW OF THE PROBLEM**

Most teachers have not embraced inquiry practices (Goodlad, 1984; Shaver, 1996). Teacher resistance to issues-centered inquiry has been attributed to teacher dispositions; teacher beliefs about knowledge, teaching, and learning; and pragmatic concerns such as class sizes, isolation from peers, and the time, energy, and cognitive demands required by such practice (Onosko, 1991; Rossi, 1995; Saye, 1998b; Schlechty, 1993; Windschitl, 2002).

Given its rarity in existing classrooms, teachers lack models for envisioning successful inquiry practice. Teachers tend to discount theory-based knowledge produced by researchers and trust craft knowledge generated by practitioners. Craft knowledge is concrete and specific, situated in classrooms, and linked to problems of practice. Holding that teaching is a personal, private, pragmatic endeavor learned only from direct experience, adherents of a craft conception of teaching knowledge resist the notion that general theoretical assertions may guide practice. Planning and implementing instruction tends

to be idiosyncratic, particular to an individual teacher, and specific to a particular topic or lesson. Without practical demonstrations of workability and effectiveness, teachers are unlikely to entertain new practices (Cuban, 1984; Doyle & Ponder, 1978-79, Elbaz, 1981; Kagan, 1993; Lortie, 1975; McNeil, 1986).

In contrast, researcher knowledge is public, propositional, and replicable. Theorists have advocated efforts to integrate craft knowledge and researcher knowledge in order to produce a professional teacher knowledge base that practitioners recognize as legitimate (Hiebert, Gallimore, & Stigler, 2002; Saye, 1999). Other advocates have proposed building collaborative professional communities of teachers and researchers as a promising vehicle for developing professional knowledge (Garet et al., 2001; Clark et al., 1996; Stein et al., 1998; Thomas et al., 1998). Research on mentoring and peer teaching offers additional possibilities for encouraging collaboration that connects practice to theory (Martin, 2002; Slavin, 1996). Some researchers have argued that technology environments may facilitate the development of professional communities of practice by providing ready access to concrete examples of innovative teaching that allow teachers to envision practices that are rarely present in contemporary classrooms (Hiebert et al. 2002). Others have argued that these environments may encourage inquiry by mitigating logistical and cognitive obstacles (Dwyer, 1994; Saye, 1998a).

Our project applies these ideas to the development of a professional community of practice for social studies. We conceptualize professional teacher knowledge as pragmatic theory that is tested through authentic work in classrooms. Recognized problems of practice provide the impetus for knowledge that is co-constructed by teachers and researchers collaborating in communities of practice that are dedicated to improving student learning. Specific examples from classrooms that illustrate or question theoretical explanations for learning outcomes spur collaborative dialogue. Repeated field tests refine general principles and expand the professional knowledge base. Figure 1 illustrates how craft and researcher knowledge might be merged to form professional knowledge.

We are particularly concerned with developing a professional knowledge base for implementing problem-based historical inquiry (PBHI). PBHI differs from historical inquiry as it is often practiced in that our motivating purpose for inquiry is not making meaning from historical artifacts but rather making decisions about enduring societal problems as they are instantiated in particular historical periods (Massaro, 1993; Oliver & Shaver, 1996; Saye & Brush, 2004a). For instance, we might ask: "Were the American colonists justified in the actions they took against British authority?" This question represents a larger persistent issue: What actions are justified to bring about social change? Students use understandings developed from sustained historical study to make reasoned ethical judgments. Although every historical event is unique and must be considered within its own context, reasoning about this issue as it is instantiated in the Revolution helps students to reason about later historical instances of the issue such as the Civil Rights Movement and contemporary instances such as the Palestinian Intifada.

For eight years we have collaborated with teachers to design and field-test *Decision Point!* (DP), a technology learning environment that includes a database of multimedia content resources and scaffolding tools for weighing historical evidence and reasoning about fundamental societal questions. We incorporated specific design elements into DP in order to address identified teacher obstacles to PBHI. For instance, to relieve conceptualization and materials preparation challenges that dissuade teachers from inquiry, we provided a rich set of organized multimedia content resources reflecting multiple perspectives. We focused particularly on the cognitive challenges borne by all participants in the inquiry process and embedded scaffolding into the DP environment to lessen the cognitive demands of disciplined inquiry.

In a series of design experiments we examined the efforts of traditional and inquiry-oriented teachers to interpret and implement PBHI as they used DP in their classrooms. Their efforts reinforced our assumptions about the challenges of conceptualizing and mastering PBHI practice (Brush & Saye, 2000; Saye & Brush, 1999, 2002, 2004b). We integrated findings from these field studies with the research literature to develop a set of wise PBHI practices (Newmann, 1990; Saye & Brush 2004a, 2004, Rossi, 1995; Rossi & Pace, 1998). Two overarching principles unite these wise practice criteria: (a) authenticity of experience and (b) support for student knowledge construction. Authenticity begins with the selection of a significant, ill-structured evaluative question to serve as the focus for all unit activities. Students' deep experiences with unit content provide them with the complex understandings of social reality necessary to propose an answer to the unit question. Embedded expertise, teacher probing, multiple ways of knowing, and peer interaction provide students with the support structures they need to handle the cognitive challenges of problem-based inquiry. Table 1 provides an example of a PBHI unit on the Cold War.

We have incorporated these wise practices into a comprehensive professional development effort, the Persistent Issues in History (PIH) Network (<http://www.pihnet.org>). The Network offers on-site and on-line professional development and seeks to develop a collaborative community of practice for promoting PBHI. The on-line component of our initiative provides teacher resources that include classroom video cases of PBHI implementations, model PIH curricula, a discussion forum, and authoring tools that support development of new multimedia PIH curricula.

