

**Assessing Program Effectiveness for Promoting Professional Teaching Knowledge about
Problem-based Historical Inquiry**

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RUNNING HEAD: Assessing Program Effectiveness

Abstract

A scenario-based assessment instrument investigating the effects of a four-course social studies program sequence on pre-service teachers' professional teaching knowledge was administered to 34 pre-service social studies teachers: Once at the beginning of their teacher education program, and again at the end of their program. Results suggested substantial changes in teacher thinking from the initial survey to the post-survey. Respondents' instructional decisions aligned more closely with the core principles promoted by their program, and they provided more articulated reasons for their curricular choices that suggested genuine understanding of the program's curricular model. This report also discusses implications for the use of scenario-based instruments to measure teacher understanding of other curricular frameworks.

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Introduction

Social educators have consistently advocated investigation of social issues as a way to engage students, cultivate critical reasoning, and develop better decision-makers. However, issues-based inquiry remains rare in social studies classrooms. Work in teacher thinking, cognition, and authentic learning has offered insight into how some teacher-based obstacles to inquiry might be overcome. We applied this research base to develop a learning framework for problem-based historical inquiry and applied that framework to the design of the social studies education program at a large southeastern university (Saye & Brush, 2006; 2007).

This paper reports efforts to use a scenario-based assessment instrument to gain insight into the effects of programmatic design on pre-service teachers' professional teaching knowledge and instructional decision-making. Specifically, we will:

- (1) Describe our program model and how the professional teaching knowledge represented by our model was manifested in the design of scenario-based assessment items.
- (2) Present findings from a longitudinal study assessing the professional teaching knowledge of pre-service teachers who completed the assessment instrument before they began the four-course social studies program sequence and again at the conclusion of that program.
- (3) Discuss the implications of this work for providing teacher education programs with a tool for assessing the alignment of program goals and outcomes.

Overview of the Problem

The persistent advocacy of student inquiry in teacher preparation programs has had little effect on classroom practice (Goodlad, 1984; Shaver, 1996). The root of the problem is cultural.

The dominant teaching culture discounts the research-based, generalized knowledge that underlies inquiry-based reforms. Instead, teachers trust craft knowledge that is generated by practitioners and learned from direct experience. While researcher knowledge is public, propositional, and replicable, craft knowledge is concrete and specific, situated in classrooms, and linked to problems of practice (Hiebert, Gallimore, & Stigler, 2002).

The socializing effect of the craft culture is powerful. Prospective teachers enter preparation programs with well-developed views about teaching shaped by years of observation. Pre-service teachers rate school-based experiences as the most valuable part of their preparation, but those experiences often reinforce the craft culture's notion that the inquiry pedagogy advocated in methods courses is unrealistic and unnecessary (Lortie, 1975; Grossman, Wineburg, & Woolworth, 2000). To bridge this cultural divide, theorists have advocated integrating craft knowledge and researcher knowledge in order to produce a professional teaching knowledge that practitioners will recognize as legitimate (Hiebert, et. al, 2002; Saye, 1999).

We conceptualize professional teacher knowledge (PTK) as pragmatic theory that is tested through authentic work in classrooms (Garet et al., 2001; Clark et al., 1996; Thomas et al., 1998). Our social studies education program is grounded in socio-constructivist assumptions generated by 30 years of research on how people learn (Bransford, Brown, & Cocking, 2002; Kuhn, 2005; Wiggins, 1989) and especially draws from the Authentic Intellectual Work research done by Newmann and associates (1996). In nine years of close collaboration with classroom teachers we have tested the propositions emerging from this literature to develop a set of wise practices that integrate research and practice into a professional teaching knowledge base for implementing problem-based historical inquiry (PBHI).

We have incorporated these wise practices into a comprehensive professional development effort for promoting PBHI among pre-service and in-service teachers, the Persistent Issues in History (PIH) Network. PIH wise practice principles for instructional decision-making differ markedly from the criteria used in a more traditional craft teaching paradigm (Appendix 1). These competing conceptions of planning and teaching originate from fundamentally different assumptions about 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, 1998) (Appendix 2).

The PIH approach centers on the development of civic competence as the motivating purpose for teaching social studies. Our principles for designing and implementing instruction seek to engage learners deeply with complex historical content that is situated within the context of inquiry into fundamental societal issues. In order to establish relevance and authenticity, we give priority to enduring ethical issues that have significance for contemporary society. Recognizing the cognitive challenges of PBHI, we plan deliberately for supporting disciplined inquiry and ethical reasoning by providing multiple ways of knowing, embedded expertise, and the active support of both teachers and student peers.

Over the course of four consecutive semesters, pre-service students in our program explore PIH principles and practices through social studies curriculum materials that have emerged from our work with teacher partners and through extensive field experiences working in PBHI-based classrooms. Recognizing the difficulty in challenging the durable assumptions of craft teaching knowledge, we wished to investigate the cumulative effects that prospective teachers' experiences in our program might have on their conceptions of planning and teaching social studies.

Data sources and analysis

Instrument Development. Teacher preparation programs use many methods to assess program participants' growth in the knowledge, skills, and dispositions essential for professional teaching practice. These include attitudinal surveys, professional work samples, and teaching observations. Concerned that teacher candidates might exhibit surface behaviors suggesting the adoption of program goals without truly internalizing the underlying theoretical assumptions that form the basis of professional teaching knowledge, we wished to probe students' instructional decision-making to uncover the rationales behind those decisions and whether they changed over the course of the students' professional program.

Developing an instrument to measure an individual's understanding of PTK is more challenging than developing instruments such as attitudinal surveys. To explore respondents' instructional decisions, researchers have recommended assessments that provide content-specific scenarios and ask participants to complete a task based on the scenario. This form of assessment has been successfully implemented in fields such as science (Cooper, Shepardson, & Harber, 2002), business (Callanan & Perri, 2006), and ethics (Snow & Bloom, 1996).

