

Preservice Social Studies Teachers' Historical Thinking and Digitized Primary Sources: What They Use and Why

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Abstract

In this qualitative case study the authors explored secondary social studies preservice teachers' abilities to discern the digitized primary resources available to them for historical thinking instruction. The emerging analysis highlights the development of these young teachers' knowledge and understandings of digitized resources as they relate to historical thinking via a pragmatic meter and their pedagogical content knowledge. Using the teacher cognition scholarship of Shulman (2004), the study suggests that the preservice teachers' enumerated knowledge sources are vital in tracing teachers' decisions.

The ubiquitous influx of computers and use of the Internet in classrooms over the last two decades first prompted researchers to examine the use of technology (Berson, Mason, Heinecke, & Coutts, 2001; Cuban, Kirkpatrick, & Peck 2001; VanFossen, 2001), barriers that might exist (Friedman, 2006), and the promises of enhanced pedagogical opportunities (Bolick, 2006; Lee, 2006). The ensuing research, however, moved from examining not only whether technology was being used, but how and to what extent social studies teachers embraced the presence and promise of technology.

Swan and Hofer (2008) explained that the social studies field has witnessed an increased amount of attention by researchers on the ways in which social studies preservice and in-service teachers are negotiating the amalgamation of technology into their teaching and learning of history. Understandably, notions interrogating Shulman's teacher cognition framework have become prominent in understanding how and why teachers are using technology in the social studies classroom (Ertmer, 2005; Mishra & Koehler 2006; Swan & Hicks, 2007).

Accessible, easy to manipulate, and often organized by content topics, digitized history archives (collections of primary sources or firsthand accounts) have immense implications for how social studies teachers can conduct historical inquiry (Lee, 2002). Indeed, the inordinate number of primary source website archives and, thus, the ensuing work with primary sources, has “shifted the dynamics of doing historical research by changing who is able to conduct the research and how historical research is done” (Rosenzweig, 2001, p. 122). As Lee (2006) explained, the added significance to the social studies has been the ways in which access to digital primary resources can also contribute to teachers’ abilities to develop an informed and, thus, engaged citizenry through the use of “digital civic resources.”

However, Friedman (2008) and others (Bolick, 2006; Mason & Hicks, 2002) reminded social studies educators that the number of resources now available on the Internet does not ensure an engaged citizenry. Friedman’s (2008) survey of practicing social studies teachers underscored the need to have particular skills—both as teachers and learners—in critically analyzing what is now readily available to a democratic citizenry. Consequently, questions remain regarding how much and how well the Internet is actually used in social studies classrooms (Ertmer, 2005; Ertmer, Ottenbreit-Leftwich, & York, 2006-2007; Franklin & Molebash, 2007; Hicks, Doolittle, & Lee, 2004; Hicks, Tlou, Lee, & Doolittle, 2002; VanFossen, 2001).

Moreover, when preparing teachers in collecting digitized primary sources, one might consider the decision making process, the criteria for those decisions, and the rationale that teachers generate as they seek out these resources for their use in teaching historical thinking.

In this qualitative case study, we explored secondary social studies preservice teachers’ abilities to discern historical thinking resources available to them. Introduced in a two-semester methods course that emphasized more critical uses (e.g., narratives regarding race, class, and gender) of historical thinking (Salinas & Sullivan, 2007), the participants reviewed the quality of digitized primary resources. The emerging themes highlight the development of these young teachers’ knowledge and understandings of digitized resources as they relate to historical thinking. Results indicate that teachers’ ability to discern the value of digitized primary sources available to them was related to a “pragmatic meter”—a way of viewing the usefulness of the digitized resources.

Secondary responses to the digitized primary resources did, however, prompt the young teachers to consider selecting elements of historical thinking that could be served by the online digitized materials. Via Shulman’s (1986, 1987, 2004) framing of teacher cognition, we found that teachers ultimately draw from their understanding of curriculum, content, and pedagogy by using enumerated sources of knowledge.

Review of Literature

The field of social studies has experienced a flurry of research activity in the historical thinking literature that has added to our epistemological understandings (VanSledright, 2002; Wineburg, 2001), broadened the critique of teaching history (Lowenthal, 2000; Wills, 1996), and thus, elevated the importance of historical thinking for K-12 students (Seixas, 1998). Concurrently, scholars (Tally & Goldenberg, 2005) have argued that digitized primary sources can allow students and teachers to engage in primary source research with the ultimate goal of enhancing student learning and encouraging historical

thinking, in addition to providing opportunities for the critical evaluation of historical events, circumstances, and phenomena. The digitization of primary sources intersects the research foci of historical thinking and technology integration, and thus serves as the basis of this review.

Historical Thinking and Digitized Resources

Generally speaking, historical thinking is considered as the ability to reflect, synthesize, and construct understandings of history based on evidence. As VanSledright (2002) stated, "Learning history is no simple task...it propels you into intellectual situations where there is considerable tension between your need to interpret, imagine, and to understand what things were like back then" (p. 5). The challenge in learning to think historically then encompasses an evidentiary trail.

Seixas (1993), in his work on the funds of historical knowledge in a high school classroom, argued on behalf of at least three essential elements in examining historical evidence. These elements include understanding what events in the past are important and why (significance), how people know about the past (epistemology/rules of evidence), and an understanding of the decisions people in the past have made via notions of agency, empathy, and moral judgment. Accompanying these notions are historians' practices of sourcing. For example, VanSledright (2004) listed the processes of identification, attribution, perspective judgment, and reliability assessment in examining any primary source.