From the outset of our project we acknowledged the difficulty in challenging the entrenched culture of craft knowledge. Most followers of craft wisdom develop units and lessons governed by criteria that are quite different from PIH Network principles that are grounded in a professional knowledge culture (see Table 2). Underlying these competing conceptions of planning and teaching are fundamental differences in assumptions regarding epistemology (e.g., Newmann, 1991), students (e.g., Jackson, 1968),

the mission of history teaching (e.g., Barton & Levstik, 2004), and the desirability and necessity of risk-taking by teachers and students (e.g., Saye, 1998b) (see Table 3).

The modal craft culture of teaching helps to explain consistent evidence that teachers resist innovation as it has been presented in typical professional development. Given the complexities of PBHI practice and its challenge to craft knowledge assumptions, we wished to experiment with a more collaborative professional development effort to discover if it might encourage teachers to incorporate shared professional knowledge (Hiebert et al., 2002) into a re-envisioning of their practice.

## **STUDY DESIGN**

### Participants

In Summer 2003, thirty-two 5<sup>th</sup>–12<sup>th</sup> grade history teachers attended intensive one-week seminars that introduced the PIH framework and the tools and resources available to members of the PIH professional community. We recruited from those seminars six teachers who reflected diversity in age, gender, ethnicity, teaching experience, and prior experience with inquiry instruction (Table 3). This group would serve as peer mentors for teachers attending the 2004 seminars. In Spring 2004, our project staff worked with these mentors to conceptualize PIH units that allowed the mentors to test PIH strategies and technology-supported tools in their own classrooms in order to develop a grounded understanding of PBHI wise practices. We developed a set of professional development scaffolds that we hoped would assist teachers in planning from within the PIH professional knowledge framework and in dialoging with other project members about their thinking. In a June 2004 retreat the mentor group met with PIH staff to share their experiences and plan for the 2004 seminars. In July 2004, mentors helped introduce new groups of teachers to the PIH framework. We wished to discover how two phenomena might affect the mentors' mastery of the PIH framework: (1) our mentoring of the mentors and (2) their peer mentoring of new teachers.

### Data Collection and Analysis

We wished to learn more about the process of supporting teachers in conceptualizing and implementing PBHI. For each mentor we examined: (a) the planning and implementation of a PIH unit, (b) interactions with peer mentors and with the 2004 Seminar groups, and (c) reflections about teaching and learning, history, and the effectiveness of the PIH framework as a model for teaching. We also explored the perceptions of mentors and staff about the effects of our collaboration.

We collected mentor data from two phases of the study: first, the mentors' own PBHI teaching and second, the mentors' engagement in mentoring activities. From the mentor teaching phase we gathered planning and implementation data: On-line surveys, planning logs, journal entries, and discussion forums, transcripts of mentor-staff planning meetings, lesson plans, videotaped observations of

lesson implementations, student work products and post-lesson interviews. From the mentoring phase we collected videotaped observations and field notes from several data points as mentors planned for and then engaged in mentoring of new teachers: Mentor dialogue during the June 2004 planning retreat, mentor interactions with new teachers during 2004 seminars, and a post-seminar whole-group mentor debriefing. We also collected weekly staff planning/observation logs and minutes from weekly staff meetings.

We based our analysis of each teacher's unit planning and implementation on the criteria for wise PBHI practice developed from past studies. In their teaching and interactions with peer mentors, new teachers, and staff, we looked for patterns in the data that suggested influences on mentors' conceptualizations of PBHI and the degree to which they integrated the PIH framework into their vision of practice. Data analysis methods included analytic induction and typological and content analysis. Staff researchers analyzed and coded data independently and met to compare findings, develop and refine categories, and produce data-based speculations about the findings' implications for professional development.

### **FINDINGS AND DISCUSSION**

We entered the study speculating that intensive mentoring within a collaborative community would encourage veteran teachers to consider and adopt a problem-based pedagogy rooted in professional knowledge. Teachers' actions and reflections as they planned and taught their own PIH unit and then prepared for and engaged in peer mentoring suggested movement by each of the mentor teachers towards re-conceptualizing their practice around a professional knowledge base of wise PBHI practice. However, as our collaborative work moved through each study stage, individuals varied in their responses to the mentorship development experience.

#### **A Developmental Continuum for Teacher Knowledge and Practice**

The practice of our respondents might best be conceptualized as arrayed across a developmental continuum with traditional craft knowledge and integrated PIH professional knowledge occupying the polar positions of the scale (Tables 2 & 3). For discussion purposes we conceptualized three developmental points along the proposed continuum to categorize our respondents' stances in relation to the PIH principles for practice: *Traditional*, *Transitional*, and *Integrated*. We have discussed the characteristics of the modal traditional craft culture of teaching. In the *Transitional* phase, teachers may begin to consider how broader theoretical principles may lend direction and conceptual coherence to practice decisions. However, although they have grasped the broad parameters of theory-driven PIH practice, some portions of the model remain conceptually underdeveloped and significant aspects of traditional practice remain. In contrast, those closest to the *Integrated* pole of the continuum operate consistently from a grounded understanding of theory-based practice. Their planning integrates core PIH

principles into a cohesive unit design. They diagnose practice problems from within the lens of the professional knowledge base that shapes the PIH framework. Having internalized a holistic view of planning and teaching informed by a unified set of principles, they have begun to fine tune their practice and address the more subtle dilemmas posed by complex inquiry instruction. Because they have begun to view issues of practice as linked to larger theoretical principles, collegial dialogue becomes a more logical and focused activity.