Our survey scenario was set in the context of planning a 10th grade US History unit on the Reconstruction Era. Respondents were asked to make instructional decisions in four areas that are commonplace in planning units of instruction: *Identifying Learning Objectives*, *Introducing the Unit*, *Providing Resources for Active Knowledge Construction*, and *Assessing Student Learning Outcomes*. In designing options for each of the four instructional decisions, we incorporated choices reflecting a wide range of assumptions about teaching and learning. We included several options in each survey section that might be indicative of the PTK assumptions of the PIH program model (see Appendices 1-2):

- We gave priority to learning objectives that require the analysis and synthesis of foundational knowledge in the service of ethical decision-making.
- We gave priority to introductory activities that establish relevance and authenticity by connecting to students' experiences and establishing a purpose for learning centered on an evaluative central unit question that connects all unit activities.
- We gave priority to knowledge resources that provide deep, rich historical content that reflects competing perspectives on issues pertinent to the central unit question.
- We gave priority to collaborative and individual assessments that require students to publicly deliberate and defend a position on the ethical issue posed by the central unit question.

Although our design anticipated that certain instructional decisions would be more closely associated with our PTK model, we recognized that students might make choices for reasons that differed from our own. The critical element of the survey was the rationale provided for each choice. Only in analyzing the rationales could we gain insight into how deeply teachers had integrated theory into their practice decisions.

Participants. Three cohort groups of undergraduate students enrolled in a four-semester secondary social studies program at a large southeastern university responded to the survey (total N =34). We used a cohort survey research design in which the same participants completed a survey instrument on two occasions in order to determine differences in responses to various items over the course of an intervention (Fowler, 2002). Respondents completed the on-line scenario survey immediately before beginning their first social studies education course and then completed the same survey again as they completed their last program course: a full-semester student teaching experience. Each survey was coded so that pre and post-program responses could be correlated, but respondent identities remained anonymous.

Data Analysis. Participants' initial responses to the survey were compared to their responses as they completed their student teaching experiences. Numerical data from the survey were analyzed using descriptive statistical procedures. We used typological and content analysis, and analytic induction to examine rationale statements qualitatively for explanation of reasoning underlying teacher choices.

In previous work with in-service teachers (Saye, et. al, 2009) we conceptualized teachers' practice decisions as arrayed across a continuum with traditional craft knowledge and integrated PIH professional knowledge occupying the polar positions of the scale (Appendices 1 & 2). For discussion purposes we identified three developmental points along this continuum to categorize our in-service respondents' stances in relation to the PIH principles for practice: *Traditional*, *Transitional*, and *Integrated*. We caution that this typology is a heuristic device for thinking about teaching rather than an effort to categorize the complex decisions that teachers make at fixed points on a scale.

Adherents of a traditional craft knowledge perspective consider teaching to be deeply personal and particular to a specific teacher, classroom, and lesson. Traditional teachers may be motivated by personal theories, but they do not perceive those theories to be broadly generalizable. In the *Transitional* phase, teachers may begin to consider how more generalizable theoretical principles may lend direction and conceptual coherence to practice decisions. However, some portions of professional teaching knowledge (in our case, the PIH 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 PIH practice. Their planning integrates PIH principles into a

cohesive unit design focused on accomplishing the civic competence purpose that is at the core of PIH professional teaching knowledge.

For the current study, we applied this PIH developmental typology to examine pre-service teachers' responses to our survey. With the typology as an initial analytical lens, four researchers coded data independently and met weekly to compare findings and to develop and refine categories to better fit the patterns emerging from our data. Our discussions resulted in a refined typology for making sense of participants' responses. We used this analytic frame to examine the range of respondents' thinking and to generate data-based speculations about the findings' implications for pre-service teachers' professional teaching knowledge.

Results

Our analysis of pre-service teacher survey data suggested that most respondents exhibited movement towards PIH professional teaching knowledge. In the pre-survey, many novice teachers emphasized the recall and comprehension of factual information and sought utilitarian, management-oriented goals that focused on gaining student attention, cooperation and effort. The great majority of respondents evidenced changes in their instructional choices on the post-survey that reflected ideas consistent with some aspects of our model. More revealing was the reasoning they used to explain those choices.

Most typically, respondents' post-survey rationales suggested that they recognized the value of particular instrumental learning strategies promoted by the program (see Table 1). Because such learning strategies can motivate and support students in the cognitively challenging work required for civic competence, these instrumental strategies might be viewed as means toward accomplishing the larger goals of the PIH program model. We considered the

endorsement of instrumental strategies evidence that students had moved into the *Transitional* (TR) area of our continuum.

The move to a *Transitional* stance is no small step because application of PIH instrumental strategies towards higher order learning requires students to entertain constructivist assumptions about knowledge: That social reality is complex and ambiguous and that perspective shapes one's interpretation of facts (See Appendix 2). We view those assumptions as prerequisites to the adoption of civic competence as the central mission for teaching history. Once we believe that viable multiple narratives exist, a logical implication for practice is that teachers should help students explore varying perspectives on issues in order to make responsible decisions in an ambiguous world. Only when a teacher embraces the civic competence mission of history teaching do the PIH professional knowledge planning criteria make sense as a unified framework for instructional decision-making.

Although many respondents demonstrated *Transitional* assumptions, we saw less evidence that students had conceptualized how instrumental strategies might be integrated to serve any of the three core competencies necessary for informed decision-making about contested public issues: Ability to synthesize essential information necessary for addressing a problem, analytical thinking, and ethical reasoning. We considered those students who demonstrated linkages between instrumental strategies and any of the larger civic competence goals to be moving towards the *Integrated* range of the continuum. Although the post-survey responses of a number of students suggested the salience of at least one civic competence goal for their practice decisions, only seven students in our sample (21% of respondents) provided convincing evidence that the development of civic competence played a central, unifying role in their instructional decisions.

