Becoming digital: Using personal digital histories to engage teachers in contemporary understandings of teaching social studies

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A B S T R A C T

Given that social studies pedagogy often runs in direct opposition to how students best learn, social studies teacher preparation must intervene by providing teachers robust experiences for inquiry, interpretation, creation, and personal meaning making. Digital history represents an area of innovation in social studies that can be a useful context for providing such interventions. This research applies a design-based methodology to develop a teacher education activity that reflects research on digital history and how students learn best by constructing and extending prior knowledge, processing information into knowledge, and scaffolding. Design-based research has proven to be suitable as an intervention for classroom settings in that it can be rapidly refined in response to ongoing research on an intervention. The research asked what methods and tools can teacher educators use to promote digital history in their classrooms. Through the project, 200 teacher education students, over four iterative design phases, learned to process historical information into knowledge using technology to communicate refined versions of their knowledge to outside audiences. Seven design factors and six commonalities and differences were identified as influencing the design process. The results of this design-based research informed the development of generalizations and guidelines for designing similar digital history projects.
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Introduction

> "This assignment has totally opened up a whole new thing for me…probably much more exciting for me and my family than for my professor!!!"

The quote above is from a teacher who had just completed the digital history project featured in this research. What got her so excited? Why did it matter so much to her and her family? The answers to these questions have a lot to do with the attraction of genealogy and digital history. The British television series, "Who do you think you are?" pulls on these two areas through the examination of the genealogical history of celebrities. The series began in 2004 and has since spawned series in over 10 countries including the United States. Episodes explore family histories and tap into the deep desire people have to know more about their past. A consistent feature of all the episodes is to play out some dramatic element of the celebrities' family history, but to do that in an academic context that includes the analysis of historical archival documents and expert historical commentary as well as

the use of digital historical sources to extend the research. This sort of archival research narrative requires a careful balancing act with enough drama to keep viewers interested and enough analytical rigor to make the history seem believable.

Teachers face a similar balancing act when teaching history. Teachers need to hook their students with interesting and relevant content, but must also emphasize the academic nature of historical research. Digital history provides new opportunities for teachers to engage their students while encouraging an academically rigorous learning experience. However, digital history also introduces new variables to the teaching and learning equation. Digital history is an emerging construct that describes processes for historians and students of history to use technology tools to develop dispositions, skills, and content knowledge in the discipline of history (Lee, 2002). When doing digital history, teachers and students need technical and historical thinking skills to create, manipulate, and present digitized historical primary sources and the products of their analysis. This research examines the design of a digital history project that incorporated many of these elements across multiple iterations of the project as implemented in eight classes at two teacher education programs.

This research asked what methods and tools can teacher educators use to promote digital history in their classrooms. The research responds to the changing context of teaching and learning in the 21st century, specifically the rapid pace of digitization and its effect on social studies education. Using a design-based research approach, this research examined eight iterations of a digital history project implemented in two teacher education programs. The eight iterations of the project played out across four design phases that focused on digitization, personal history, and historical thinking. The project, which came to be known as the Becoming Digital project at one site and the Personal Digital History project at the other, sought to provide teacher education students with experiences digitizing personal artifacts, analyzing those artifacts, and then presenting the artifacts and their analysis in online settings. The authors of this paper were the instructors for the classes and designers of all the instructional activities featured in this research. The authors were also the principle researchers on this project.

The digital history project featured in this research built on Nicholas Negroponte's notion of the DNA of information. In his book *Being Digital*, Negroponte (1996) describes the advantages of the move from analog to digital or, as he puts it from atoms to bits, as freeing information to take new forms reflecting the personalities and personal needs of users. Negroponte argues that being digital is "both about new content and about looking at old content in different ways" (p. 63). The project sought to push teacher education students to see analog content differently and to consider how the process of digitization is wrapped up in the more inclusive processes of meaning making, information availability, open access, and social networking.

An emerging body of research and theory in digital history, social studies education, and teacher education informed this research. Prior to describing the methods for this research and the findings, the next section examines some of the most critical scholarship related to these areas.

Digital history, social studies, and teacher education: A review of scholarship

This review of the related literature examines three broad areas: (1) the emerging field of digital history, (2) trends in social studies teaching and learning, and (3) teacher education specifically focused on teacher change theory.

Digital history

Digital history is a new field that has been defined mostly by historians who are innovating within the discipline using emerging technologies. As digital history has matured, it has been marked by three defining characteristics, new access to historical archival materials, collaboration among historians and students of history, and new types of scholarship.

Access to new historical sources is perhaps the most important characteristic of digital history. When digital history was first being conceptualized, Ayers (1999) described the potential of online historical sources as creating "capacious spaces in which users make connections and discoveries for themselves" (para. 9). Today, access to historical sources online is mostly assumed. Seemingly, every day brings another major collection published online. Digital history providers are outstripping our ability to even describe how much is now available online (Kelly, 2013). Ancestry.com is perhaps the best example of the incredible breadth of historical documents now available online in that they provide access to over 11 billion historical records that were not readily accessible just 10 years ago. However, even with the vast amount of digitized historical material being made available, that digital content only scratches the surface of what humans produce as part of the historical record. In a recent article in the journal *Science*, Martin Hilbert and Priscilla López (2011) estimated that humans have the capacity to store 295 exabytes of information, and just a fraction of that is available online. What is rarely digitized, perhaps because we rarely make them available for digitization, are personal historical materials.

Even with limitations regarding the types of historical information online, access to online historical sources is changing the way historians and educators approach historical research and teaching. As the ability to access digital historical sources has become more widespread, the capacity of online technologies to support collaboration has moved to the forefront. In describing his work with public schools, Ewing (2009) argues that "digital history allows historians to engage with a broader community along the lines of more applied fields, while also maintaining standards for research and instructional activities rooted in the traditions of the liberal arts" (p. 35). Digital history enhances collaboration among historians (Thomas, 2004), collaborative efforts between historians and teachers (Warren, 2007), and collaboration among historians and the general public (Darnton, 2000; Rosenzweig, 2005).

New forms of digital scholarship are now emerging that take advantage of an even wider range of technologies. An example of these innovations can be seen in the flurry of digital scholarship associated with the bicentennial of Abraham Lincoln's birth.