### **Mentors as Teachers: Planning and Teaching PIH Units**

In the planning and teaching phase of the study, the actions and reflections of our mentors suggested that most had not fully conceptualized the PIH framework as a unified set of theories for giving a cohesive purpose to practice. Alice and Fiona appeared closest to the Traditional perspective, Karl and Audrey exhibited the conflicting assumptions typical of those in the Transitional range of the scale, and Chuck and Mike demonstrated elements of integrated professional knowledge.

Although all mentors had experienced at least 36 hours of intensive work with the PIH framework, other experiential factors may help explain differences in their entering stances (Table 4). Alice and Fiona were the oldest teachers, taught in the earliest grades, had the most teaching experience and the least experience with PIH-style inquiry. It is reasonable to expect that they had absorbed the norms of the traditional teacher culture and had honed their individual practice within those norms (Thomas et al., 1998). Karl and Audrey, the youngest and least experienced teachers, participated in an undergraduate program based upon the PIH framework. Although young teachers often feel pressure to adopt the norms of the existing teacher culture (Lortie, 1975), these teachers had also been schooled in the competing socio-constructivist based assumptions of the PIH culture. They had retained some connections with their professional program that may have served as a counterweight to school socialization influences.

The teachers who began closest to the *Integrated* stance fell into the midrange of age and teaching experience for our study population. Chuck had the deepest and most sustained experiences with the PIH culture and had based his practice around those ideas since beginning his teaching. His continuing graduate work and participation in other PIH-related research projects reinforced his initial inclinations and prompted continuing reflection about the how theory might inform practice. Mike had taught for two years, then spent six years as a minister, and was in his fifth year of a return to teaching at the time of this study. He was introduced to the PIH framework in two ways. To renew his teaching credential he took two courses from one of the researchers where he was introduced to the philosophy and teaching strategies that underlie the PIH approach. A year before that coursework he shared a classroom with Chuck. Observations and discussions with Chuck influenced Mike's thinking about his own teaching practice. He recalled, "This is scary stuff when you first get hit with it. You teach a couple years and you

get comfortable and teaching becomes easy . . . I watched Chuck do this stuff, and initially I thought Chuck was just an idiot, but now I see it's doable."

### Experimenting with PIH Teaching

To illustrate the range in teachers' initial stances we present descriptions of the planning and teaching of three teachers who most closely exemplified each stance. We will include examples from other participants in discussions of later stages of the study.

#### Starting from the Traditional Stance

Alice's practice strongly suggested a traditional stance. Many of the features of PIH framework raised issues for her. For instance, she struggled to conceptualize a problematic central question around which she could focus a World War II unit. She seemed to see little possibility for controversy in examining the conflict. In our planning meetings we discussed historians' questions about such issues as the justification for the firebombing of Dresden or the use of atomic bombs and the adequacy of the Allies' response to the Holocaust. As a result of our dialogues, she settled on an evaluative central question ("Did the world community behave responsibly and wisely in the responses made to the actions of Nazi Germany?") and a culminating unit activity to address her question, a war crimes tribunal with the Allies and Axis powers presenting their cases. However, she did not use that established framework to guide her decisions about content selection. Instead, she planned several lessons before considering whether lesson content would assist students in completing the culminating activity.

The state mandated curriculum and her collection of rich materials seemed to be the primary influences on her planning. She stated, "I kind of feel like I have to expose them to this stuff before they get to the 10<sup>th</sup> grade because they aren't going to have it again, and that's a pressure that all 6<sup>th</sup> grade teachers feel . . . I've got to get as much in as I can, but I have looked at it differently this year." She confessed, "This feels very awkward to me because I'll have to leave out some really good stuff that I use every year."

Alice also seemed to underestimate the intellectual complexity of the task her students would face in preparing to represent their country's case at the tribunal. Although the staff offered assistance in finding documents and preparing scaffolds that students would need to master the issues and perspectives to be examined at trial, she replied that she would have no trouble doing this alone. However, the source documents she selected were often un-engaging and difficult to comprehend and did not always present a clear perspective for the assigned country. She provided little scaffolding material to help students interpret and evaluate the documents and develop evidence-based arguments. As students worked with the documents during her lesson, they seemed to have little understanding of what was expected of them. With no handout to support their thinking, students became frustrated as they waited for assistance, and Alice struggled to get to all those who needed help.

Alice's initial sense that the history of WWII was unproblematic had suggested to us that her underlying epistemological assumptions about truth and the nature of historical narrative made the PIH framework difficult for her to assimilate into her practice. Her conduction of the class tribunal provided further evidence of these assumptions. As students presented the cases of their assigned countries, Alice seemed uncomfortable with allowing them to question the Allies' motives. She often intervened to strengthen the Allied case and dilute opposing arguments. For instance, as the Japanese delegation cited evidence that the U.S. had not dropped atomic bombs to win the war but to show their power to the world, Alice jumped into the conversation before the U.S. could respond. She asked, "Is that why the U.S. dropped the atomic bomb? To show power?" Her preemptive actions had a noticeable effect in stifling further discussion of this point of view and suggested a perception that there existed a single correct historical narrative and perhaps that history study would lead to clear moral lessons.

