Teachers' Instructional Choices with Student-Created Digital Documentaries: Case Studies

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Abstract

This article describes qualitative case studies of two teachers who integrated student-created digital documentaries into their social studies classrooms. Thornton's (2001a) concept of the teacher as curricular gatekeeper and Mishra and Koehler's (2006) Technological Pedagogical Content Knowledge framed the study. The teachers worked within the constraints of a very detailed mandatory curriculum, taught very similar content, and used the same online digital documentary tool. Despite these similarities, they planned and executed their projects in divergent ways. We found that the teachers' pedagogical aims, rather than the technology or content, dominated both their planned and enacted curriculum. (Keywords: digital history, technological pedagogical content knowledge (TPACK), digital documentaries, social studies.)

INTRODUCTION

Student creation of digital documentaries in the history classroom is a relatively new example of the intersection of technology integration with history education. Spurred in part by the increasing availability of computer hardware and Internet access in schools, social studies teachers have begun to leverage student creation of multimedia for academic aims. According to Mishra and Koehler (2006) this integration is predicated on the teacher's content, pedagogical, and technological knowledge.

Our qualitative case studies describe the experience of two social studies teachers who integrated student-created digital documentaries into their history instruction. We investigated the interplay among the three factors Mishra and Koehler (2006) referred to as Technological Pedagogical Content Knowledge (TPACK).[1] The participating teachers integrated technology in a high-stakes testing environment to teach fact-based social studies content according to two contrasting pedagogical styles. One teacher acted as a "manager" of content knowledge while the other worked with his students as a "facilitator" (Scheurman, 1998). Our findings demonstrate that the teachers' pedagogical aims

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[1]In the original article, Mishra and Koehler use the acronym "TPCK" to describe their construct. In 2007, however, they elected to use "TPACK" to facilitate diffusion of the construct. See Thompson, A., and Mishra, P. (2007). Breaking news: TPCK becomes TPACK! *Journal of Computing in Teacher Education. 24*(2), 38. To be consistent with the wishes of the authors, we have used the more recent acronym.

defined their use of technology to teach content in both their planned and enacted curricula. Their students' work also reflected their divergent pedagogical styles, despite the use of the same technology and similar instructional strategies. Results from this case study demonstrate ways in which technology provides a platform for teachers to carry out pre-existing pedagogical aims.

REVIEW OF LITERATURE

"Doing History"

Two current themes in social studies education—the emphasis on "doing history" and the integration of technology—intersect with digital documentaries. Research in social studies learning has de-emphasized student memorization of facts and text-based instruction in favor of engaging students in historical inquiry (Barton & Levstik, 2003; Downey & Levstik, 1998; Foster & Padgett, 1999). Social studies researchers and educators promote the use of primary source documents in K–12 classrooms to enable students to develop historical thinking by examining original evidence and addressing the creation of historical accounts (Sexias, 1998; VanSledright, 2002; Wineberg, 2001). This pedagogy aligns with a constructivist theoretical framework of teaching and learning in which students construct new knowledge through experiences that confirm or disconfirm prior experiences (Donovan & Bransford, 2005). Scheurman and Newmann (1998) summarized that "authentic intellectual work" in the social studies meets three criteria: substantive content construction, disciplined inquiry, and relevancy to the world beyond school. A student-created digital documentary could meet these three criteria because students select primary source images, engage in historical interpretation, and present their understandings as a film (Hammond & Ferster, in press).

Technology Integration

Social studies educators recognize the potential for digital history to contribute to authentic social studies teaching and learning experiences (Clarke & Lee, 2004; Lee, 2002). Historian Ed Ayers (1999) remarked, "History may be better suited to digital technology than any other humanistic discipline" (n. p.). According to Lee (2002), digital history is "the study of the past using a variety of electronically reproduced primary source texts, images, and artifacts as well as the constructed historical narratives, accounts, or presentations that result from digital historical inquiry" (n. p.).

Digital documentaries are the constructed historical narratives that result from the manipulation of electronically reproduced primary source texts and historical inquiry. To form a short digital movie, students synthesize digitized primary source texts and images with student-scripted narration (Ferster, Hammond, & Bull, 2006). The proliferation of digital and Internet technology has made the student creation of digital documentaries a realistic pedagogical possibility for the K–12 classroom (Hofer & Owings-Swan, 2005).

Unfortunately, the *potential* benefits of digital history in the social studies have been far more apparent than the *realized* benefits (Friedman & Hicks, 2006; Martorella, 1997). In the current literature, there is no clear understand-

ing of the relationship between integrating digital documentaries and teacher practices. According to Hofer & Owings-Swan (2005), "Digital moviemaking offers an opportunity to harmonize the use of technology to support student-centered pedagogy and unique disciplinary approaches rooted in discipline-specific pedagogy" (p. 104). Our inquiry explored how digital moviemaking "harmonized" with teachers' pedagogical aims.

METHOD

A qualitative case study method framed this study. Our intention was to provide a "thick description" (Geertz, 1973) and to "re-create a situation and as much of its context as possible" (Gall, Gall, & Borg, 2007, p. 451). In this study we compared two teachers and their experiences creating digital documentaries in the social studies classroom. Both teachers used PrimaryAccess (http//www.primaryaccess.org), a free Web-based application that scaffolds students' use of digital primary source images, script writing, and narration. Our data were collected during a unit in which the history teachers assigned a digital documentary project. The following research questions guided our study:

1. What pedagogical aims are history teachers addressing through the use of student-generated digital documentaries?
2. How are these pedagogical aims reflected in their classroom instruction?
3. In what ways are these pedagogical aims reflected in students' products?

To examine the interplay of pedagogy, content, and technology, we focused on the teachers' pedagogical aims or "value positions" (Stenhouse, 1970) and sought evidence of the extent to which (if any) those aims were influenced by the integration of technology. We perceived the teachers as curriculum gate-keepers and analyzed their construction of a technology-rich assignment within the context of their interpretation of the assigned curriculum. To address the impact of the technology-mediated teaching strategy, we examined students' final digital documentaries for evidence of alignment with the teachers' pedagogical aims.