Table 1. Instructional Emphases as Manifestations of PIH Professional Teaching Knowledge

<i>Transitional Stance</i> -----		<i>Integrated Stance</i>
<u>Instrumental Learning Strategies</u>	<u>Civic Competence Goals</u>	<u>Integrated Civic Competence Mission</u>
<ul style="list-style-type: none"> • Authenticity • Relevance • Collaborative Learning • Accountability • Multiple Intelligences 	<ul style="list-style-type: none"> • Knowledge-seeking Situated in Context of Authentic Problems • Analytical Thinking <ul style="list-style-type: none"> ○ Perspective-taking ○ Empathy • Ethical Decision-making about Contested Public Issues 	<ul style="list-style-type: none"> • Consistent, explicit connections of Instructional Emphases to citizenship, democracy

In the next section, we will explain in more detail our rationale for the design of survey items and examine student responses for each of the four components of the survey—both the rank order for student decisions and the rationales they used to justify their choices. We will include examples of the reasoning of students who manifested *Transitional* (TR) assumptions and those who seemed to have begun a move to an *Integrated* (CC) stance. Following that section, we will provide a closer analysis of the responses of the four students who demonstrated the greatest degree of change in the direction of an *Integrated* stance that centers instructional decision-making around a civic competence purpose for teaching history and social studies. To distinguish important differences among this group, we classified *Integrated* respondents at varying levels of integration of the civic competence mission based upon their statements (from CC1 to CC4). Table 6 on page 26 provides a fuller description of these different *Integrated* levels.

Instrument Rationale and Analysis of Survey Components

The goal of the scenario-based survey was to explore the potential influences of our program on pre-service teachers' conceptualization of PIH unit design. We looked for evidence at several levels: First, that respondents valued PIH Instrumental Learning Strategies that facilitated civic competence goals; second, that respondents provided specific evidence that their design decisions were shaped by civic competence goals including: situating knowledge-seeking in the context of authentic problems; encouraging analytical thinking requiring perspective taking and/or empathy; and ethical decision-making about contested public issues. Finally, we looked for evidence that respondents had consolidated those civic competence goals around an explicit civic competence mission for developing democratic citizens. We examined each component of the survey separately and then examined responses more holistically across all components.

Learning Objectives. In the first section of the survey, participants were asked to rank six learning objectives in order of importance. These learning objectives included:

1. Students will explain the influence the Reconstruction period had on today's political structure
2. Students will use primary documents to identify major controversies surrounding Reconstruction policies
3. Students will describe the relationship between the Reconstruction period and the Civil War
4. Students will construct an argument that reflects the perspective of a figure from the Reconstruction period
5. Students will explain the reasons for the Federal initiatives implemented during Reconstruction
6. Students will use historical evidence to defend a position on the desirability and effectiveness of Reconstruction policies

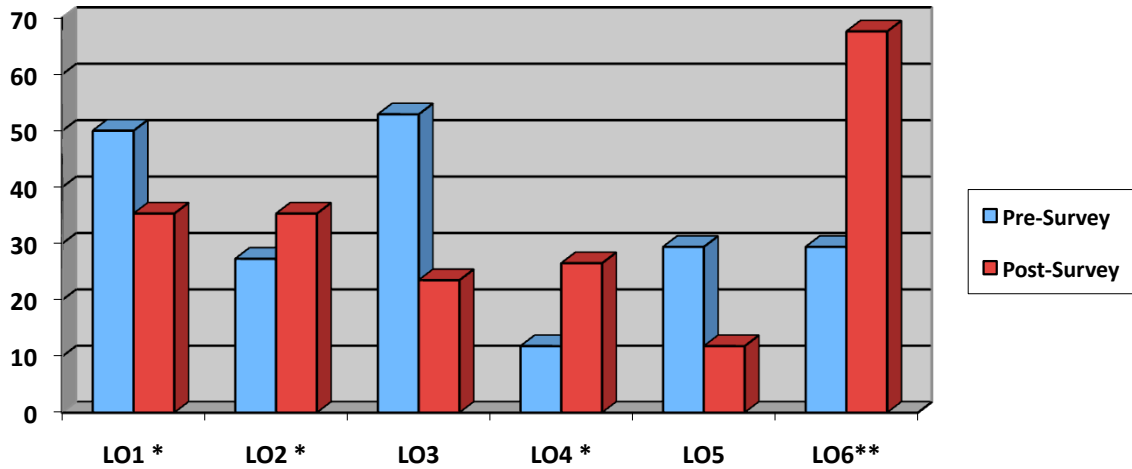
Responses were aggregated to determine the percentage of participants who selected each objective as either their first or second choice. A summary of responses is provided in Table 2.

Figure 1 presents a graphical representation of these data.

Table 2. Percentage of participants who ranked each learning objective as first or second.

Learning Objective	Pre-Survey %	Post-Survey %	Difference
LO 1	50.0	35.3	-14.7
LO 2	27.3	35.3	+8
LO 3	52.9	23.5	-29.4
LO 4	11.8	26.5	+14.7
LO 5	29.4	11.8	-17.6
LO 6	29.4	67.6	+38.2

Figure 1



**Indicates survey designers' top preference; *indicates other designer preferences

These survey choices offered a wide range of options, but included objectives that would most closely match the PIH instructional design model. Objective 6 represents our most

desirable choice as it captures the civic competence emphasis of the study of history. The PIH framework expects teachers to design units around persistent issues that ask students to evaluate value conflicts facing democratic cultures. Objectives 1, 2, and 4 represent key aspects of the PIH framework by encouraging connections between the past and the present (1), the exploration of multiple perspectives (2), and the development of historical empathy (4). Since all three are necessary to adequately accomplish Objective 6, we hoped to see any of those among the top choices. We viewed Objectives 3 and 5 as lower-rated options because they limit instructional goals to comprehension of facts and do not indicate a commitment to higher order thought.

Post-survey results suggested movement toward PIH professional knowledge. Thirty-eight percent more students chose the evaluative Objective 6 in the post-survey, and substantially fewer students selected descriptive objectives 3 and 5. However, the rationales suggest a wider range of developmental understanding of the PIH model than the percentages alone indicate. Many participants adopted specific instrumental learning strategies that include inquiry-based assumptions, but failed to connect those strategies to a civic decision-making focus that would be indicative of *Integrated* thinking. For example, one student (TR-A) shifted from prioritizing recall and comprehension objectives (3,1,6) to objectives that emphasized ethical reasoning and perspective taking (6,4,1). In explaining his shift, the participant articulated *Transitional* goals: “think[ing] critically about the topic;” “making arguments also promotes higher order thinking;” “making “the topic relevant to the students’ lives.”¹

Another respondent (TR-B) made an important ranking shift in the direction of the PIH model (3,2,6 to 6,1,4) and supported that shift with a rationale stressing that instructional strategies should serve a civic purpose. In the pre-survey she emphasized the importance of identifying the consequences of the war, but also wished for students to use primary documents

to empathize with views of the time. In the post-survey, however, her reasoning focused explicitly on a broader civic purpose when she stated, “Having them defend a position by using evidence shows...that they know how to use factual evidence to form opinions which they will have to be able to do in order to be active and knowledgeable citizens.” Although this respondent’s rationale for selecting objectives suggested an *Integrated* stance, her rationales in the three other sections of the survey failed to demonstrate this level of integrated PTK. For this reason, we considered her overall stance to be *Transitional*.