#### *Beginning from the Transitional Stance*

Audrey's planning and teaching suggested a mix of traditional and PIH assumptions. She clearly understood the centrality of a guiding question to PIH unit design. Reflecting on her planning, she stated, "we had a central problem... a thing we were focusing on finding a solution to . . . In this unit I decided what I needed to cover to reach my end result. [D]oing that . . . helped me to plan more effectively." However, her process was not as straightforward as this comment might suggest. She established a cohesive unit outline, but as her planning proceeded, she seemed to slip into traditional patterns of discrete lesson development. By our second collaborative planning session, she had begun to develop three lessons without fleshing out the culminating unit activity. As a result, like Alice, she had not fully contemplated what her students would need to know and experience in order to be successful with that final activity and gaps existed in unit content.

Other elements of Audrey's practice suggested she had moved well into a transitional phase towards a professional knowledge perspective. For instance, she deliberately focused on authenticity, seeking to construct "real life scenarios to help them see that the Constitution does apply to them in their daily lives." Her scenarios presented case studies of individuals with varied perspectives on appropriate national security measures in the wake of 9/11/01. Student groups were assigned to represent case characters in a Congressional hearing. However, as with her overall unit planning, this exercise suggested that her conceptions of the PIH model were not fully formed. Her original case materials were quite brief and did not provide enough information to allow students to portray adequately the perspective of their assigned characters. They suggested that she had underestimated the complexity of the thinking task. Following suggestions from the staff, Audrey consulted on-line model units produced by peers and PIH staff for ideas about how she might flesh out her support for student perspective-taking.

Although she initially had not provided enough foundational knowledge for this very demanding exercise, Audrey did focus attention on scaffolding thinking. She structured her classroom environment to promote collaboration among students groups. As students entered the room, she directed them to specific work areas where she had placed folders containing materials to facilitate group preparation for the congressional hearing. Throughout the work session, Audrey was in constant motion monitoring student understanding and pushing their thinking with probing questions. Her reflections on scaffolding demonstrated constructivist assumptions about knowledge, concern for using history to develop civic competence among students, and a belief in the necessity of risk-taking. "A lot of my support . . . to the students is to say it is okay to think differently from your friends. [For] eighth graders, it is important to be accepted by your peers and with that acceptance comes what we call sometimes group think . . . so my role in helping them with these problems is to get them to believe in their response and always justify. If you can justify your response, you are okay. Don't just make a response, and you can't back it up, because if someone calls you on it, they expect a response."

*Exhibiting Characteristics of the Integrated Stance*

At the time of the study, Mike had experimented with PIH teaching principles, but had not implemented a full PIH unit. As we planned for his teaching unit, he commented: "Even after a year at this, this is all still very new for me. This is a very different way of doing history. . . . 'I'm still having to abandon things [ways of thinking about and doing his teaching]. I don't let them go willingly because I was not a bad teacher . . . I feel sometimes like Apollo 13 spinning around with pieces coming off . . . you know, am I going to return safely to Earth?"

Mike's discussion of his teaching reflected the assumptions of a professional knowledge culture. He consistently linked practice to broader principles. For instance, his discussion of classroom inquiry revealed a conception of the analytical process that was grounded in theory and tied to the notion of authentic purpose: "They need to ask the right questions . . . They have to be introduced to a document analysis methodology. Thinking about the document before they read it. That is so unnatural . . . And then they have to struggle with bias . . . and then they are ready to begin contextualizing it. Then it becomes a tool: 'Okay, now I get it, I'm doing this because I am going to do something with it.' . . . And the other big thing, you have to have a reason to engage the material or otherwise it is just a textbook in a different form."

Mike's teaching reflected his interview statements. His unit focused on assigning responsibility for Cold War tensions. As student groups reasoned through Truman's options in the Berlin Crisis, the classroom remained relaxed yet on-task. Mike appeared to have a clear sense of what was required to accomplish this complex task, and he guided the students through a measured set of steps to arrive at the decision point. Lesson materials supported student reasoning, and Mike remained in motion throughout

the lesson challenging students to provide evidence and justification. He held high expectations for their abilities to think about things such as historical context and seemed comfortable letting students struggle to develop their own answers.

His teaching suggested his belief that students could reason at a high level and would entertain challenging tasks. It also seemed part of his belief that risk-taking was a desirable and necessary part of preparing students for democratic life. He explained: “It’s just natural [controversy] to do that with PIH teaching, that’s why it works and those kids heads come up because you get to talk about and say things that normally you wouldn’t dare talk about with those outside of your family. That’s one of the big benefits--if the teacher will allow that--the classroom becomes . . . a dangerous place to be, and kids LOVE that.”

#### Effects of Planning Scaffolds on Mentor Thinking

We had hoped that the metacognitive and strategic planning scaffolds we provided to mentors would encourage and facilitate a re-conceptualization of their practice. However, some resistance to notion of theory-based planning as represented by the scaffolds surfaced among teachers closest to the traditional stance. Alice found the scaffolds to be an encumbrance, explaining, “I just wanted to shove it aside and go on in my way of doing it.”

Those teachers whose planning seemed most affected by the scaffolds were mentors who already seemed to have moved furthest toward a professional knowledge culture. Mike explained: “[The planning scaffolds] get me thinking in terms of outcome rather than content. Sounds obvious, but I didn’t used to think that way . . . Now I think what do they need to be able to do, and then I think, backwards, what do they need to know to be able to do that . . . The strange thing . . . is that using such a rigid process . . . gives me great freedom rather than binding me as sometimes the content tends to do. I’m able to think clearly through the steps: if they are going to be able to do this with some depth—we’re talking about historical empathy, perspective taking—what will actually get at those pieces? Now what documents can I use, if those are appropriate . . . Now what scaffolds do they need to deal with the documents? It really makes planning very easy. But it is very different from daily lesson plans.”