Conceptual Framework

Mishra and Koehler's (2006) TPACK extended Shulman's (1987) framework of pedagogical content knowledge to include technology as an influential factor in "quality" classroom instruction. TPACK describes teaching as a complex and dynamic activity between three overlapping spheres of knowledge—technology, pedagogy, and content. According to Mishra & Koehler, productive technology integration in teaching considers all three spheres not in isolation, but rather as interrelated (p. 1029). They wrote, "Newer technologies often disrupt the status quo, requiring teachers to reconfigure not just their understanding of technology but of all three components" (p. 1030). Within our case study we sought evidence of this reconfiguring. We examined the dynamic interplay of teaching and the ways content and pedagogy might be influenced by the integration of digital moviemaking.

In order to understand the interplay of pedagogy, content, and technology, we focused on the two teachers' construction of the classroom curriculum. Thornton (2001b) devised the analogy of gatekeeping to describe the influence of teachers' contexts and perspectives on classroom practices. He viewed "tending the curricular instructional gate" as a complex process that "requires simultaneous judgment about the material itself and its arrangement for instructional use with a particular group of students" (p. 237). The conception of teacher-as-gatekeeper portrays teachers as the essential arbiters of content and pedagogy in their classrooms.

We examined the ways in which the teachers acted as gatekeepers at two important points in their instruction—in their planning and instruction. According to Eisner (2002), "The differences between what is planned in the way of aims, content, activities, and sequence and what actually transpires in the classroom can be formalized into a distinction between *the intended* and *the operational* curriculum" (italics in original, p. 32). He argued that, in evaluating educational outcomes, it is essential to examine both curricula. "Approaches to the former (intended) can be made by inspecting the materials and the plans that have been formulated. Approaches to the latter (enacted) can be made only by directly observing the classroom itself" (p. 34).

Data Collection

Data were collected at two research sites with two history teachers. These teachers were "purposefully" chosen as "information-rich cases" (Patton, 1990, p 169). Smith was chosen following a pilot study with a district-selected veteran teacher. Given the successful outcomes of the pilot, the follow-up study required an early-career teacher to determine whether the initial outcomes were due to the characteristics of the teacher, the technology, the teaching techniques, or a combination of the three. Maxwell, a teacher familiar to the researchers from previous graduate work, was chosen to provide a contrast to Smith due to his interests in engaging students in critical thinking. In addition, the teachers were recruited to take part in the study because they were familiar with PrimaryAccess and taught relatively similar content in similar school settings—both struggling to meet AYP and dominated by the Virginia Standards of Learning.

The first research site, Hayes Middle School,[2] is located in an urban area Virginia. Three seventh-grade classes (approximately 45 students total) took part in the study. One class was predominantly African-American, another was predominantly white, and the third class was evenly divided. Their teacher, Mr. Smith, is a white male with one year of teaching experience. He had assigned student-created multimedia projects in the past and had used PrimaryAccess in his classroom on one previous occasion. During our study, Smith grouped his students into pairs to create movies summarizing topics in post-Civil War America, such as the rise of Jim Crow laws and migration to the Great Plains. The project took five 45-minute class periods to complete. Smith provided his students with formative feedback throughout the project, through verbal inter-

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[2] Pseudonyms replace all names and locations to ensure confidentiality.

action in class and through embedded notes left on the students' scripts after class.

The second site, Grant High School, is located in an urban area in Virginia. The 20 participating 11th- and 12th-grade students were in a U.S. history class. The course was classified as "non-college prep" by the school administration. Two-thirds of the students are African-American, and the remaining third are white or Asian. Their teacher, Mr. Maxwell, is a white male with eight years of teaching experience. He had previously assigned student-created multimedia presentations but had never used PrimaryAccess in his classroom prior to the study.

Maxwell assigned his students a digital documentary as a culminating assignment for the Civil War unit. The students spent three 90-minute periods creating their movies and one subsequent period analyzing their movies. The assignment required students to invent a fictionalized, historic perspective chosen from a teacher-created list (see Appendix A) and to describe three or more events (also from a teacher-created list) from that perspective. To support the students' understanding of perspective-taking, Maxwell provided them with prompts for critical thinking (Paul, 1993; see Appendix B).

Data Analysis and Validity

Sources of data included field notes, semi-structured interviews, focus group responses, and documentary evidence, including student work and teacher-created handouts. Smith was observed by one researcher (Hammond) as part of a larger study, encompassing 24 days of observation across an entire semester of instruction. Following the observations, he sat for two 60-minute interviews with the researcher. In Maxwell's class, observations were conducted by one researcher (Manfra) over the course of three 90-minute class periods—during the instructional unit when students created digital documentaries. Informal interviews were conducted at the end of each class session and one formal, semi-structured interview was also conducted with Maxwell. For the focus group, Maxwell nominated 10 student participants to take part. Data collection was conducted individually; however, all data analysis was conducted collaboratively, including comparing and contrasting codes, forming conclusions, and writing the research report. We felt the process of shared data analysis made our individual case studies more robust.

We employed a constant-comparative method to analyze the data and form conclusions (Glaser & Strauss, 1967). The multiplicity of our data sources ensured triangulation and promoted the validity of our findings (Freeman et al., 2007). After initial conclusions were formed, additional data were collected and coded. For instance, Maxwell was consulted about his use of the critical thinking model in a follow-up interview. This form of member checking ensured that we represented the teacher participants' actions and intentions accurately (Glesne, 1999). As data collection culminated, both researchers analyzed the data and developed and compared independent coding schemes for both research sites. We found the ongoing process of data collection, analysis, and refinement of conclusions led to more reliable or "trustworthy" findings (Eisenhart & Howe, 1992; Glesne, 1999).