A third respondent (CC4-B) initially chose objectives 1,5,4. He recognized the importance of connecting the past to the present and having students construct their own understandings of the past, but did not require students to make judgments about the Reconstruction policies. His post-survey revealed a substantive shift in priorities (6,4,2) as well as a rationale that suggested he was approaching an *Integrated* stance: “The first objective (#6) would be the central focus of the whole unit. I would want the kids to examine the pros and cons of these policies and assess their value and defend/criticize from different perspectives.” Although this respondent’s pre-survey suggested he entered the program with some *Transitional* assumptions, his responses across the post-survey sections demonstrated that he had begun to integrate these assumptions to focus instruction around the evaluation of ethical civic issues from the time period.

Introductory strategy. After selecting objectives, participants were asked to rank seven possible introductory strategies in order of how likely they would use them in their Reconstruction unit. These introductory strategies included:

1. Ask students what they know about the Reconstruction period
2. Connect the historical topic to students’ own interests and experiences
3. Present a general overview of important events that will be covered in the Reconstruction unit

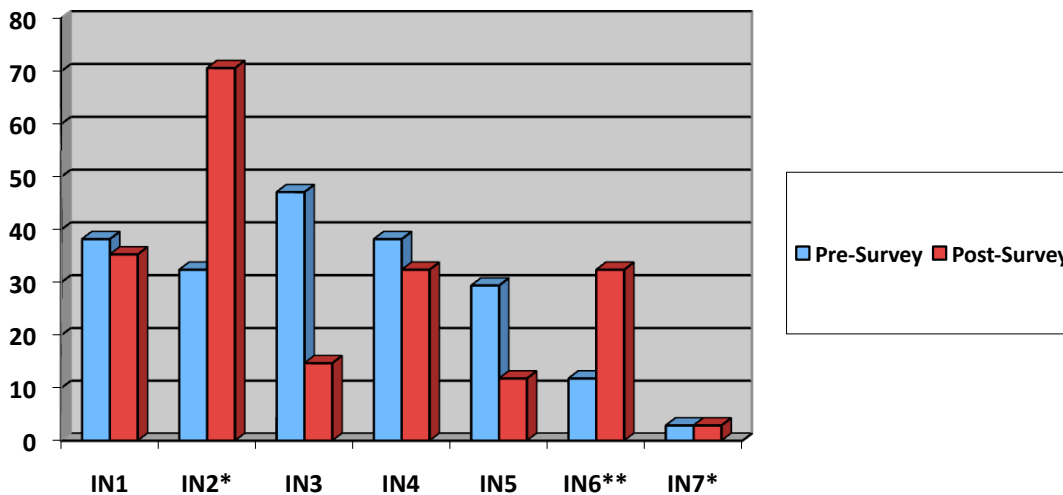
4. Connect Reconstruction to events studied in the previous unit
5. Have students complete a pre-test to determine their general knowledge of the Reconstruction period
6. Connect Reconstruction to broader historical themes or issues
7. Explain to students how their understanding will be assessed at the end of the unit

Responses were aggregated to determine the percentage of participants who selected each introductory strategy as either their first or second choice. A summary of responses is provided in Table 3. Figure 2 presents these data in graphical form.

Table 3. Percentage of participants who ranked each introductory strategy as first or second.

<u>Introductory Strategy</u>	<u>Pre-Survey %</u>	<u>Post-Survey %</u>	<u>Difference</u>
IN 1	38.2	35.3	- 2.9
IN 2	32.4	70.6	+38.2
IN 3	47.1	14.7	- 32.4
IN 4	38.2	32.4	- 5.8
IN 5	29.4	11.8	- 17.6
IN 6	11.8	32.4	+20.6
IN 7	2.9	2.9	0

Figure 2



**Indicates survey designers' top preference; *indicates other designer preferences

The options most closely reflecting PIH assumptions in this section were numbers 2, 6, and 7. These three options encourage teachers to consider how to make historical topics relevant to their students (2), demonstrate how the value conflicts of the period resonate in other times and places (6), and give students a clear vision of the end of unit assessment in order to improve motivation and provide an authentic purpose for activities (7). Although Choice 3 encourages the teacher to orient the student to the topics, it ignores the “why” question and therefore lacks a commitment to demonstrating relevance to the students. Choices 1 and 5 focus solely on comprehension and fail to demonstrate a purpose for the unit beyond factual recall of unit information.

On the post-survey, substantially more respondents chose the two objectives (2 and 6) most closely aligned with the PIH model. Support for those choices that were least reflective of PIH professional knowledge (1,3,4,5) decreased. In examining their rationales, we found

evidence that a number of participants had begun to focus on key instrumental learning strategies, but most did not link those strategies to a civic decision-making focus. Many responders reordered their top preferences in ways that suggested a shift from introductory strategies designed to assess prior knowledge to strategies designed to motivate and engage students by demonstrating relevance and authenticity. For example, one respondent (TR-C) explained a shift of priorities (4,1,2 to 2,6,7) in favor of authenticity and relevance when she stated it was important “to show them how the topic is relative to their lives. Also they will be interested if they can see that the issue that we are looking at has occurred and re-occurred thorough time.” Another student (TR-D) made a similar shift (4,1,2 to 2,4,6) that he explained by an emphasis on relevance, “Relevance is the most important thing so ... I would choose to connect it to broader historical themes so that it fits with having the students know why this issue keeps coming up.” Although these participants did not appear to have embraced the link between establishing relevance and engaging students in difficult ethical reasoning, their shifts towards using more authentic introductory activities represents an important step in moving toward a civic-competence purpose for teaching and learning.