As Wineburg (2001) explained, "Achieving mature historical thought depends precisely on our ability to navigate the uneven landscape of history, to traverse the rugged terrain that lies between the poles of familiarity and distance from the past" (p. 5). As a result a great deal of research attention has focused on how students, teachers, and preservice teachers have engaged in the use of historical thinking. Accompanying the research on students' understandings of historical thinking is work that examines how students and teachers make sense of historical thinking practices (Barton, 2001; Levstik & Barton, 2008).

For example, Terrie Epstein (2009) examined the complexity of race and historical thinking in diverse classrooms. Stearns, Seixas, and Wineburg (2000) provided a collection of studies that revealed the interplay between historical thinking and the importance of sociocultural context. The work of Levstik and Barton (2008) has been particularly instrumental in promoting the use of historical thinking in elementary classrooms. Finally, a great deal of energy has been dedicated toward understanding how preservice teachers make sense of teaching history, and how their sense-making can be dramatically altered through the use of historical thinking (Doppen & Tesar, 2008; Fragnoli, 2005; Seixas, 1998; Yeager & Wilson, 1997).

Correspondingly, there is ample work indicating that the use of digital resources allows for constructing learning environments that engage learners in interpreting information and making meaning through historical thinking (Bolick & McGlenn, 2004; Endacott, 2010; Sandwell, 2004; Schrum, 2001). Bolick (2006) for example, argued that not only are primary sources now available to all learners, but that hypertext built into digital archives adds to their educational value by providing learners a chance to individualize their experiences by linking up primary sources in ways that are personally meaningful. She added that in the social studies classroom, through the use of digitized primary sources, teachers have the opportunity to support students' own interpretations and construction of knowledge.

Similarly, McGlinn's (2007) study of teachers' use of a digital library concluded that teachers were able to capitalize on their students' technology skills and present multiple perspectives in teaching history, revealing potentiality of transformative practices, but were still limited by the typical constraints of the standard curriculum and equipment availability (see also Friedman, 2008).

The challenge at hand, therefore, is twofold. First, social studies teachers must recognize a different epistemological assumption. Saye and Brush (2007) for example, explained that "to engage in historical thinking [teachers] must perceive knowledge as uncertain and constructed by the knower" (p. 6). However, given teachers' prior experiences with schooling, this "uncertainty" can make the nature of historical thinking seem particularly unnatural (Wineburg, 2000).

Second, beyond the apparent ubiquity of technologies in classrooms, teachers must recognize the ways in which technology can transform pedagogy. Hughes (2005) for example, argued that the "power to develop innovative tech-supported pedagogy lies in the teacher's interpretation of the newly learned technology's value for supporting instruction and learning in the classroom" (p. 277). Thus, when in-service and preservice teachers are given opportunities to engage in historical thinking through the use of digitized primary sources, researchers are driven to examine what understandings emerged from their experiences.

PCK and Technology Integration

The notion of teacher cognition and the use of historical thinking and digitized primary sources have prompted social studies researchers to employ Shulman's (1986) work on pedagogical content knowledge (PCK). In shifting the field toward the complexity of teacher thinking, he identified multiple domains of teacher knowledge, arguing that PCK involves "the ways of representing and formulating the subject that make it comprehensible to others" (p. 9). In this sense, Shulman highlighted those decisions that teachers encounter when attempting to make content teachable.

Several studies have underscored teachers' evolving PCK as they access digital history archives in the teaching of historical inquiry. Bolick (2006), for example, in her case study of middle and secondary teachers' experiences with a digital history inquiry project, showed that teachers were engaged in new ways of doing historical inquiry, accessing resources (e.g., primary sources), and practicing student-centered approaches via the development of the assigned hypertext document. However, their "disequilibrium" was perhaps a key event experienced by all teachers not familiar with "doing history" or doing history in constructivist contexts (e.g., development of hypertext documents).

Additionally, Swan and Hicks (2007) found that teachers' use of digitized primary sources was dependent upon PCK as well as a sense of purpose in teaching history. Their qualitative case study of three teachers concluded that the use of technology was highly dependent upon teachers' deliberation, reflection, and attention to notions of citizenship as they are embedded within the teaching and learning of history.

Both studies demonstrated the interplay between PCK and how, when, and if teachers add technology as an interdependent layer to their teaching knowledge base. Regardless, teachers' multiple domains of knowledge (e.g., content, pedagogy, PCK) continue to be the focal point of attention in gaining a greater understanding of how teachers mediate new understandings of technology.

Purpose of the Study

Through examining preservice social studies teachers' use of digitized historical documents, this study attended to how technology is viewed within the realm of teacher knowledge. In coining the phrase "technology enhanced traditionalism," DeWitt (2004) described the dilemma of how social studies educators can reap the benefits of technology by creating meaningful new practices rather than simply replicating existing ones that may be less than meaningful. In response, this qualitative case study of preservice teachers' understandings of digitized historical documents in the teaching of historical thinking provides insights into how the field of social studies is assessing the importance of technology integration and its place within PCK.