RESULTS

The Intended Curriculum and Divergent Pedagogical Aims

According to Eisner (2002), the "intended curriculum" is "that body of material that is planned in advance of classroom use and that is designed to help students learn some content, acquire some skills, develop some beliefs, or have some valued type of experience" (p. 34). The intended curriculum is found in the plans, the assignments, and the materials the teacher creates or plans to use. Our examination of the teacher materials in the case study uncovered two different instructional styles: Smith acted as a "manager" of student learning whereas Maxwell was a "facilitator" (Scheurman, 1998). Smith's view of teaching was to "present reality to students" (Scheurman,1998, n. p.), whereas Maxwell's aim was to "challenge students' conceptions of reality" (Scheurman,1998, n. p.). The differences in pedagogical aims embraced by these teachers and revealed in their intended curricula demonstrated that their use of student-created digital documentaries did not necessitate a single pedagogy.

Both teachers taught in Virginia public schools. The Commonwealth of Virginia has a very detailed curriculum framework for the social studies (Virginia Department of Education [VDOE], 2001). Student mastery of social studies is assessed by an end-of-year, high-stakes test (van Hover, 2006; VDOE, 2002) that has ramifications not only for students but also for schools (VDOE, n.d.; Yeager & van Hover, 2006). Although both teachers felt pressure from the standardized curriculum to limit the amount of class time they invested in the digital documentary project, it was not the most influential factor in their pedagogical decision making. Rather, the teachers aligned the integration of digital documentaries to teach history with their a priori philosophies about social studies teaching and learning.

Smith's planned curriculum: "I am an entertainer." According to Scheurman (1998), "The teacher as manager might model strategies for 'chunking' information, encourage students to build connections using advance organizers and concept maps, and eventually help students acquire techniques for regulating their own thinking processes" (n. p.). Smith emphasized the coverage of content to prepare students for the end of grades test. Although Smith made an effort to encourage student consideration of historical significance, it was not pursued in formative or summative assessments. As a manager, Smith based the majority of his content decisions on the standardized curriculum and its concomitant high-stakes test. When interviewed he noted, "The SOLs tell me what I need to teach, which is a nice help. So we're not talking about World War II for the entire year" (Interview, January 25, 2007). Smith used the SOLs to guide his curricular decision-making and assess student mastery of historical knowledge. He explained, "Before I move on, I need to make sure there are essential questions they need to be able to answer, essential knowledge ... those basic things" (Interview, January 25, 2007). For Smith, the SOLs formed a baseline of factual knowledge students needed to know. He repeatedly expressed his view that the teacher's primary responsibility was to prepare students to pass the standardized test. Smith acknowledged that in his teaching situation, at a highly impacted school, he was under additional pressure to adhere to the stan-

dardized curriculum: "they're [administration and central office staff] holding us to it [the pacing guide]. Right now we're about a week off. And they're letting us know" (Interview, January 25, 2007).

Smith designed his daily instruction around "essential knowledge" objectives as outlined by the standard curriculum. For instance, during a classroom observation the following vocabulary words were listed on the board: "segregation, Jim Crow, *Plessy v Ferguson*, and DuBois & Washington." On another board the homework for each day of the week was listed as an SOL topic and assigned reading. For instance, "Monday - *Plessy v Ferguson* reading and questions" (Classroom observation, September 1, 2006). All of the topics listed were specifically named on two pages in the curriculum framework for the course (VDOE, 2001), and their tight grouping within Smith's instructional sequence demonstrates his adherence to the curriculum.

For Smith the PrimaryAccess project provided an opportunity to break up monotony. He compared his role as a teacher to that of an entertainer, saying, "I'm starting to realize more and more that teaching is ... I'm an entertainer, I'm tap-dancing" (Interview, January 25, 2007). In his use of PrimaryAccess, Smith created an assignment for his students to create a movie that (a) reviewed the "basic information" (i.e., the information specified in the curriculum guide and therefore highlighted in the study guide), (b) included "any extra information" that the students felt was interesting or important, and (c) explained "why is it [the topic] important to us today." Two of the three prompts required students to present information and highlight the information required by the curriculum guide. The third section of the task diverged from the previous focus and engaged students in connecting it to the present day. This requirement aligned with Standard USII.1.c: "The student will demonstrate skills for historical and geographical analysis, including the ability to make connections between past and present" (VDOE, 2001, p. 1).

Throughout the interviews with Smith, observation of his classroom, and examination of the task presented to his students, the consistent portrait that emerged was that of a skilled information manager who adhered closely to the curricular expectations set forth in the state standards and enforced by the end-of-year test and the local school authorities. His intentions for his students were that they absorb and integrate information and reproduce it successfully. Although he hoped to entertain students, his need to manage student understanding overrode his desire to be less "boring."

Maxwell's planned curriculum: "Putting yourself in someone else's skin."
The culture of Maxwell's school was similar to Smith's in that the standardized curriculum was prioritized in instructional planning. He and his fellow teachers participated regularly in "data days" during which department members compared students' scores on unit tests to determine areas of weakness. Teachers were encouraged to follow a district-created pacing guide based on the curriculum framework provided by the VDOE. Although Maxwell felt pressure from his department chair to maintain the appropriate pacing and prepare his students for the end-of-grade test, he felt his teaching should go beyond the state-mandated curriculum. According to Maxwell, "I would say the SOLs are

a basic standard, and they don't reflect what we should be teaching. They reflect the basic standard of what we should be teaching students" (Interview, October 1, 2007). He wanted his students to develop content knowledge and critical thinking skills that went beyond this "basic standard." According to Scheurman's (1998) framework of teaching types, this approach to social studies teaching and learning is representative of facilitative teachers. Rather than transmit knowledge, facilitative teachers "share the basic assumption that students learn best when they analyze and interpret the meaning of new information in relation to past experience" (n. p.). The digital documentary project Maxwell assigned reflected this teaching style.