Actively involved in developing knowledge. Participants were asked to rank five different types of historical resources in order of how likely they would use them to promote students’ active involvement in developing knowledge about Reconstruction policies. These resources included:

1. Accounts of Reconstruction from three different high school history textbooks
2. An account of Reconstruction from an on-line encyclopedia such as MSN Encarta
3. An account by an historian that explains Reconstruction policies and their results
4. Several official government documents from the Reconstruction period such as the Freedman’s Bureau Act of 1865
5. Two to three primary source documents such as newspaper editorials or letters that differ in the judgments they make about the effectiveness or desirability of Reconstruction

policies

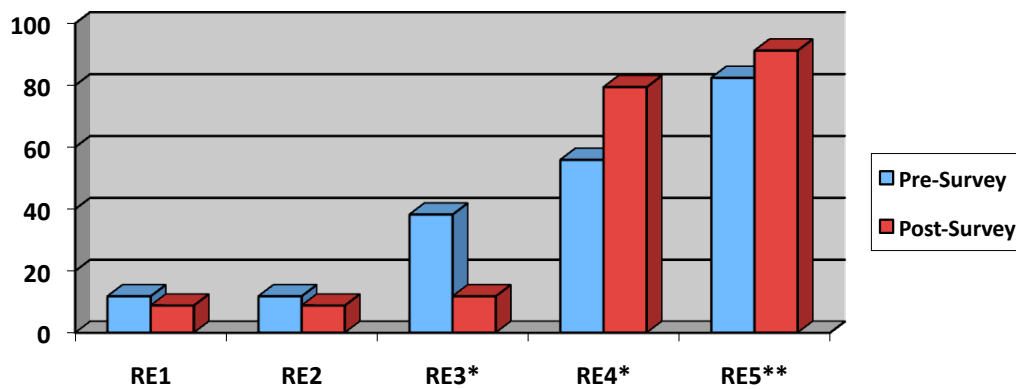
Responses were aggregated to determine the percentage of participants who selected each resource as either their first or second choice. A summary of responses is provided in Table 4.

Figure 3 presents these data in graphical form.

Table 4. Percentage of participants who ranked each resource as first or second.

Resource	Pre-Survey %	Post-Survey %	Difference
RE 1	11.8	8.8	- 2
RE 2	11.8	8.8	- 2
RE 3	38.2	11.8	-26.4
RE 4	55.9	79.4	+23.5
RE 5	82.4	91.2	+ 8.8

Figure 3



**Indicates survey designers' top preference; *indicates other designer preferences

Because the PIH framework stresses the importance of deep, rich historical context including primary-source document analysis from multiple points of view, the careful selection of materials by respondents is significant in revealing their conceptualization of the PIH unit design principles. Our most desired choice was Option 5 because it requires students to analyze primary source documents with competing perspectives in order to make an evaluative decision about Reconstruction policies. However, choices 3 and 4 were also acceptable active learning options because these data sources had gone through fewer filters than the textbooks or encyclopedia (choices 1 and 2). The shifts of the numerical rankings by participants in this category were the least dramatic of the four sections of the survey. We saw a small increase of 9% in Option 5, but a large majority had selected this option in the pre-survey. Option 4 experienced a substantial increase (24%), and Option 3 (historian) demonstrated a notable drop in support (-26%). Options 1 and 2 were the least favored in the pre-survey and each experienced a 2% decrease in the post.

As in the previous two categories, a number of respondents showed evidence of adopting specific instrumental strategies, but few showed evidence they had moved further along the continuum toward integrating civic competence across the unit design. In the pre-survey, a respondent (TR-E) ranked Option 1 as the most preferred activity because, “Textbooks are a very effective and concise way of telling a broad view of the historical topic. In the post-survey, she shifted away from textbooks toward an emphasis on authenticity, stating “obviously the ideal materials . . . would not be out of textbooks . . . It is definitely more work for the teacher to find primary documents . . . A lot of times I have had to rewrite or add in definitions to the sources I would like to use. However, I still like the idea of using primary documents because I think they lend a sense of authenticity to the lessons because they came from real live people.” Another

respondent (TR-F) did not change as markedly in relative preferences (4,3,5 v. 5,3,4) for various activities, but his rationale for selection of primary materials was much more articulated in the post-survey expanding from a pre-survey rationale stating “they are hands on materials that students can use and see” to an explanation in the post-survey that “primary documents and personal accounts about the issue... makes the information relevant and real to the students [rather] than just reading facts out of a textbook.”

Several participants did show signs of a shift beyond instrumental strategies to a more clearly focused civic competence mission. As we found in other areas, even when students did not greatly alter their rank ordering, their rationales often more explicitly addressed key ideas emphasized in their professional program. For instance, one student (CC4-B) emphasized using both sets of source documents in both pre and post surveys, explaining in the pre-survey that these documents “allow them to form their own knowledge of the situation.” In the post-survey, she expanded on that idea with emphasis on empathy and decision-making about public policy, “The first choice will allow the students to gain historical empathy by examining the writings of people in the time period. The second choice will allow students to make their own judgments on these policies. Student should construct their own knowledge instead of being fed interpretations from textbooks.”