In order "to facilitate innovative subject matter teaching with technology, capitalizing on connections with subject matter of pedagogical content knowledge" (Hughes, 2005, p. 279), we framed our study within the aforementioned literature. Hughes stated that the "power to develop innovative technology-supported pedagogy lies in a teacher's interpretation of the newly learned technology's *value* for supporting instruction and learning in the classroom" (p. 277, emphasis added). In an effort to examine these notions, our primary research question asked, "In what ways do secondary preservice social studies teachers use historical thinking and evaluate websites that contain digitized primary sources?"

Method of Inquiry

Given the assumptions regarding the importance of digitized primary resources in social studies education, examining the understandings of preservice teachers attends to valuable questions regarding the relationship between existing and developing historical thinking pedagogies in young teachers and how they may or may not be enhanced by the resources of technology. Examining the bounded system of their teacher preparation program provided an opportunity for a case study as a thick description of a phenomenon in a real-life context (Merriam, 2009; Yin 2009). The instrumental case study design (Stake, 1995) allowed for an in-depth understanding of the particular context, the process, and the understandings preservice teachers constructed in their work with historical thinking and digitized primary sources. The instrumental case study contributes to the field's broader understanding of the relationship between historical thinking, digitized websites, and preservice teacher decision-making.

Participants and Data Sources

In the fall of 2008, researchers at a large university in the southwest focused attention upon social studies preservice teachers' learning and application of critical historical thinking within the realm of digitized primary sources. While one of the researchers served as the course instructor, the other two served as data collectors and were not otherwise associated with the course. The researchers' experiences include teaching at both the elementary and secondary levels, and one researcher's background is in instructional technology. All of the researchers have conducted qualitative research on preservice teachers' use of historical thinking.

All of the secondary social studies preservice teachers enrolled in the course ($n = 22$; 16 White women, 3 White men, 2 Latinas, and 1 African American woman) agreed to participate in the descriptive qualitative case study that included field notes for four observations of methods class instruction in critical historical thinking (three) and constructivism (one) used to trace the instruction provided to the undergraduates.

A fifth observation was conducted and field notes were taken during the class session where the secondary social studies preservice students were asked to evaluate the quality of the Presidential Timeline (PTL; <http://www.presidentialtimeline.org/>; Figure 1) through their understanding of critical historical thinking via a class discussion. PTL is a collection of particular archives and activities of the 12 existing presidential libraries. This class session began with a review of the major concepts of historical thinking and posed the question, How would you determine if a digitized archive website would be valuable to you as a future social studies teacher engaged in gathering resources for use in historical thinking activities?



Figure 1. Screenshot of the Presidential Timeline website.

The students were allowed time to engage in one of the PTL activities with a partner and then shared their findings with the whole class. Though the PTL was the initial site evaluated for its historical thinking elements (and this study), the preservice teachers in the same class session also reviewed Historical Thinking Matters (<http://historicalthinkingmatters.org>), and were made aware of their future contributions to the Student as Historians website (<http://ows.edb.utexas.edu/?q=node/219>).

A followup interview meant to gain further understandings of the students' initial responses during the class session was conducted with seven participants purposefully selected because of their varying degrees of performance in the course and because they reflected the demographics of their cohort (see the [appendix](#) for interview questions). These seven participants (with the pseudonyms Gloria, Donna, Samantha, Emma, Harriet, JoAnn, and John) were all 22 years old and White.

During these interviews, participants were asked to return to the PTL and evaluate the site as a historical thinking learning opportunity. The students were also encouraged to reflect on any related constructivist, historical thinking, or technology-related session within the context of determining the value of digitized primary source websites. For additional triangulation, researchers collected a student-produced performance task assignment that included a hypertext document/narrative.

Presidential Timeline

Access and growing attention to digitized primary sources prompted the researchers to select a typical site social studies educators might want to access (and thus evaluate) regarding the usefulness of a digitized primary source website. According to the site designers, the purpose of the PTL is to provide “primary and secondary source materials readily and freely available to students, educators, and adult learners throughout the world via a single unified and intuitive interface” (Resta, Flowers, & Tothoro, 2007).

The PTL has combined collections from 12 presidential libraries of the National Archives and has organized them into timelines, galleries and exhibits, and has provided educational activities and other resources for teachers. Noteworthy are the eighteen themed exhibits that feature at least one significant historic event that occurred during each presidential term. For example, the significant event exhibited during President Hoover’s term is the stock market crash of 1929, and for President Eisenhower, PTL designers showcase the school integration crisis at Little Rock, Arkansas in 1957. These exhibits display primary source images and documents as well as audiovisual media from the time period. To tie the primary source elements together, the exhibits also include interpretive narratives, providing a holistic perspective on the event concerned and the action the president took in the face of the event.

All the primary sources are linked to PTL’s archival database where information such as dates, topics, and origin of the artifacts are listed. Primary sources can also be enlarged for closer inspection. For the purpose of the current study, we chose to examine one of the many educational activities available on the PTL. The WebQuest called “The Atomic Bomb – August 6, 1945” entails the debate over President Truman’s order to drop the atomic bomb on Hiroshima (Figure 2).