#### **Moving from the Teacher to the Mentor Role: Changes in Respondents’ Initial Stances**

We examined teachers’ stances at three points following their teaching: during a reflection on unit outcomes, at a mentor planning retreat, and during their active mentoring of peers. Some general trends emerged in teachers’ responses; however, substantial differences persisted that suggested degrees of difference in teacher interpretation and adoption of the professional knowledge perspective represented by the PIH framework. In our discussion of these phenomena, we include the initial stance of each teacher in brackets for easy reference.

### Influence of PIH Teaching Experience on Mentor Conceptualizations of Practice

Mentors' post-implementation reflections suggested that the teaching experience had some impact on all teachers' thinking about practice. Alice [TRAD] appeared to reconsider underlying assumptions about students' willingness and ability to engage in inquiry: "I have seen students that normally show little enthusiasm, perk up and get involved . . . Usually there were one or two students in each group who were way ahead of the others and had very good ideas and opinions. Once they began expressing their views the other students began to jump in there with their own ideas." As we had seen with other teachers in the planning phase, persisting craft assumptions seemed to block full conceptualizations of the new PIH ideas that Alice was beginning to entertain. For instance, she had begun to believe that students should encounter multiple perspectives on events, but her rationale that they would "have a little empathy for the countries that were in the wrong" suggested that she continued to assume that there was a single morally correct perspective towards which the study of history would or should lead.

Audrey [TRANS] found verification for some emergent notions. For example, she seemed to have internalized the importance of authenticity when she explained the greater student engagement she witnessed in this unit: "What they see in the history book . . . they have nothing to do with it . . . In this [PIH unit] they were able to . . . form their own thoughts and . . . it was of value to them . . . because they knew this is real and it matters . . . [T]hey are working harder to understand the material for themselves, not just to have an 'A', but for their personal knowledge."

Despite demonstrating signs of transitional thinking, Karl [TRANS] had implemented a fairly traditional, "school-like" lesson on propaganda analysis that did little to help students to answer the authentic unit question that he posed ("Is the government ever justified in controlling or manipulating information available to the public?"). However, as he assessed his lesson outcomes, he showed signs of using professional knowledge principles to reconsider practice decisions: "I hadn't thought much about my Culminating Activity, and . . . [that] is the biggest part . . . you want to make sure you cover all the pieces the students will need for that activity."

Those mentors who began the study closest to the integrated stance demonstrated that they had begun to use a professional knowledge perspective to inform and refine their practice. They consistently used professional knowledge to diagnose problems that arose in their unit implementations. For example, Chuck [INTG], an enthusiastic student of Catholicism, had struggled to limit the foundational knowledge and source documents that he wished to use in his Reformation unit. As he reflected on the process, he realized he was seduced by his topical interest and the possession of a volume of rich material. He commented, "I need to let the figures and the events drive me to the documents rather than begin with the documents. That is not letting what students will need to do the task decide [for the teacher] what they

read.” He also demonstrated his sense of practice as public and collaborative when he acknowledged that dialogue with the PIH staff helped him to recognize that many of his documents were “really not pertinent to that question . . . having that feedback [from PIH staff] was definitely beneficial.”

Similarly, Mike [INTG] operated within a holistic view of theory-based unit design in diagnosing the struggles that his students had in completing a culminating museum display activity. He observed that his students succeeded in developing complex understandings of the perspectives of various Cold War figures, “but when it came time to transfer that [knowledge] as we went through the scaffold for creating the museum piece, they tended to shy away from it and want to be shallow again . . . I don’t see the problem . . . as a negative to the process. It says to me ‘we need a scaffold here.’ They need . . . something in place that allows them to utilize the information more easily.” He also recognized that he had not made a strong enough connection to the culminating activity when he introduced the central question at the beginning of the unit: “It was relatively seamless in my head, but for them it wasn’t. We didn’t begin with the end in mind on this one.”

#### Influence of Mentorship on Mentors’ Conceptualizations of Practice

During planning, implementation, and post-implementation interviews we had been disappointed that most mentors exhibited some reluctance to entering into dialogue about how theory and practice might be joined for the most effective teaching. During planning sessions most mentors sought what the staff wanted in the units rather than assuming the role of collaborators. Peer dialogue in the on-line forum was minimal, and dialogue with staff was perfunctory and unreflective. They seemed to cling to the conception of teaching as a private, personal enterprise and were reluctant post their work on-line for peer or staff review. However, as our group shifted to the mentorship phase of the study, we observed substantial shifts in mentors’ perspectives. Reflecting with other mentors about PIH challenges and solutions and considering how they might share those insights with new teachers seemed to stimulate linkages between theory and practice.

#### Preparation for Mentorship

At the end of the school year, we scheduled a planning retreat for the mentors and PIH staff to prepare for the upcoming Summer Seminar with new teachers. The staff reviewed videotape of all mentor implementations and selected a vignette from each one that reflected some element of PIH wise practice. We used those vignettes as the starting point for the retreat. We asked mentors to set their video clips in context before the group viewed it and then to take the lead in a discussion of their examples of wise practice. These discussions were qualitatively different from what we had observed in the past. Perhaps reflecting the resiliency of teachers’ respect for practitioner knowledge, face-to-face reflection with peers seemed to incite greater movement towards linking practice to theory than any previous experiences.