Assessment. In the final section of the survey, participants were asked to select the assessment strategy (or strategies) they would use in their unit. As opposed to ranking the various assessment strategies in order of preference, participants were allowed to select up to three of the assessment strategies provided to them that they felt they would use in their unit. The five possible assessment strategies provided included:

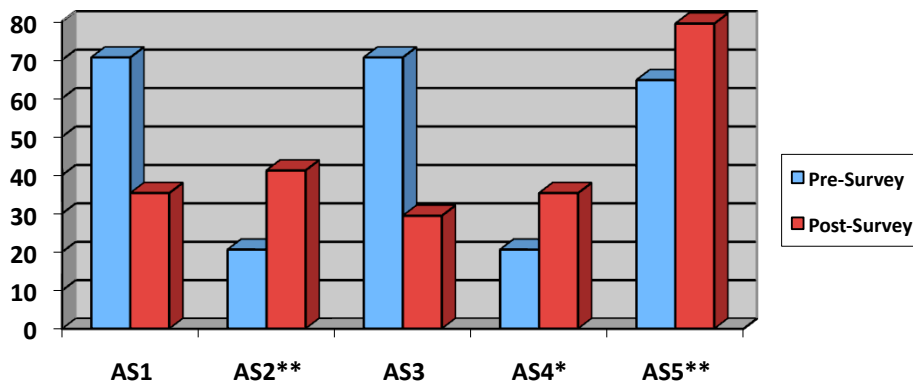
1. An objective test of student knowledge of Reconstruction events and issues

2. An essay test in which students evaluate the desirability and effectiveness of Reconstruction policies
3. An essay test in which students demonstrate understanding of Reconstruction polices and their effects
4. A group project to construct museum displays that reveal the pivotal events of the Reconstruction period
5. A group project to prepare and conduct a mock Congressional hearing that debates Reconstruction policies and evaluates their effectiveness

Table 5. Percentage of participants who selected each assessment strategy.

Assessment Strategy	Pre-Survey %	Post-Survey %	Difference
AS 1	70.6	35.3	-35.3
AS 2	20.6	41.2	+20.6
AS 3	70.6	29.4	-41.2
AS 4	20.6	35.3	+14.7
AS 5	64.7	79.4	+14.7

Figure 4



*** Indicates survey designers' top preference; * indicates other designer preferences.*

The 5th assessment strategy option most closely represents the PIH unit design principles with its emphasis on a public deliberation about the effectiveness of the Reconstruction policies. The PIH model recommends following public deliberation with an individual assignment in order to adequately assess each student's dialectical reasoning. Therefore, we included Option 2 to gauge whether respondents recognized the importance of individual evaluation of a policy decision. Option 4 incorporates a public, authentic assessment that highlights multiple intelligences. However, this choice merely asks students to describe the pivotal events and lacks an evaluation on the policies. Options 1 and 3 are knowledge-based and do not demand evaluation or synthesis of information; therefore they were the instrument designers' lowest-ranked choices.

From pre- to post-survey, the largest shifts in assessment strategies were away from “understanding” and “knowledge” assessments with 35 % fewer responders choosing the objective test and 41% fewer responders choosing the essay test that required students to “demonstrate understanding”. The number of participants choosing evaluative assessments increased with 21% more responders choosing the evaluative essay test and 15% more responders choosing the congressional hearing that evaluated the effectiveness of policies. Support increased for both open-ended authentic, performance-based assessments (Options 4 & 5) in the post-survey.

One respondent (TR-G) demonstrated a notable shift in thinking about the usefulness of an instrumental learning strategy, collaborative learning. He prioritized the descriptive essay in the pre-survey because “I do not like group projects. I think that no matter how hard the teacher tries, one student is often left with the grunt of the work.” However, in the post-survey, his first preference was the evaluative Congressional hearing because, “Group projects are effective only

when students have an individual accountability to fulfill. By having a Congressional hearing, the students are participating in the bigger picture, but must be given a specific role to fulfill. Each student must know that they are going to be held accountable or they will not participate.” Although he did not state a decision-making rationale, he demonstrated a much more nuanced understanding of how effectively designed group work might lead to important learning outcomes. Several respondents included an emphasis on multiple intelligences, but did not connect to the larger principle of constructing knowledge on complex ethical issues. TR-H and TR-I chose essay tests on the pre-survey because “an essay test will really show you what they know because they are having to come up with all of it on their own”. However, in the post-survey, TR-I shifted from the descriptive essay to the evaluative essay and included the museum display because “I think that it is important to cover as many different learning styles as possible when assessing a student’s work.” TR-H made a dramatic shift from choosing the two essays in the pre-survey to selecting the two performance-based assessments in the post-survey. He explained, “I think the last two assessments allow the students to really show what they have learned and it incorporates all of the multiple intelligences.” Although his ranking shift was dramatic, his rationale for the change seemed driven only by a focus on this instrumental strategy rather than choosing assessments because they would assist the development of civic competency as students defended a position on the fairness of the policies.

Several students made significant shifts in both their assessment choices and rationale that suggested an integration of the PIH model. The most common shift suggested a change from an absolutist epistemology to a view that knowledge is socially constructed and contested. For example, a student (TR-M) chose the objective test and both essays on the pre-survey as a way to capture the students’ understanding of the period.” On the post-survey she shifted to the

two evaluative assessments (essay and congressional hearing) because “the essay test would allow students to compare and contrast the successes and failures of Reconstruction policies. This form of assessment would require students to have an expansive knowledge-base on this topic and also be able to analyze it as a government program.” Another student (CC2-B) made an explicit shift to “civic competence” as the mission of the assessment. He chose the descriptive essay and objective test in the pre-survey, but shifted to the evaluative essay and museum project in the post-survey. He explained he “would choose an essay test and a museum project because having more than one item for the final assessment helps to even out academic inequalities in the classroom by giving students chances to show their strengths. With the museum project students will show their knowledge about pivotal events. They will learn it better by researching it themselves while receiving support from their group members. The essay test will ensure that each student is individually responsible for the material as well as being able to link controversy to the policies of that era. These policies will be introduced in the events included in the museum display but the essay gives students a chance to really dive in deep with the issues.” His rationale articulated both instrumental strategies (multiple intelligences and effective collaboration) as well as civic competence goals (perspective taking and ethical decision-making).

In this section, we have focused largely on examples of students who seemed to be in varying positions within the *Transitional* stance. In the next section, we provide more detailed analysis of four respondents who seemed to have made the greatest changes in their movement toward the PIH professional knowledge model.

Integrating PIH Professional Teaching Knowledge

From our analysis, we identified seven respondents (21% of participants) whose rationales suggested some degree of endorsement for the integrated civic competence mission toward which our program is directed. The degree to which their statements reflected the *Integrated* stance ranged from *Highly Integrated* (CC1), with an explicit focus on citizenship goals, to *Approaching Integrated* (CC4), in which the respondent endorses history study as interpretive and evaluative without an explicit connection to topics or issues beyond the era of study. Examples of respondent rationales reflecting four degrees of the *Integrated* stance appear in Table 6.