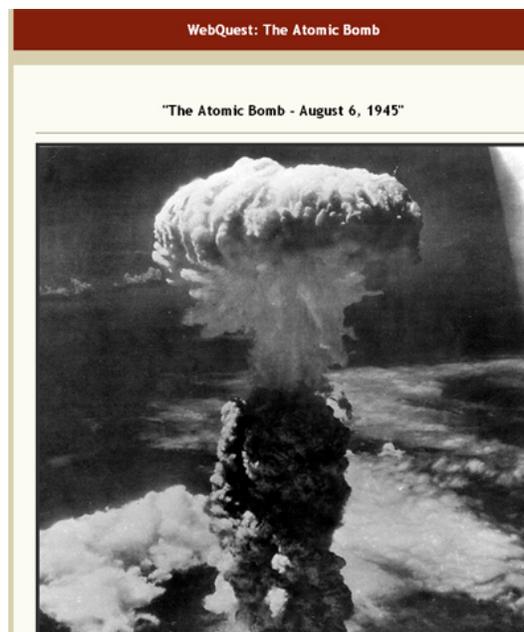


Figure 2. Screenshot from The Atomic Bomb webquest on the Presidential Timeline website

Data Analysis

After the researchers collectively manually coded transcripts of the interviews, we analyzed them as Miles and Huberman (1994) suggested by noting patterns and themes, arriving at comparisons and contrasts, and determining conceptual explanations of the case studies. For example, abiding by Shulman's (1986, 1987) notion of the multiple domains of knowledge within a teacher's repertoire as our theoretical framework, we noted the complexities and demands of the social studies content area and its ensuing pedagogies within the context of a digitized primary source website with historical thinking hard scaffolding. Initial coding found a continuum of enactments that reflected importance of "teacher's understanding of what is to be learned and how it is to be taught" (Shulman, 2004, p. 227).

In noting the preservice teachers' comprehension and transformation of subject knowledge and pedagogy, we attended to how these preservice teachers made sense of their own content, the curriculum materials provided on the PTL, and the pedagogical notions of historical thinking. Data was continuously revisited so that patterns and themes could be thoroughly interrogated. The patterns, themes and comparisons of interview, observation, and artifact data led us to the findings included in this paper.

Results

In this study, we sought to examine how preservice social studies teachers understood digitized primary sources in historical thinking formats as a teaching and learning tool and how they understood the role of such a tool in fostering historical thinking. Two themes emerged from our initial data analysis of interviews, observations, and artifacts. First, the preservice teachers were able to identify and rationalize an importance of digitized primary source websites in teaching the social studies. A discourse of "efficiency" unfolded as website content the informants viewed. Second, the pedagogical knowledge preservice teachers held regarding historical thinking (e.g., sourcing, significance, agency, etc.) was made apparent through their evaluation of the website's historical thinking task. Ultimately, the informants utilized their understanding of historical thinking as the primary way of determining how a historical thinking website would become a useful tool for their instructional decisions.

More Is Better—The Excitement Over Primary Sources

As the social studies preservice teachers reviewed the PTL during a class session and then later shared other understandings about the value and use of digitized primary sources websites during interviews, their immediate reactions attended to the amount of information that was now readily available to them. Related to the work of VanFossen (1999-2000), the preservice teachers saw these sites as opportunities to gather primary sources for their teaching in the social studies.

The informants noted at least four elements of the PTL that, in effect, created a pragmatic meter in determining the appeal of a digitized primary resource website (see figure 1). In other words, they valued a digitized primary resource website in teaching historical thinking in terms of its usefulness—the vast availability, uniqueness, utility, and organization of the curriculum made available to a teacher.

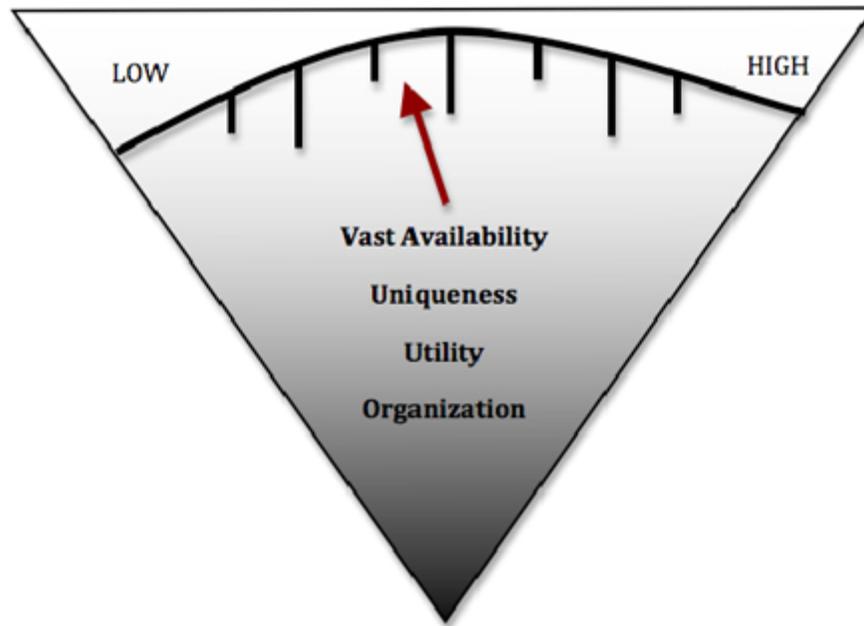


Figure 3. Pragmatic Meter preservice teachers initially used to evaluate a digitized primary source website.