In his culminating project, Maxwell encouraged his students to create their own interpretation of the past. His assignment required students to adopt a fictionalized historical perspective while discussing events listed in the curriculum guide. Maxwell expected his students to create this unique perspective using Paul's (1993) critical thinking model (see Appendix B) as a guide. In both the digital documentary project and in two previous units, Maxwell used this model as a "hard scaffold" (Saye & Brush, 2002, p. 2) to support student development of critical thinking by learning to "identify and analyze bias, assumptions and implications regarding content information" (Interview, October 1, 2007). In describing the purpose of this activity, Maxwell felt it would increase student awareness of point of view and emphasize that a historical narrative is the creation of a storyteller with a unique perspective. Maxwell reported, "I would describe perspective as … putting yourself in someone else's skin …. We need to teach kids to think critically about the history they consume and understand where it is coming from" (Interview, October 1, 2007).

Maxwell's pedagogical aims aligned most closely with Scheurman's (1998) "facilitator." He intended his students to engage in substantive content knowledge development and disciplined inquiry that went beyond the standardized curriculum. Maxwell provided his students with a scaffold to facilitate their success and allowed the students choice in selecting the events and historic perspective they would include in their scripts.

Section conclusion. The planned curriculum, including the assignments and the expectations they had for their students, demonstrated Smith's and Maxwell's divergent pedagogical aims. Our examination of the teachers' technology-rich projects revealed the pedagogical principles on which they operated (Kelly, 2004). Smith "managed" content knowledge in his classroom by providing models for understanding the subject. He persisted in his focus on the standardized curriculum and viewed the digital documentary project as a means to facilitate his direct instruction. Maxwell was a "facilitator." He wanted his students to engage in content-relevant historical interpretation by putting themselves in "someone else's skin."

The Enacted Curriculum: Maintaining Pedagogical Aims

The enacted curriculum of both teachers approximated their planned instruction. Eisner (2002) defined the "operational curriculum" as often different from the "intended curriculum" and including "the materials, content, and events

in which students are engaged" (p.34). In our study we collected data on the enacted or "operational" curriculum through classroom observation and follow-up interviews. According to Kelly (2004), curricular aims or "principles" are evident in the "procedures" as well as the original planning.

Overall we found the enacted curriculum was very similar to the planned curriculum in both classrooms. While implementing their digital documentary projects, the teachers continued to pursue their divergent pedagogical aims and maintained their contrasting pedagogical styles: Smith remained a manager of student learning, whereas Maxwell worked as a facilitator.

Smith: "I had to work harder." When Smith presented the digital documentary project, he did not relinquish control over the creative or intellectual endeavor. To introduce the PrimaryAccess project, Smith used a basic "think aloud" strategy to model his internal thought process and decision making. Sitting at the front of the room, using an LCD projector, he modeled using PrimaryAccess to compose a short script about the Battle of Little Bighorn, added historical primary source images, and aligned the pictures with the text. He repeated this process for all three classes, following the same steps in the same sequence (Classroom observation, September 15, 2006).

Following this introduction, Smith guided his students through multiple iterations of script development and image selection. First, he set benchmark goals for the students, described as, "Have your introduction done by the first day, 2–3 paragraphs done the second day, and so on" (Smith, Interview, January 25, 2007). Smith monitored student progress daily in class through verbal interactions and out of class through an embedded note feature in PrimaryAccess, "I actually went in [logged into PrimaryAccess] that night and put in notes for all the groups" (Smith, Interview, January 25, 2007). Across all 22 projects, Smith left 61 notes, averaging just below 3 notes per project. The record of the textual notes reinforced the picture of Smith as an information manager. Nearly half of the notes specifically referenced content knowledge (e.g., "Did the railroad only go as far east as Omaha? Look in the book for more info. Pg. 162 of the textbook" [Student product ID 4990]), and approximately one-quarter provided encouragement or task direction ("Let's get this script done so we can record and you can set your pictures and motions" [Student product ID 4992]). The rest of the notes either addressed students' grammar or encouraged them to draw connections between past and present.

During class students consulted Smith's notes and asked for any needed clarification. "Teacher [Smith] shows him the note teacher left for him. Gets boy to pop open note, they talk it through. Teacher elicits/suggests additional information" (Classroom observation, September 20, 2006). Verbal, in-class feedback and textual, out-of-class feedback were soft scaffolds Smith used to provide rich, individualized feedback to students (Brush & Saye, 2002). He observed, "It [a note] may not have meant anything to them [the students], but when I read it, it clicks in, 'Ah, you need to do this'" (Interview, January 25, 2007). The notes helped him manage the diversity of his student projects by jogging his memory and enhancing his face-to-face dialog with the students.

For Smith the process of managing student work and providing feedback and encouragement to students was a challenge. Looking back on his project,

he reported, "I had to work harder with PrimaryAccess; that's for sure" (Interview, January 25, 2007). Despite these challenges, Smith persisted in managing the content included in student movies until they had produced 21 complete products.

Maxwell: "The process was more important to me than the product." Maxwell persevered with his planned curriculum by revising his instruction without changing his pedagogical goals. He explained, "All of my instruction never turns out the way that I plan it. I actually think that is a good thing because it is much more reactive to how the kids take it in and go with it" (Interview, October 1, 2007). According to Scheurman (1998), this adjustment reflects Maxwell's "facilitating" stance—he was willing to create the curriculum alongside his students. By being "reactive," he could meet his students' needs and make the subject matter more relevant. He said, "But in terms of that tension between how we plan things and how things turn out, I always err on the other side. I don't always stick to my plans. I am not that strict with that" (Interview, October 1, 2007).

To introduce both the technology and the assignment, Maxwell offered his students an introduction to PrimaryAccess. He explained, "I'm going to take you through a brief tutorial; then I just want you to plan out what you want to do" (Classroom observation, January 15, 2006). His introduction involved describing the assignment and showing a sample finished product. Using a laptop and projector, he demonstrated key movie-making tasks: selecting images, writing a script, and recording narration (Classroom observation, January 15, 2006). He explained his expectations for students to refer to the critical thinking model as they planned the scripts and to select two new events to write about in addition to five from the list he provided (see Appendix A).