Table 6. Levels of Integration of Civic Competence Mission

Integration Level	Purpose for History Study	Sample Student Rationale
Highly Integrated (CC 1)	Explicit focus on developing informed, democratic decision-makers	The main reason for studying history is to create better citizens and to do that we must show them how we learn from history and how we can relate those issues throughout history [CC1-A].
Integrated (CC 2)	Use history to understand the present; solve problems; develop analytical and reasoning skills for use in present.	Students need to learn how to become problem solvers . . . they should be exposed to persistent issues that are raised over time . . . [and] understand the relevance history has with our modern day . . . [S]tudents [need] to utilize their own higher order thinking . . . to make decisions for themselves [CC2-A].
Somewhat Integrated (CC 3)	Broad historical perspective: Understand historical issues persist across time.	It is important . . . to see how history relates to other topics . . .and how issues relate to each other throughout history [CC3-A].
Approaching Integrated (CC 4)	Historical issues should be critically and ethically evaluated (not applied beyond era of study)	[Defending a position on Reconstruction policies] would be the central focus of the whole unit. I want kids to examine the pros and cons of these policies, assess their value, and defend/criticize from different perspectives [CC4-B].

Six of the seven *Integrated* respondents had made substantial shifts in their scenario rankings that suggested movement in the direction of program emphases. The seventh respondent (CC4-B) made little shift in scenario rankings. Her statements on the pre-survey scenario suggested that she entered the program with CC4 level assumptions. On the post-survey, her rationale had become more articulated and focused more explicitly on ethical reasoning, but her instructional focus remained strictly on understanding the particular era under study. Among the six *Integrated* respondents with substantial ranking changes, two had pre-survey statements that suggested important entering CC assumptions (one CC2; the other CC3). Like the seventh respondent, they demonstrated more articulated teaching rationales and greater emphasis on ethical reasoning on the post-survey. We consider this to be evidence that the program had an effect in refining the professional teaching knowledge of these three respondents. However, their entering conceptions likely made them more ready to entertain our program model than was the case for other students. In this paper we have included comments by two of these three respondents (CC4-B; CC2-B) in the preceding discussion of the four scenario segments. We confine our focus here to the four respondents who demonstrated few or no entering CC assumptions. We believe the examination of their reasoning provides the greatest insight into the upper limits of our program's impact on candidates' teaching knowledge.

Only one respondent's post-survey (CC1-A) clearly demonstrated the *Highly Integrated* characteristics that we seek to promote (see full responses for CC1-A in Appendix C). Furthermore, this respondent had the greatest degree of change from pre to post-survey among the seven students. Only in the Resources for Active Knowledge section did his pre-survey rankings feature choices that strongly reflected program emphases. His pre-survey rationale

statements focused on student recall and comprehension and did not suggest a consideration even of Instrumental Learning Strategies. In marked contrast, his post-survey choices were consistent with program emphases throughout each section of the survey, and his rationale statements emphasized civic competency goals (analytical thinking, perspective-taking, and ethical reasoning) that he explicitly linked to a larger citizenship mission: “The main reason for studying history is to create better citizens and to do that we must show them how we learn from history and how we can relate those issues throughout history.”

A second student (CC2-A) exhibited almost as much change from pre- to post-survey, but did not make as explicit a connection between citizenship and history study as the CC1 student. She entered the program with an assumption that debating historical issues might help students to peacefully address present-day controversies, but developed a more articulated rationale in the post-survey that emphasized using persistent issues to help students “become problem solvers” who could see “the relevance history has to our modern day” (see CC2 –A in Table 6). Her post-survey rankings reflected a much greater emphasis on relevance, analytical thinking, and empathy. In both her objectives and her assessment choices, she shifted her rankings to give priority to ethical reasoning.

A student (CC3-A) whose responses suggested a CC3 level of integration demonstrated ranking changes consistent with the PIH model in all four areas of the survey. Although his pre-survey rationale suggested that it was important to connect particular historical periods to broader issues, in all other ways his pre-survey emphasized utilitarian goals of attention, cooperation, and effort (For example, “Students are more likely to study better for an essay test or take better notes than if it was an objective test.”) This student’s post-survey rationales shifted from utility to civic-oriented goals that reflected an emphasis on analytical thinking and ethical

reasoning (“It is important to assess past policies . . . to see why they would work or wouldn’t . . . it is important to see how different issues relate to each other throughout history. It helps make a connection whenever they are studying a new topic.”)

Finally, a fourth student (CC4-A) with a marked shift in pre/post survey rankings provided evidence that she had moved from utilitarian and fairly unreflective instructional rationales (“the activities . . . will keep the student attention”) to a *CC4* level of integration that emphasized the promotion of analytical thinking and critical reasoning centered on “authentic, meaningful, and challenging tasks.” However, this deep examination of history did not include applying understandings beyond the era under study. In her post-survey, she prioritized objectives and assessments that required students to engage in perspective taking and evaluate the desirability of Reconstruction policies. Although, she explained that her priorities “promote higher order thinking and critical literacy skills that help show students the importance of decision-making with evidentiary support,” she kept her focus firmly on the specific issues associated with Reconstruction. She did not link those issues to broader historical themes or suggest that wrestling with societal issues from one time period might bear dividends when similar issues arose in other eras.

Conclusion

Study results suggest that multiple opportunities to explore, implement, and critique teaching knowledge within a philosophically cohesive teacher education program may assist pre-service teachers in entertaining research-based curriculum principles and beginning to assimilate that knowledge into their instructional decision-making. Pre-service teachers’ instructional choices consistently aligned more closely with the core PIH principles on the post-survey than on the initial survey. More importantly, pre-service teachers on the post-survey provided more

articulated reasons for their curricular choices that suggested authentic understanding of some of the theory-based principles they experienced in their teacher education program.