The use of classroom video footage seemed to have a major impact on the quality of the discussion. As advocates have hypothesized (e. g., Hiebert et al. 2002; Thomas et al. 1998), tangible examples of practice appeared to facilitate mentor discussions of theory. The video episodes provided a shared context for mentors to begin to de-privatize knowledge and engage in genuine dialogue on how particular instances linked to broader principles. Mentors served as bridges for each other in linking craft knowledge to research in order to begin to develop a professional knowledge base. The public reflections of mentors who had moved closest to making those linkages seemed to stimulate others to entertain theory-practice connections. Excerpts from the retreat discussion illustrate these trends.

Fiona [TRAD] had focused her Civil War unit around the question: “Was the north justified in forcing the south to remain in the Union?” After playing her video example, Fiona reflected on the difficulty her students had in representing the perspectives of historical figures in her culminating activity, a trial of Abraham Lincoln. Her comments indicated a new awareness of the complexity of thinking about social reality: “The problem was I assumed the trial was simpler than it was. I discovered the questioning task was set at too high a level of thinking for them . . . I will model a debate for them next year, maybe with my co-workers, on some school issue.”

As the group continued to discuss the challenges of preparing and supporting students in perspective recognition and complex thinking, Audrey [TRAN] offered: “You must think of different roles that have distinct viewpoints. You have to have an active imagination. You have to be ready to sit on the floor pushing kids’ (thinking) the entire period.”

Mike [INTG] added: “I learned from the [Truman] think-aloud [lesson] you need to have something that someone whose role they will take has written. You have to know the right questions to ask. You need to do that a lot with expert [perspective recognition] groups; that scaffolding is so critical [at that stage].”

Karl [TRANS] reflected on how their comments related to his own implementation, acknowledging a weakness in his WWII propaganda lesson that the staff had noted but that he had never before verbalized: “I didn’t get the Japanese perspective from the kids. [If I did it again] I would give myself more time.”

*Effects of Planning Scaffolds.* We had been disappointed that PIH planning scaffolds had so little apparent effect in most mentors’ unit planning. However, in the context of the retreat discussion, mentors appropriated these scaffolds as communication tools for sharing challenges and successes with peers, and aligning practice with theory.

Mike shared with his peers how our Unit Framing scaffold affected his planning: “History has always been content cans. The challenge was what goes in the can. I knew something was fundamentally wrong with that. The process of clearly articulating that [unit] spine of a Central Question-Culminating

Activity will help a lot of teachers jump the hurdle to real planning . . . It took me 6 months to figure out what you meant by scaffolding. But once you formalize it (your planning); it's repeatable. We become professionals . . . And seeing good models—I couldn't have done [my think-aloud] without seeing [a model].”

Alice [TRAD] continued to question the value of the scaffolds, particularly one that asked mentors to map out the elements of their unit plan. Karl's reply illustrated the ownership that peers had begun to take for encouraging others to entertain the larger principles underlying the PIH model: “I didn't see the purpose at first, but after using it in the graduate class [a class he was taking at the time of the retreat], I see how it fits within the larger picture of making sure you have included all intelligences, varied assessments, etc. It is very valuable.”

We had asked mentors to keep a weekly journal as a metacognitive scaffold. However, entries had been utilitarian rather than reflective. Asked what advice they would give to their mentees, Audrey's comment suggested movement towards a conception of generalizable professional knowledge: “The next time I will keep a journal while planning and teaching so I will know what worked, what didn't, and where I can make modifications”

### Engaging in Mentoring

The trends observed in the planning retreat continued as our group took on active mentoring roles during the summer seminars. Ownership and integration of the theory and practice grew as mentors proactively responded to doubts and challenges from the novice PIH teachers and used the video models and planning scaffolds to support their dialogues with the novices. We observed some of the greatest shifts in those mentors who had begun from a traditional stance.

Alice, who had resisted the scaffolds in her own planning, employed them consistently to help a mentee teacher when he struggled to conceptualize a PIH project. She reflected: “ I referred him to the sample focus questions and he was able to adapt one of the samples to fit his topic. Also, the Framing the Unit planning [scaffold] really helped him pull it all together. By answering the questions on this form, Joe was able to see "the big picture". She was pleased that discussing video examples from her implementation “reassured him that his 6th grade students could do this . . . I think that proved to him that PIH might be something that he could use with his students.”

Fiona [TRAD] worked with another traditional teacher who struggled to fit PIH planning principles to his vision of practice. She explained that his struggle hinged on his difficulty in framing his unit around an ill-structured, evaluative question. “He wanted everything to have a yes/no answer. He kept thinking his 5<sup>th</sup> graders weren't going to get it. You have to design your questions to meet the needs of the children and use multiple intelligences to make sure all the children can participate . . . He needs to see how the lessons fit with the Central Question. We'll do it together.”

Mentors who had begun closer to the Integrated stance continued to serve as bridges for peers in questioning traditional assumptions and considering practice decisions within a professional knowledge perspective. During the seminars, Mike even initiated an on-line epistemological dialogue with Sara, a past Seminar participant whom he had never met. On the forum, Sara described her unit on imperialism and its linkage to “the illegal war we are now engaged in Iraq.” She stated that she hoped the unit helped her students to “learn the ultimate value message: respect for the independence of fellow nations.” In his reply, Mike expressed reservations about “assigning ‘ultimate value messages’ or declaring wars ‘illegal’ . . . How far does the analogy of the U.S. in Iraq today stretch to meet British hegemony in the first half of last century? These are deep issues that must be struggled with by the students, not dictated by the teacher/coach.” At the same time, he acknowledged the complexity of ensuring a fair hearing for all sides and the value of shared deliberation for improving practice: “I struggle deeply with the idea of a “value neutral” classroom led by an “unbiased” teacher. I don’t think it’s possible or healthy. But being aware of this delicate dance is half the battle and, through open exchange of dedicated professionals, I learn new steps to the dance.”