In describing historical perspective, he explained to his students that it "lets us see how you can construct this historical period other than from the perspective of a 16- or 17-year-old from [town name]. It also allows you to be more creative in how you present it" (Classroom observation, January 15, 2006). Although he advised his students to be creative, he also insisted that they be historically accurate. He cautioned, "I want you to add fictional stuff about a family to embellish your factual stuff with your chosen point of view. But your story should be based in facts like that Grant would only accept an unconditional surrender from General Lee" (Classroom observation, January 15, 2006). Maxwell underscored the importance of factual accuracy when attempting to adopt a contemporary perspective on the event.

In keeping with his role as a facilitator of student learning, Maxwell tended to downplay format concerns in favor of dealing with content decisions. For instance, a student asked, "How long do our movies have to be? How many slides do we have to have?" To which Maxwell replied, "That's up to you; that's something you need to figure out for yourself" (Classroom observation, January 15, 2006). When a student asked for his advice about content, Maxwell engaged her in conversation:

> Maxwell: An abolitionist is someone that wanted to end slavery. What happened at Bleeding Kansas?

Student: It has to do with the Kansas Nebraska Act, right?
Maxwell: As an abolitionist you'd be interested in what happened there. You have two, now one more.
Student: Could another be the Battle of Gettysburg, since I'm a Northern abolitionist and it was in the North? (Classroom observation, January 15, 2006).

In this example Maxwell revealed his reluctance simply to transmit content knowledge to his student. Instead, he engaged her in a discussion of historical significance from the perspective of a northern abolitionist. He redirected her to connect what she had learned previously with new information. In another example Maxwell prompted the students to write more explicitly: "Do you explain why John Brown is killing people? Why is there so much violence in Kansas? You guys make assumptions about your audience. You should assume your audience knows nothing about what you're talking about" (Classroom observation, January 17, 2007). These interactions provide evidence of the way Maxwell worked as a facilitator with his students; he influenced their content decisions and prompted more thoughtful scripting.

Along this same theme, Maxwell spent much of his class time working with student issues regarding the inclusion of additional images. Although he had archived more than 70 images related to the antebellum period and the Civil War, his students repeatedly requested that he include images they selected into the archive. Reflecting on the experience, Maxwell remarked, "… it struck me that they really were sincere in wanting to use their own images. I felt this was them thinking about those issues more deeply and I should accommodate them" (Interview, October 1, 2007). This was reflective of his facilitating attitude. He wanted to encourage authentic historical work by his students and was willing to go out of his way to facilitate it.

Although there is little evidence that his students used Paul's (1993) critical thinking model to write their scripts as he'd intended, Maxwell persisted in encouraging them to consider historical perspectives and bias. He distinguished between these two concepts on the grounds that perspective taking is explicit and bias is implied (Interview, October 1, 2007). After students completed the movies, Maxwell required them to return to Paul's model and answer the questions posed using their own scripts.

Maxwell's students did not complete their movies by the end of the project. Both teacher and students ascribed this to difficulties when adding narration. According to Maxwell, "The recording of the narration was a big problem for them [students]…. [I]t was something we spent a lot of time working on the last day" (Interview, October 1, 2007). Due to the curriculum pressures and the department-wide unit test the students were preparing for, Maxwell made the decision to stop the project. He said, "When we ran out of time, I really couldn't justify spending any more time on the project…. That was something I had to adjust my expectations on" (Interview, October 1, 2007). When asked how he approached the task of assessing the unfinished projects Maxwell replied, "The process was more important to me than the product" (Interview,

October 1, 2007). Through the "process" he persisted in pursuing his pedagogical aims with his students. He wanted to facilitate the development of their critical thinking skills, and he used the context of the technology-rich project as the opportunity to accomplish this goal.

Section summary. In both classrooms' digital documentary projects, the enacted curriculum closely paralleled the planned curriculum. Both teachers persisted in pursuing their individual pedagogical aims in the face of technical and logistical difficulties by scaffolding student work. Smith used the note function to redirect students toward content knowledge development and manage their progress. This behavior aligned with his role as a manager of social studies teaching and learning—he emphasized mastery of content knowledge. Maxwell worked alongside his students as a facilitator of their understanding of content knowledge and critical thinking. He relied on Paul's (1993) critical thinking model to engage students in a study of historic perspective and bias.

Student Creation of Digital Documentaries

We found evidence of the teachers' distinctive pedagogical aims in the student-created digital documentaries. According to Scheurman (1998), when the teacher acts as a manager, students "manipulate reality perceived through sense." They "practice thinking and memorizing activities," "develop schemata and automatize skills," and "practice self-regulatory strategies" (n. p.). In Smith's classroom his students' movies presented their almost rote renditions of standardized curriculum and were heavily influenced by feedback received from Smith. In contrast, students in a facilitative classroom "experience reality during physical and social activity"; they "assimilate new information, develop new schemes and operations to deal with novel experiences, and reflect on physical, social, and intellectual discoveries" (n. p.). Maxwell's students assimilated a variety of information, including their prior knowledge, class notes, and Internet-based research to create their movies. They developed movie scripts that went beyond the intended curriculum.

Smith: Students manipulate reality. Smith's students worked on a total of 22 digital documentaries during their week of project work. The final products reflected his instructional aims in three ways. First, the documentaries included factual content knowledge specified in the curriculum and highlighted during Smith's classroom instruction. For example, one documentary opened with the following sentences:

> The great plains was seen as a treeless wasteland. It also had frequent dust storms, low rainfall, and land eroded by wind and water. However, because of new technologies, people saw the great plains as a vast area to be settled, with many Buffalo (Student product ID 5010).

These sentences very closely paralleled the Essential Knowledge in the curriculum framework:

> Physical features/climate of the Great Plains: flatlands that rise gradually from east to west, land eroded by wind and water, low rainfall, frequent dust storms. Because of new technologies, people saw the

Great Plains not as a "treeless wasteland" but as a vast area to be settled (VDOE, 2001, p. 2).