We are not discouraged that only 21% of our students demonstrated signs of an *Integrated* stance across the four survey components and that only one of those students fully articulated the holistic civic competence mission for teaching history and social studies promoted by our program. Our model asks pre-service teachers to make a large leap from the traditional craft model for teaching and learning social studies in which they likely have served a 16-year apprenticeship (Lortie, 1975). We are encouraged that the large majority of our respondents showed signs that they had begun to entertain at least *Transitional* ideas. The move from *Transitional* to *Integrated* stances should be expected to be a more difficult and lengthy process than the move from *Traditional* to *Transitional*. Teachers moving to a *Transitional* stance may add or replace particular concepts in their existing schema for teaching and learning. The movement to the *Integrated* stance implies a more fundamental re-ordering of assumptions to construct an entirely new schema. For most teachers the complex demands of constructing truly integrated professional knowledge is likely to be a long-term project that requires a substantial gestation.

Our findings suggest that providing a cohesive, consistent professional program may urge many candidates along on the journey towards professional teaching knowledge, but may not be sufficient to guide them to the final destination of integrated, theory-driven practice. If we are serious about developing such knowledge, teacher education programs must plan deliberately to continue support for that professional development beyond the awarding of the initial teaching credential. We must cultivate continuing dialogue about professional teaching knowledge by providing on-going support and collaboration. Such support might include identifying and

disseminating exemplary models of practice and curriculum as well as cultivating networks of exemplary practitioners who can help us mentor and collaborate with novices in their critical first years of teaching—both in real classroom contexts and through on-line dialogue.

However, the difficult journey to professional teaching knowledge may not only require a longer period of time to assimilate new ideas into a coherent whole; it may also require greater dispositional tolerances for ambiguity and risk than some teachers possess (Saye, 1998; Shaver, 1996). Other researchers have cautioned that the design of effective teacher professional development requires that we pay close attention to the entering epistemologies and dispositions of our teacher candidates (e.g., Angell, 1998; Dinkleman, 1999; Slekar, 1998). Scenario-based survey instruments may be useful tools in uncovering and tracking those candidate characteristics so that we can provide the sorts of professional experiences that might most effectively promote the development of professional teaching knowledge. Such surveys might provide valuable contributions as part of critically needed investigations that examine whether the support available through long-term mentoring and peer collaboration might make such risk-taking more acceptable to more teachers.

In a broader sense scenario-based surveys hold promise as one method for determining how well teachers understand curriculum frameworks across all content fields. Although this assessment strategy is not fully authentic, we believe that it provides one avenue for more authentic assessment of pre-service teachers' pedagogical knowledge and decision-making. When compared to alternatives such as general belief surveys or objective assessments of specific components of a curricular framework, scenario-based assessment can provide richer information about a teacher education program's effect on teacher thinking and decision-making. Coupled with more authentic assessments, such as evaluation of the development and

implementation of instruction in real classroom contexts, this survey tool could assist teacher educators in capturing a fuller sense of program outcomes that might allow more informed judgments about our effectiveness in helping teachers conceptualize and implement instruction grounded in professional teaching knowledge.

Appendix 1. Craft Knowledge vs PIH Professional Knowledge Planning and Teaching

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

Appendix 2. Competing Assumptions in Craft and PIH Cultures

<u>Traditional Craft Culture Assumptions</u>	<u>PIH Culture Assumptions</u>
<p>Absolutist epistemology</p> <ul style="list-style-type: none"> • Knowledge is created primarily by outside authorities, not within oneself • Historical truth is fixed and knowable • Facts speak the same to all. There is a unilinear historical narrative. • Thinking is a fairly uncomplicated affair 	<p>Constructivist epistemology</p> <ul style="list-style-type: none"> • Individuals and/or communities create knowledge • Social reality is ill-structured and ambiguous. Sense-making is a complex process. • Perspective shapes interpretation of facts and leads to multiple historical narratives.
<p>Transmission functions of history</p> <ul style="list-style-type: none"> • Identification with nation and culture • Teach moral lessons • Personal enrichment 	<p>Civic competence function of history</p> <ul style="list-style-type: none"> • Develop informed, ethical decision-making • Develop analytical thinking (historical perspective, empathy, sourcing, etc.) • Develop foundational knowledge within an authentic problem context
<p>Beliefs about students</p> <ul style="list-style-type: none"> • Most students are not naturally eager to learn • Most students can't engage in higher-order thinking • Most students resist challenging tasks 	<p>Beliefs about students</p> <ul style="list-style-type: none"> • Students are naturally curious • Students can engage in higher-order thinking • Students will undertake meaningful challenging tasks
<p>Risk taking 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>Risk taking 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>

Appendix 3. Pre/Post Survey Responses of Highly Integrated CC1 Respondent

	Pre-Survey		Post-Survey	
	Top 2	Rationale	Top 2	Rationale
LO	3 5	[These] would help teach the students about the Reconstruction in order to help them form opinions about the policies etc.	6** 4*	[The top] two . . . had . . . students making a decision about Reconstruction . . . these . . . require students to use higher order thinking . The same with analyzing documents. Students are required to build on a skill . . . While the other objectives are important . . . I think they will be best learned if there is a big picture goal in which students aim .
IN	4 3	[I]t is important to give the kids a direct goal . . . Its also important to give the kids an outline to follow and make sure they understand how it connects to previous material because it will help them learn it easier.	2* 4	[I]t is very important to relate it to them . . . to get the kids attention in the beginning or else it will be hard to keep them on task. It is also important to relate it to what was previously learned so that it makes sense. I also think it is very important to see how it relates to current events. The main reason for studying history is to create better citizens and to do that we must show them how we learn from history and how we can relate issues throughout history.
AK	4* 5**	[I]t is always best to use primary sources. I did not like the idea about using different history textbooks because not all textbooks are good sources.	5** 4*	To be actively involved in developing knowledge, students must use skills. If information is fed to them, they won't learn to think for themselves . Primary documents are important to help students develop analytical skills . . .
AS	1 3 5**	I like all of these methods because I think kids will remember better if they do a project, but I also like essay tests to see how much they learned . . .	4 5**	I . . . prefer . . . active assessments because . . . students learn more that way. [It] is crucial to make them form a value judgment and . . . to use different forms of assessment so that a variety of learners have opportunities to show their ability.

** = designer top choice; * = among designer top 3 choices

Note

¹ Respondents are anonymous. Gender identity is alternated for each successive respondent discussed.

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