First, the most common responses regarding digitized primary source websites (the PTL, in particular) revolved around the idea of vast availability. The social studies preservice teachers participating in this study clearly felt that the magnitude of primary sources accessible to teachers was the most important feature of a digitized primary source website. Gloria's description of the import of digitized primary sources was typical:

You can use almost anything as long as you cite it. You can find...on the LBJ library there's all these recordings of LBJ, his telephone conversations....You can actually look through that stuff, present it to [students] and see how....There's just so much out there, I don't know about the negatives. Maybe the negative is just that there's so much out there you'll have to sort out for the best thing to use—that's probably the only negative. I'm really all for it. (Gloria, Interview, December 12, 2008)

Gloria's attention to specific primary resources and her delight at their availability was similarly expressed by all of the participants. The secondary social studies preservice teachers, for example, often commented upon the gallery portion of the PTL. Their remarks included a string of common responses like, "Wow—that's lots of stuff we can use," and "I can't believe how much you can get here." The PTL was seen as an impressive warehouse of primary sources that was now at their fingertips.

Second, students frequently commented on the uniqueness of the primary sources (multiple modalities) as they often made note of the various kinds of primary sources, including recordings, photos, and government documents. For example, Donna described her excitement:

There's so much music and poetry, all these kinds of resources you might not have been able to access...15 years ago. You would have to go to the library to get your box of slides. All the teachers take turns using the slides. But now you can go, you can get five paintings that you want to show by the time period, put them on a PowerPoint, put them on a projector and just talk about them without the limitation of what other teachers are using or their school habit. It's just there! (Interview, March 10, 2009)

The inventory of varying types of digitized resources (e.g., journal entries, newspaper articles, and press releases) was a typical listing of primary resources that were now digitized and available. Donna and the other informants seemed most attracted to the availability and variety of primary resources (e.g., recordings, music, and poetry). In this sense, they noted the kinds of resources and the advancements that technology has brought to the classroom teacher.

Third, comments regarding the utility of the PTL also highlighted what the preservice teachers valued, including a tab on the PTL that indicated the length of a primary source (e.g., duration of a video, number of pages of a document). This particular information appeared to be vital to the young preservice teachers. Samantha explained during an interview,

Reading documents, it's...most of the language is old, it's hard to understand. It's a lot...you know, it's long....I think it's useful, if you can find something that's short and succinct and easy to read, then... it's more useful. (Interview, February 23, 2009)

In fact, one of the primary source documents used during the PTL class session was a nine-page letter by former Secretary of War Henry Stimson. The letter drew many comments and complaints from the class, with most students indicating it was too long and, therefore, could not realistically be used for a classroom activity. For the preservice teachers, knowing the length of the primary source was deemed as helpful, with long documents being discounted, regardless of their content or significance.

One more collection of practical comments was noted in our analysis. Participants thought digitized primary source sites organized by social studies curriculum topics were exceptionally advantageous. For example, Emma explained,

I don't know, I think it's a good website because I know in the past I've searched the Internet to find primary documents for lessons I was teaching. It's nice to... for somebody to have it concise... I mean, I have found eight... for one last night I found eight different primary documents and came up with questions for all of them. Because I wanted them to analyze primary documents, I didn't know something that was succinct [was labeled by historical topic and president] that I could get it all for them and that took so much time...This is so much more convenient. (Class Discussion, October 14, 2008)

The organization of the PTL by typical social studies instructional topics (e.g., Hoover and the stock market collapse, Eisenhower and school integration, Truman and the atomic bomb) that could fit into social studies curriculum topics became the overriding decision point. Emma was not alone in seeking out digitized primary source websites that were easier to use and comprehensive in nature. Harriet provided one additional example of how the preservice teachers measured the feasibility of a website with digitized primary resources:

How they help is, with the political cartoons, the maps and even some of the shorter documents, some of the shorter telegrams, it's right there for you. So you can kind of just go in and go, "Oh! Look at this political cartoon!" and then all you have to do is write your own questions. You don't have to spend hours hunting for the right political cartoon for the right movement and spend hours trying to interpret it. (Class Discussion, October 14, 2008)

The collection of primary sources addressing a singular topic or concept that is common to social studies instruction was appreciated. Even when the digitized primary source website failed to provide a robust and cohesive collection of primary sources and adequate/appropriate document-based questions (DBQs; as was the case of the Truman exhibit purposefully used in this study), the preservice teachers still weighed the time involved in selecting primary sources from raw digitized primary source websites (e.g., The National Archives, which broadly organizes digitized primary sources by broader topic areas) to that of a specifically focused but poorly designed digitized primary source website (e.g., the Truman site, which offered only three primary sources and contained only DBQs for one primary source). In fact (and to our dismay), the preservice teachers never actually mentioned the flaws in the site's use of primary sources and DBQs.

In sum, for the preservice social studies teachers, more was better. The participants determined the guiding criteria for a digitized primary source website that was deemed useful were brief primary sources, a focused organization, and readiness for consumption.

There's so much stuff... There's so much you can go in, it's sort of easy to get lost in it, but yeah, you can go and you can pick and choose what you want to do... and you know, from year to year you might have students with different interests or things might go in different directions, so I love there's that... breadth of things out there... and that it is there and it's easy to search. It's easy to find stuff that's really great, I think. (Harriet, Interview, December 16, 2008)

In a singular statement, Harriet captured the advantage and disadvantage of such digitized primary source websites in nonsensical terms. Scarcely touching upon how having access to more altered their teaching, or how the quality of more needed to be interrogated, the study participants overwhelming revealed an immediate and pragmatic lens through which digitized primary source websites might be judged as social studies and historical thinking resources.