The students' scripts included the same concepts, often in the exact same words, albeit in a slightly different order. These concepts and these phrasings had been emphasized during Smith's instruction, and they appeared in many other students' scripts. For example, of the 10 documentaries made on the topic of the Great Plains, the phrase "treeless wasteland" appears in seven.

Second, the documentaries were factually accurate and aligned with the curriculum framework, textbook, teacher-created documents, and observed instruction. No scripts contained a statement that conflicted with these sources, and only two documentaries used images incorrectly. For example, one documentary displayed a photograph of Sitting Bull when discussing Chief Joseph. Students' factual accuracy when composing their projects was supported by Smith's practice of reviewing scripts and leaving notes to point out misconceptions (e.g., "Are you sure that Plessy vs Ferguson was before Jim Crow Laws started? Wasn't Homer Plessy trying to test Jim Crow Laws?" [Student product ID 5011]).

Third, students' products demonstrated the intensive use of teacher-selected resources. All of the images used in the completed projects came from the list originally selected by Smith. Students did not attempt to integrate additional, non-teacher-selected images to be used in their final products; instead they worked within the confines of the 60 images included in his activity file. Examining the scripts, only one included information that was clearly from an external, non-teacher selected resource (e.g., Wikipedia entries).

One area in which some students' work diverged from the teacher's instructions came in their responses to the third part of their task, explaining why their topic was "important to us today." Of the 21 completed documentaries, only 17 provided a statement of significance. For example, one script concluded by saying, "We still use the railroad today. It carries resources, people, and goods" (Student product ID 5009). This statement, in a very simple way, made the association requested by the teacher. The remaining four documentaries did not include any statement connecting past and present but merely presented factual information.

This divergence between student products and the teacher's directions paralleled a pattern in the teacher's behaviors. Examining the notes left in students' successive versions of their documentaries, Smith addressed factual knowledge far more frequently than significance. Among the 61 notes left in students' projects, only seven (or just over 10% of the total) directed students to draw connections between past and present; 28 notes (approximately 45% of the total) addressed the scripts' factual content.

Smith's students produced digital documentaries that reflected their teacher's pedagogical aim—content knowledge transmission. His use of hard and soft scaffolds led to student products that closely reflected his instructional aims. Student movie scripts aligned with the standard course of study and integrated the teacher-provided resources. Where students strayed from the assignment, in

describing historical significance, this appears to have been prompted by Smith's own emphasis on factual content over interpretation.

Maxwell: Students' experience. Maxwell's students worked on 16 digital documentaries. They formed their own groups and divided the tasks among group members. Only one of Maxwell's students handed in a completed project. Both the students and the teacher attributed the failure to finish the movies to technical challenges.

The student in-class work and the scripts they produced reflected Maxwell's pedagogical aims. Due to his facilitative stance, the movies went beyond the intended curriculum as students added their own interpretation of historic events and images. Perhaps due to Maxwell's lack of rigid expectations, many of the scripts did not fulfill all of the requirements of the assignment.

One requirement of the assignment was that students adopt one of five teacher-selected historical perspectives. Of the 16 scripts, only nine included an identifiable perspective. For most of these nine scripts, the perspective was overt and used to create a narrative. For instance, one student was transparent in her perspective when she wrote, "Being a 76-year-old abolitionist wasn't something I planned to do in my life." She continued by adding a husband and son for her fictional abolitionist (Student product ID 8077). In a more subtle example, another group focused on the actions of John Brown: "Although Brown had to get his point across through violence, morally this religious man was a martyr that had genuinely wanted the best for those that couldn't help themselves" (Student product ID 8010). These authors did not include a fictionalized family in their movie script, but they did provide a biased impression of John Brown. They portrayed him as a "religious man" and "martyr"—a perspective few southerner slaveholders would have shared.

While the assignment specified inclusion of five teacher-specified events (see Appendix A), the students' scripts included an average of just under four, and most included events in addition to those listed by the teacher. For example, five of the 16 scripts mentioned the Kansas-Nebraska Act. This topic was not present on Maxwell's list, but it is mentioned in the curriculum documents (VDOE, 2001, 2004) and had been discussed in class. Another popular topic was the caning of Charles Sumner in 1856. The incident was discussed in class and was on Maxwell's list but is not specified in state-mandated curriculum documents. Six scripts referenced the event and often incorporated detail and elaboration. One group's vivid description was indicative of the students' interest:

> On May 22, 1856, Preston Brooks, a representative of South Carolina, barged into Sumner's office and began to beat him with a cane used to discipline untamed dogs. Witnesses stared in awe, yet there was no sign of protest. Brooks never served time for his doings to Sumner. Granny told me that Sumner had it comin' and deserved it for every word he said against the South. (Student product ID 8090)

According to Maxwell, the detail the authors went into signified their interest and understanding of the event; he said, "going into detail about those events… [was] something I really wanted them to do" (Interview, October 1, 2007).

For the most part the student scripts were historically accurate, but at least four of the 16 contained factual inaccuracies. For example, one script stated that Grant, not Lee, surrendered at Appomattox. Another script conflated John Brown's raid on Harper's Ferry, which took place in Virginia in 1859, with the battles of Bleeding Kansas, which took place between 1854 and 1858.

When composing their scripts, the students consulted Maxwell, textbook material, class notes, and Internet-based research. In the focus group the students reported that Maxwell helped them with the factual information: "We asked him questions and he would tell us" (Focus group, January 23, 2007). In addition to Maxwell's feedback, some used Internet-based research to expand on the events they included in their movies. For example, we observed students using Wikipedia, Ask Jeeves, and Ask.com (Classroom observations, January 15 and 17, 2007). The use of online resources is reflected in the following description of the Battle of Gettysburg:

> This was said to be the bloodiest battle of the civil war. On July 1, some confederate infantry headed to Gettysburg to seize much-needed shoes and clashed west of town with Union Calvary. The Union commander recognized the importance of holding Gettysburg together (Student product ID 8243).