As we debriefed after the seminars, Mike expressed optimism that the professional knowledge represented in the PIH model might have more positive effects than past staff development: “We’re presenting a framework. Every year teachers go to a seminar that is pointless because it’s just pieces, and they’re presented [to teachers] as THE puzzle. This model is a framework that incorporates all those things [multiple intelligences, group work, etc] and gives significance to all the pieces that we keep hearing are the puzzle. For the first time we see people’s eyes light up.”

### **CONCLUSION**

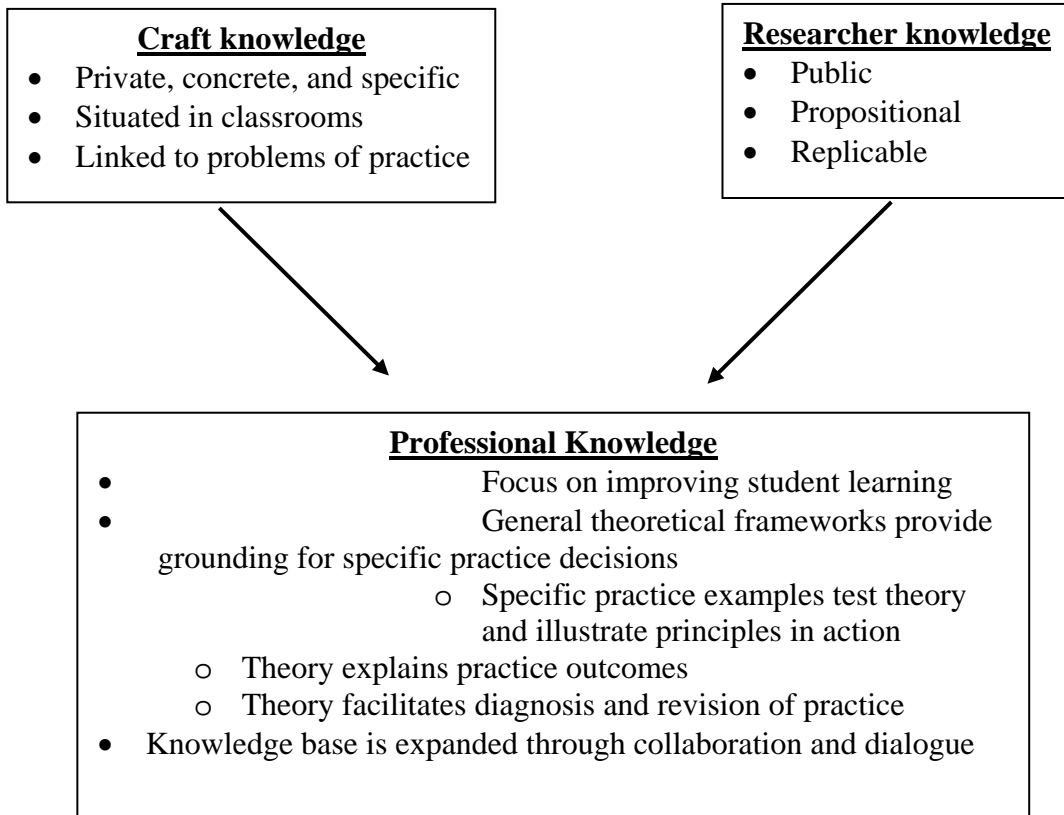
This report extends an evolving line of inquiry that investigates how PBHI might be more effectively promoted and supported. Its findings cannot be generalized. However, our work corroborates other research on teacher thinking and suggests important considerations for PBHI professional development. This study illustrates the difficulties of introducing a holistic theory-based framework for practice into the school culture. It provides some promise for using modeling and scaffolding to assist teachers in linking theory to practice, but suggests that teachers must ground these supports in their own experience before they become fully accessible or legitimate. Given the professional growth demonstrated by our respondents as they shifted from classroom teacher to mentor roles, our findings hold particular promise for collaborative communities of practice as change mechanisms. Such communities may encourage teachers to de-privatize their knowledge and use each other as resources for making connections to common principles that build a professional knowledge base of reliable wise practice.

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**Figure 1. Creation of Professional Knowledge**