At Second Glance, Historical Thinking Matters

The preservice teachers participating in this study had attended several methods class sessions on historical thinking with attention on the work of Seixas (1993) and VanSledright (2002). They had also read and discussed Wineburg (2001) and his caution regarding presentism (the act of viewing the past through the lens of the present) and the need to contextualize historical events. Finally, designing lesson plans (that included primary sources and DBQs) for historical thinking and a separate assignment (Student as Historian), which involved the collection of digitized primary sources, writing DBQs, and a hypertext narrative, all helped the researchers feel relatively confident in the preservice teachers' ability to examine the value of PTL in thorough ways. Regardless, their initial reactions were about the vastness, uniqueness, utility, and organization of the PTL. However, at least three more sophisticated discussions eventually emerged in the participants' evaluation of the PTL site.

First, the informants noted their understandings of socioconstructivism as a related element of historical thinking and the PTL. For example, several of the preservice teachers were able to discern the importance of prior knowledge as it relates to epistemology (see Seixas, 1993) and historical positionality (see VanSledright, 2002) in developing DBQs. In her review of the PTL DBQs, Harriet concluded, “I’d say, I feel like maybe it [DBQ] doesn’t do enough to access prior knowledge” (Class Discussion, October 14, 2008).

In the followup interview JoAnn noted, “I know the opening narrative sets the stage, but when you get to the activity you jump right in and never really ask the kids, ‘What do you know about Hiroshima?’” (Interview, December 16, 2008). In this sense, the study participants recognized the importance of prior knowledge in developing DBQs for a historical thinking activity.

Notions of prior knowledge are linked to understandings of contexts for historical thinking practice. VanSledright (2010) argued that historical thinking “requires locating the author within her historical context. Recognizing that an author with an historically contextualized position constructed an account for a purpose” (p. 14). Both Harriet and JoAnn understood that tapping into what children already know about a primary source or the context of the primary source is essential to historical thinking.

Gloria also examined the DBQs on the PTL site and evaluated their use in guiding students through the primary source documents. She explained, “There are a few questions that I think you should start a little earlier, or like lower level or something...something to build on, prior knowledge. Does that make sense?” (Gloria, Interview, December 12, 2008). Here, Gloria was referring not only to a type of scaffolding that should occur through Bloom’s Taxonomy (see Anderson & Krathwohl, 2001), but also to a type of scaffolding that would occur through historical thinking. For example, Gloria might have been searching for a sourcing question (e.g., In what context was this primary source created?) or an epistemological question (e.g., What events can you describe from this primary source?).

Samantha also noted, “I don’t think these questions get at basic understanding of the primary source. Like what it says, who said it, and why they said it” (Class Discussion, October 14, 2008). In this sense, the informants were well aware that DBQs are vital in tapping into learners’ prior understandings and positionality and need to be presented in particular and strategic ways to guide students toward more complex understandings of history.

Second, some attention was paid to particular (but not all) elements of historical thinking. John for example, defined historical thinking within the study as “being able to think back. You know, to that time period, put yourself in that context, that situation, being able to think about things in different ways” (Interview, December 16, 2008). His attention to context did not acknowledge Wineburg’s (2001) warning of presentism, (the act of viewing the past through the lens of the present). Instead, John’s understandings aimed at agency, empathy, and possibly, moral judgment as discussed within Seixas’ (1993) work. JoAnn made related claims in explaining:

[It’s] like using those things [primary sources] to teach students about how to take themselves out of the context they’re in and put themselves into the context of the primary source...thinking about and seeing how they can connect with how that person may have felt. (Class Discussion, October 14, 2008)

Overwhelmingly, preservice teachers were attracted to particular Seixas notions while ignoring others. Although significance was rarely noted, it was apparent that agency, empathy, and moral judgment were frequently mentioned by the participants as important elements included in their historical thinking.

Determining whether or not they could distinguish between empathy, agency, and moral judgment is difficult. For example, Donna explained her critique of the PTL by stating,

I think it's a good resource, it's easily accessible, it has primary sources readily available that are like, you know, primary sources, but I don't think that it elicits enough emotions for something like the atomic bomb, which, you know, is something that's still important to us today. You know that the students need to learn about... they need to create their own ideas. (Interview, March 10, 2009)

In this case, Donna showed an understanding of how the primary sources could or could not be used to prompt a student's understanding of notions related to empathy, or agency, or moral judgment through her emphasis on "emotions." Then again, valuable differences exist between empathy, agency, and moral judgment that Donna did not distinguish among during the interview. John also blurred empathy, agency, and moral judgment when he explained, "It's great that we can show our students how horrible the dropping of the Atomic Bomb was or what a hard time people had in making this decision" (Interview, December 16, 2008). One could argue that John knows the difference in this example between empathy ("horrible") and agency ("hard time"), but as a preservice teacher he did not develop these notions in explicit ways.

Context also seemed to be a commonly used historical thinking term or concept by the informants in their review of the PTL. Samantha, for example, in a followup interview commented that the best way to foster historical thinking is through "providing the material for [students] to understand the context of whatever you're teaching" (Interview, February 23, 2009). In fact, in their followup interview all seven students attended to context. However, during the class discussion on PTL, John stated that "historical thinking is putting yourself in the context of the event or things that took place" to which Samantha responded, "And making sure your students know how to put themselves in the context of what you're teaching" (October 14, 2008). In this analysis, it appears that the preservice social studies teachers conflated context with empathy, agency, and moral judgment.