The middle sentence from this excerpt can be found verbatim on at least two Web sites (www.eyewitnesstohistory.com/gtburg.htm and history-world.org/gettysburgs.htm). Other sentences in the script are identical to other online sources, suggesting that the student's product is a compilation of others' work. At least two other scripts among the 16 contained sentences or phrases that match online sources.

In addition to conducting Internet research on content, students also searched the Web for pictures to add to their movies. After Maxwell agreed to upload the pictures for the students, they began sending them to him via e-mail. When asked about this behavior, the students equated the images with authorship. "Everybody would have the same pictures, so it was like, 'What's the point? I am not doing the same project as everyone else'" (Focus group, January 23, 2007). To make their movies unique, the students sent pictures to Maxwell, which he added to the archive, bringing the total to 81 images. The students' requests for additional pictures reflected the facilitative nature of the classroom.

All 20 students completed the questionnaire based on Paul's (1993) model after the project ended (see Appendix B). Some of the students who did not present an overt perspective in their movies expressed one in their answers to the questionnaire. For instance, one pair created a movie that was factual but did not include an identifiable perspective. As a result, their answers to the questions posed by the questionnaire are similarly vague. In response to the final question about the point of view of the author of the "text," they wrote, "Should have a choice whether or not they wanted to be a slave state" (Student work, February 9, 2007). It is not clear from this example whether the students understood the assignment and the use of Paul's model. However, the students' statement does articulate a reasonable point of view from the period being stud-

ied. In contrast, the group writing about John Brown appeared to have a more sophisticated understanding of point of view in historical texts, portraying John Brown as a martyr. When answering the questions from Paul's model, the authors wrote, "The main point of view is as a white abolitionist so we are against slavery and for John Brown and such" (Student work, February 9, 2007). Both of these examples provided evidence of the tenuous nature of the students' understanding of historic perspective. However, they were working toward Maxwell's objective of developing critical thinking skills, and their work—both the movie scripts and their answers to Paul's model—reflected his curricular aims.

The students' products reflected Maxwell's pedagogical aims for the digital documentary project. Although they were not entirely successful, they worked toward Maxwell's aims for the assignment. Their movies included content from the list he provided; they worked with him in a facilitative nature to develop their movies, and most attempted to include perspective in their writing. Variations on Maxwell's intended curriculum were brought about by the student reactions to the assignment's processes and requirements.

Section conclusion. The students' actions accounted for differences and similarities between the planned and enacted curriculums of the two classrooms we studied (Powell, Farrar, & Cohen, 1985; Sedlak, Wheeler, Pullin, & Cusick, 1986). The students responded to the teachers' pedagogical aims and reflected them in their digital documentaries. Smith's students created movies that aligned closely with the standardized curriculum. His pedagogical aim to "cover content" was reflected in the factual accuracy and standardized phrasing in his students' movies. Maxwell's students assimilated a variety of information, including their prior knowledge, class notes, and Internet-based resources to create digital documentaries that blended fact and fiction. They worked alongside Maxwell, bargaining for more pictures and developing movie scripts that were varied and creative.

DISCUSSION AND IMPLICATIONS

Smith's and Maxwell's iterations of the standardized curriculum support Thornton's (2001a) contention that teachers act as "gatekeepers" creating "subject matter" from content. In our study, Smith and Maxwell planned curricula for the digital documentary assignment that reflected their pedagogical aims and assumptions. Smith chose to emphasize content, while Maxwell wanted his students to develop critical thinking skills. We observed what Thornton observed—that "each teacher construes the 'same' content differently" (p. 237).

According to Mishra and Koehler (2006), technology requires teachers to "reconfigure" three components of instruction—technology, pedagogy, and content knowledge—TPACK. In our study we found evidence of this reconfiguring as the teachers integrated student-created digital documentaries in the history classroom. Both the teachers and their students reconceived the content in a new form—as a digital documentary—which required narrating history in a visual and oral presentation. The pedagogy also adapted to the technology. The teachers turned to collaborative student groupings, one-on-one instruction, and extended class time to facilitate student production of the digital documen-

taries. These observations align with Mishra & Koehler's argument that new technologies provide new curricular options, and "Teachers need to know not just the subject matter they teach but also the manner in which the subject matter can be changed by the application of technology" (p. 1028).

However, our study also demonstrated the limitations of theories, such as TPACK, to predict the complex interactions that occur inside a fluid classroom environment (Eisner, 2002). According to Mishra and Koehler (2006), with the introduction of new technologies in the classroom, "It is the technology that drives the kinds of decisions that we make about content and pedagogy" (p.1029). In our case studies, neither content nor technology drove the primary decisions about the other variables. Instead, our findings suggested that the teacher's pedagogical aims dominated. For the participating teachers in this study, their preconceived pedagogical assumptions drove their construction of the subject matter and the manner in which they integrated technology into their history instruction. Throughout the planned and enacted curriculum, Smith remained a manager and Maxwell a facilitator of student learning; they used the technology to fulfill these aims. In this respect, our findings align with the work of Shulman (1987), Thornton (2001a), and Wineberg (2001), who emphasize teacher pedagogical knowledge. In our study the teachers' instruction and the students' final products reflected the original pedagogical aims far more than the impact of the teacher's choice of technological tool or selection of content.

Finally, our findings suggest that teacher educators interested in leveraging technology to create constructivist social studies teaching and learning (Crocco, 2001; Doolittle, 2001; Doolittle & Hicks, 2003) cannot neglect teachers' predetermined pedagogical aims. If these aims do not originate from a constructivist framework, there is little the technology or content will do to make instruction more student-centered. Literature on authentic professional development, however, suggests that pedagogical aims can evolve (Stenhouse, 1975). Teacher research and self-study have been shown to help teachers become responsible (and responsive) to both theory *and* practice (Cochran-Smith & Lytle, 1993), bring about change in social studies classrooms (Johnston, 2005), and improve "craft knowledge" (Grimmett & MacKinnon, 1992). Discussing pedagogy is a requirement for any meaningful integration of technology.