**Table 1. Sample PBHI Unit with Illustrative Unit Task**

<p><b>Topic:</b> Origins of the Cold War</p> <p><b>Persistent Issue:</b> When is one nation justified in imposing its will on other nations or groups?</p> <p><b>Unit-specific Central Question:</b> Who was most responsible for the rise and escalation of the Cold War – the U.S. or the U.S.S.R?</p>
<p><b>Culminating Activity:</b> Students are assigned to create a museum display that addresses the unit Central Question from either the U.S. or U.S.S.R. perspective. The class tours the museum displays with “docents” from each group leading members through their group’s exhibit. The class discusses the effectiveness and accuracy of each display and engages in a final deliberation about the central question.</p>
<p><b>Unit Progression:</b></p> <ol style="list-style-type: none"> <li>1. The instructor introduces the unit by having the class experience and then debate the justification for a school-based example of one group (administrators) imposing its will on another (students). The teacher links this example to the Persistent Issue and the Unit-specific Central Question and introduces the culminating unit activity.</li> <li>2. Students make connections between the key events of the Cold War by creating an illustrated timeline of events from 1945 to 1991.</li> <li>3. Students participate in a think-aloud lesson to consider the dilemma President Truman faced as he decided the appropriate course of action during the Berlin crisis in 1948.</li> <li>4. Students work in pairs to create a letter to the editor and an editorial cartoon addressing early Cold War events from the Soviet perspective. Students base their work on a “Meet the Press” session with Joseph Stalin and an analysis of a series of source documents that depicts Soviet views of the period.</li> <li>5. Students prepare and display the museum exhibits.</li> </ol>
<p><b>Illustrative Lesson – Truman Think-Aloud</b></p> <ol style="list-style-type: none"> <li>1. Expert Groups: Students are assigned one of four groups. Each group is responsible for becoming an expert on the views of one person that might have advised President Truman during the Berlin crisis: Secretary of State George C. Marshall; American ambassador in Moscow, George Kennan; journalist, Walter Lippman; and former Secretary of Commerce, Henry Wallace.</li> <li>2. Jigsaw to Decision-making Groups: Students move into new groups made up of a member from each of the expert groups. This group first listens to arguments from each of the four expert advisors, then collectively acts as Truman making a decision and writing a press statement.</li> <li>3. Socratic Discussion: The class hears the decisions from the decision-making groups and then steps out of their assigned roles and debates the appropriate response to the crisis.</li> <li>4. Conclusion: Students watch a film clip presenting Truman’s decision, then compare his decision to their own evaluations and discuss the long-term implications of his actions.</li> </ol>

**Table 2. Craft Knowledge vs PIH Professional Knowledge Planning and Teaching**

<b><u>Craft Knowledge Planning &amp; Teaching Characteristics</u></b>	<b><u>PIH Professional Knowledge Planning and Teaching Characteristics</u></b>
<ul style="list-style-type: none"> <li>• Planning and implementing instruction is idiosyncratic, particular to an individual teacher, and specific to a particular topic or lesson</li> <li>• Varied criteria guide instructional design decisions               <ul style="list-style-type: none"> <li>○ Coverage of topics in curriculum guide</li> <li>○ Teacher interest</li> <li>○ Interesting materials/activities</li> <li>○ Easily managed/controlled</li> <li>○ Easily assessed</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Planning and implementing instruction is based upon a shared, field-tested theoretical framework [directed toward the end goal of civic competence]</li> <li>• An integrated set of criteria guide instructional design decisions               <ul style="list-style-type: none"> <li>○ Meaningful, ill-structured problems serve as conceptual anchors for learning</li> <li>○ Collaboration facilitates complex understanding</li> <li>○ Design for multiple intelligences allow all learners access to understanding</li> <li>○ Scaffolding and modeling facilitate complex thinking</li> </ul> </li> </ul>

**Table 3. Competing Assumptions in Craft and PIH Cultures**

<b><u>Traditional Craft Culture Assumptions</u></b>	<b><u>PIH Culture Assumptions</u></b>
<p><b>Absolutist epistemology</b></p> <ul style="list-style-type: none"> <li>• Knowledge is created primarily by outside authorities, not within oneself</li> <li>• Historical truth is fixed and knowable</li> <li>• Facts speak the same to all. There is a unilinear historical narrative.</li> <li>• Thinking is a fairly uncomplicated affair</li> </ul>	<p><b>Constructivist epistemology</b></p> <ul style="list-style-type: none"> <li>• Individuals and/or communities create knowledge</li> <li>• Social reality is ill-structured and ambiguous. Sense-making is a complex process.</li> <li>• Perspective determines interpretation of the facts and lead to multiple narratives about the past.</li> <li>• Historical conclusions are tentative</li> </ul>
<p><b>Transmission functions of history</b></p> <ul style="list-style-type: none"> <li>• Identification with nation and culture</li> <li>• Teach moral lessons</li> <li>• Personal enrichment</li> </ul>	<p><b>Civic competence function of history</b></p> <ul style="list-style-type: none"> <li>• Develop dialogic and analogic decision-making</li> <li>• Develop analytical thinking (historical perspective, empathy, sourcing, etc.)</li> <li>• Develop foundational knowledge within an authentic problem context</li> </ul>
<p><b>Beliefs about students</b></p> <ul style="list-style-type: none"> <li>• Most students are not naturally eager to learn</li> <li>• Most students can't/won't engage in higher-order thinking</li> <li>• Most students resist challenging tasks</li> </ul>	<p><b>Beliefs about students</b></p> <ul style="list-style-type: none"> <li>• Students are naturally curious</li> <li>• Students can engage in higher-order thinking</li> <li>• Students will undertake challenging tasks</li> </ul>
<p><b>Risk taking</b> creates the potential for unnecessary classroom disruptions. Knowledge can be best communicated in a orderly, teacher-centered environment and assessed in a straightforward, unambiguous manner</p>	<p><b>Risk taking</b> by teachers and students is necessary and good to stimulate thinking, explore multiple perspectives, and prepare citizens to make responsible decisions in an ambiguous world.</p>

**Table 4. Demographic Characteristics of Mentor Teachers**

	Alice	Fiona	Karl	Audrey	Chuck	Mike
<b>Age</b>	46-55	46-55	<25	<25	26-35	36-45
<b>Ethnicity</b>	White	Black	White	Black	White	White
<b># Years Exp.</b>	11-15	15+	2	2	6-10	6-10
<b>Grades taught</b>	6	5	10-11	7-8	10-11	9
<b>Past PIH Exp.</b>	• Seminar	• Seminar	• Undergrad Program • Seminar	• Undergrad Program • Seminar	• Undergrad /Grad Program • Research	• Grad courses