Third, while the students recognized the several vital elements of historical thinking, only Harriet recognized that DBQs were only written for the first of the three primary sources. Furthermore, though the informants noted the importance of agency, empathy, and moral judgment, the DBQs provided for the primary source did not address these elements of historical thinking. A reminder of the quantity and quality of the DBQs during the followup interview yielded contrasting responses. Donna, for example, explained, "I don't really ever follow the DBQs. So I guess it was not important to me that they were not great or lacking or whatever" (Interview, March 10, 2009).

Gloria noted, "Oh I guess that is an error on their part. I just took off after the first documents without even thinking about the DBQs after that" (Interview, December 12, 2008). Finally, John commented after some prompting, "I didn't like the first set of questions so I was thinking on my own—sort of making up other questions I would ask as a teacher" (Interview, December 16, 2008).

The presence of DBQs (good or bad) was, therefore, irrelevant to the social studies preservice teachers participating in the study. Similar to Wineburg's (2001) presentation of primary sources to different individuals (historians, students, and teachers), variations in the reading of historical documents can be expected. A variation in an individual's allegiance or deviation from the DBQs can also be expected. On one hand, editing or ignoring the DBQs is problematic since these organized sites are presumably purposefully designed in the spirit of context narrative, primary source choices (perspectives), and meaningful DBQ formation. The PTL authors (again, presumably) have taken great care in selecting and presenting particular stances through the selection of primary sources and DBQs.

On the other hand, editing or ignoring DBQs might reveal a variety of acts relevant to historical thinking website designs. For example, Donna may be the kind of reader (both as teacher and learner) who resists guides and prompts. Gloria may be the kind of reader of historical documents who appreciates the initial nudging of DBQs, but then positions herself independent of the think-aloud author(s). In contrast, John may be the type of reader who critically disagrees with the design and is capable of creating different directions to take the think-aloud. Regardless, the preservice teachers demonstrated an array of unexpected responses to the DBQs. Rather than demonstrating their knowledge of what a good think-aloud design should include, the participants created their own decision premise for viewing the DBQs.

The use of a pragmatic meter may be typical of social studies preservice teachers' preliminary encounters with digitized primary source websites. Impressed by an inordinate amount of historical thinking resources, the various types of historical thinking resources, the usability of historical thinking resources, and topically organized historical thinking resources, the preservice teachers were commonsensical in their review of the PTL. Social studies preservice teachers are new at the instructional approach of historical thinking and, consequently, need additional time and practice in developing a more thorough understanding of the quality (historical thinking elements, primary source choices, and DBQs) of a site like PTL. Undeniably, the future teachers' understandings of historical thinking attended to ways of knowing history that appealed to them most. The social studies preservice teachers' decision-making and thinking provided a rationale for evaluating a typical site that serves the teaching and learning of historical thinking. The basis of that rationale remains important for teacher educators to explore.

Discussion

Examining preservice teachers' understandings of digitized primary source web-based archives and their value in teaching historical thinking focuses on the "grounds for choices and action" (Shulman, 2004, p. 234) that typify teachers' thinking about their future instructional practice. The way teachers determine the value, usefulness, and trustworthiness of websites with digitized primary sources is entwined with how they understand historical thinking. Thus, in this case study of seven preservice secondary social studies teachers, the grounds for choices and action were an interaction between PCK and those sources of knowledge from which teachers draw upon in their understandings of teaching and learning.

Shulman's (2004) enumeration of the four sources of teacher knowledge includes scholarship in content disciplines, educational materials and structures, formal educational scholarship, and the wisdom of practice. First, teachers' knowledge sources can include an understanding of the scholarship in the content areas; for example, those

substantive and syntactic structures of history (Schwab, 1964) or the way in which the discipline determines how knowledge is organized and how it is legitimized.

Teachers' knowledge sources of educational materials and structures may also include familiarity with the landscape of primary sources now readily available through digitized archives. Teachers' knowledge sources may include formal educational scholarship that explicitly explains instructional approaches to historical thinking. Finally, the teachers' cumulative source of knowledge is "reflective rationalization" or wisdom of practice (Shulman, 2004, p. 236).

The enactment of historical thinking and the ways in which teachers evaluate digitized primary source websites then, does not draw from linear or seamless sources of knowledge, but instead reflects the complexity of teacher decision making.

One must consider how knowledge of the content area discipline, Shulman's first enumerated source, plays into teachers' decision making regarding what might be useful from digitized websites. This decision point is where knowing what to teach and why to teach particular concepts, ideas, and moments in history can be linked to the readily available and vast resources of digitized archives. Teachers inevitably view these archives as a cache of content knowledge that may range from useful to useless.

For instance, a teacher with an understanding of the discipline (e.g., American history; the dropping of the atomic bomb) and its relationship to other disciplines (e.g., American history *and* government; détente policies) will have a more deliberate and informed process of selecting content knowledge from archives. Simultaneously, a teacher who has not yet acquired robust disciplinary and cross-disciplinary understandings will not be able to draw from archives in the same highly developed way. Understandings of how digitized primary sources websites are valued in the use of historical thinking are dependent then, upon a teacher's understanding of the scholarship of content discipline.

Any teacher's initial response to the availability of digitized primary sources, or the sheer amount of instructional materials, may reasonably be euphoric. The pedagogical practice of historical thinking is fundamentally tied to those rich primary sources that can provide historical evidence, tensions, contradictions, and questions. Historical photos, journal entries, letters, maps, and government documents appear at the click of a button and present teachers with an inordinate number of immediate choices. The more-is-better and pragmatic meter perspectives, then, are presumably a suitable starting point at which teachers begin to utilize educational materials.

Teachers may then view preorganized primary sources and accompanying DBQs without much interrogation. This response remains almost idiosyncratic without the benefit of a thorough or collaborative inspection of the value of these digitized primary sources. However, if a teacher seeks out specific primary sources that provide counterarguments, alternative perspectives, or contradictions essential to fully understanding the topic at hand, this response would hardly be idiosyncratic. Beyond the more-is-better and pragmatic meter perspectives, instead, is the issue of how educational materials—in this case digitized websites—must be carefully interrogated if they are to be helpful in completing a lesson or concept. Understandings of how digitized primary source websites are valued in the use of historical thinking, then, are dependent upon a teacher's understanding of the educational materials and structures.

Beyond the sources of content and educational materials is the enumerated source of formal educational scholarship. In the case of the pedagogical practice of historical

thinking, primary sources ought to reveal context, empathy, and moral judgment. As they cull through digitized primary source archives, teachers might also be seeking firsthand accounts that demonstrate significance or agency. In this sense, teachers are consciously aware of what good historical thinking looks like and what the essential components are in constructing a lesson that utilizes digitized primary sources. However, digitized archives (raw or organized) cannot make these decisions for teachers.

The greater the working knowledge of historical thinking a teacher has, the greater the contribution of any collection of digitized archives. Even when teachers have well-grounded understandings of historical thinking, they may still gravitate toward particular elements of historical thinking (e.g., in this case study, empathy). Regardless, understandings of how digitized primary source websites are valued in the use of historical thinking are dependent upon a teacher's understandings of the related formal educational scholarship.

Finally, there is uniqueness to the wisdom of practice that might be noted in examining teachers' understandings of the value of digitized websites and historical thinking. Distinctly, the substance and design of website archives do not resemble or adhere to Schwab-like structures of knowledge in the content areas. Likewise, these sites are not held to official curricula nor to any predetermined standards of curricula. Moreover, they do not necessarily follow the Wineburg, Seixas, and VanSledright educational scholarship that has served to well-define the field of historical thinking. Digitized website archives present preservice teachers with a complex labyrinth of educational choices that may or may not align with Shulman's originally enumerated knowledge sources that culminate in a wisdom of practice.

Implications

The movement toward examining teacher cognition and the integration of technology into the teaching of social studies has created fertile conversations for both preservice and in-service teacher educators. Attention to domains of knowledge and the cognitive journey toward the wisdom of practice has prompted the field to consider much more complex renditions of teachers and teacher decision-making. Tracing how enumerated sources emerge or fail to emerge in social studies teachers' decision-making allows the field to attend to how content knowledge can influence the use of digitized resources, as well as what teachers know about curriculum and the pedagogies at hand (in this case, historical thinking) as they pertain to digitized resources. In a methods course or staff development, promoting a more thorough understanding of why, how, and for what purpose teachers engage in particular practices and reflections rightly becomes instrumental.

Ultimately, the nascent work via Shulman's framework provides the field a complex rendition of a teacher's need to have content-specific staff development (Hughes, 2005), makes visible stances and ideologies as they influence PCK, adds a separate domain of knowledge (Mishra & Koehler, 2006), or points to a need to interrogate those sources of knowledge from which teachers pull in their processing. By highlighting and evaluating what teachers know and how they know, teacher educators have an opportunity to consider how better to understand and reflect upon their existing and ever-growing wisdom.

Conclusion

More than a decade ago, Berson (1996) conducted a meta-analysis on the effectiveness of technology in social studies revealing varying degrees of impacts for different kinds of technology. He concluded that the overall adoption of technology remained superficial, as teachers' existing pedagogical stance remained unchanged. Teachers' adoption of technology in social studies has remained low despite efforts of both the government and professional associations such as the International Society for Technology in Education (Berson et al., 2001). Yet, efforts for a more technology-infused social studies education, especially in history education as digitized primary sources/historical archives, remain intact (Swan & Hofer, 2008).

On one hand, without better developed understandings of historical thinking pedagogies, teachers may not be aware of the shortcomings of digitized websites and how they may or may not help change their teaching. On the other hand, attention to how preservice teachers may or may not make sense of readily accessible digitized primary sources is related to how they continue to make connections between their existing sources of knowledge and their ever-changing sources of knowledge that provide them with unparalleled opportunities and challenges. Meaningful engagement with digitized primary source websites as tools for historical thinking remains premised upon the formulation of a new wisdom of practice.

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Appendix
Interview Protocol

1. What were the most valuable elements of the PTL?
2. What were the least valuable elements of the PTL?
3. What made the elements most valuable?
4. What made the elements least valuable?
5. What focal points (e.g., sourcing, significance, epistemology, agency, empathy, and moral judgment) of historical thinking were most apparent/successful to you?
6. What focal points (e.g., sourcing, significance, epistemology, agency, empathy, and moral judgment) of historical thinking were least apparent/successful to you?
7. How would (or not) this site/activity allow for a more constructivist learning experience?

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