LIMITATIONS AND NEXT STEPS

At the time the study was conducted, PrimaryAccess was a fairly new tool that the researchers helped to introduce to the teacher participants. As this technology application (or others like it) becomes increasingly ubiquitous, there will be more opportunities to study its use over time and across several cases. These studies will provide the opportunity to build upon existing literature on history instruction and teacher decision making (Barton & Levstik, 2003; Seixas, 1998; van Hover, 2006; Wineburg, 2001; Yeager & van Hover, 2006) and students' conceptualizations of historical information (VanSledright, 2002; Wineburg, 2001). New understandings about the effect of classroom contexts on the outcomes of instruction using digital documentaries will develop. For instance,

researchers could gain insight about variations that occur due to the ethnic and racial backgrounds of students or the educational background of teacher participants. At the same time, case studies could be conducted that examine multiple cases of teachers who teach at the same grade level or the same content and use digital documentaries.

As this technology matures and as teaching models for taking advantage of it for the purposes of social studies instruction evolve, teachers and educational researchers should continue to experiment and document student outcomes. For instance, student-created digital documentaries could be studied to evaluate their relevance in meeting the other goals of the social studies, such as content knowledge acquisition, citizenship education, and/or economic literacy. As this exploration continues, researchers should be mindful of the teaching styles that the activity is being used to support (transmitter, manager, facilitator, and collaborator) and observe the interaction between technology, pedagogy, and content (TPACK).

CONCLUSION

This research confirmed Thornton's (2001a) conception of the teacher as curricular-instructional gatekeeper. It also demonstrated the value of TPACK as a framework for discussing teachers' intentions, actions, and outcomes in a technology-rich classroom. TPACK allowed us to make sense of the complex interactions between technology, content, and pedagogy in the history classrooms that we studied. While TPACK was useful in conceptualizing our study and analyzing our data, ultimately we found teachers' pedagogical aims significantly influenced their use of digital documentaries to teach history.

Contributors

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APPENDIX A

U.S. History Civil War Family Documentary [Maxwell, January 2007]

The Civil War is unique in American history because it affected so many citizens' lives. Families were split apart, pitting brother against brother over the issues of slavery, states' rights, and sectionalism. During our study of this period, you will construct a family documentary chronicling the trials and tribulations of a family during the events leading up to and during the Civil War. More specifically, your documentary will chronicle a fictional family's involvement with events starting at Western Expansion (Northwest and Southwest) around 1820 and concluding with the end of the war at Appomattox in 1864. While constructing your video documentary you must decide on a viewpoint: (a) White Northern Abolitionist, (b) Northerner in a factory, (c) Plantation owner, (d) Small Southern farmer, (e) Slave. You will create your video documentary and analyze it using the Critical Thinking Scaffold we've used in prior class projects. Use the following rubric as a guide in completing your documentary.

Documentary Quality 30 points
1. Photos/text appropriate to perspective and events listed in script
2. Documentary prepared in logical, coherent order
3. Includes events beyond those listed in the assignment
4. Documentary is at least three minutes long

Script 30 points
1. Displays acknowledgement of your chosen point of view and includes descriptions of all seven required events
2. Provides explanation of the people, places events appearing in presentation
3. Script fully explains the family's association with the event (an event included in the documentary can be fictional as long as it doesn't conflict with recognized historical fact)

Critical Thinking 40 points
1. Scaffold is completed and explains how each question in the scaffold is relevant to your assigned perspective

Required Events/Concepts
You must include at least **five** of the events listed below and at least two events/concepts not listed.

1. Missouri Compromise
2. Bleeding Kansas
3. Maxwell Brown's trial
4. Caning of Charles Sumner
5. Election of 1860
6. Dred Scott Decision
7. Anaconda Plan
8. Attack on Ft. Sumter
9. Battle of Gettysburg
10. Sherman's March through the South
11. Surrender at Appomattox Court House
12. Lincoln's Assassination

APPENDIX B

Critical Thinking about Sources in History (Maxwell, 2007, adapted from Paul, 1993)

Directions: Complete the following sentences with whatever details you think necessary to make your meaning clear.

1. The main purpose of the "text" you are analyzing is. . ? (Here you are trying to write as clearly as possible the author's purpose for writing the speech. What, in your view, was the author trying to accomplish in delivering the speech?)

2. The key issue that the author is addressing is. . ? (Your goal is to figure out the main issue or point the author is talking about. What, in your view, is the author trying to say? What is his main argument?)

3. The most important information in this article is. .? (You want to identify the most important facts or statements the author used in his speech to support his/her main arguments. Here you are looking for facts, experiences, statistics the author uses to support his arguments.)

4. The main inferences/conclusions in this article are. . ? (What conclusions or reasons does the author state to support his main argument? These conclusions are based on some type of evidence, like a fact.)

5. The key idea(s) we need to understand in this "text" is (are). . ? By these ideas the author means . . ? (To identify these ideas, ask yourself: What are the most important ideas that you would have to understand in order to understand the author's main point? Then describe what the author means by these ideas.)

6. The main assumption(s) underlying the author's thinking is (are). . ? (Ask yourself: What is the author taking for granted (that might be questioned). Assumptions are general statements that the author does not think he has to defend in his speech, and they are usually unstated.)

7. If we take this line of reasoning seriously, the implications are. . ? (What would happen if people take the author's speech seriously? What would happen if people ignore what the author is saying?) Here you need to think about long term results of the author's position. You should include long-term results that the author states, if you believe them to be reasonable, but you should do your best thinking to determine what you think the long term results are.)

8. The main point(s) of view of the author of the "text" is (are). . ? (The main question you are trying to answer here is: What is the author trying to say? (question #1) and how is he seeing it? It is helpful to think of alternate points of view to help you think about the author's. When thinking about rap music, a teenager will think about it or see it much differently than a grandfather would. The experiences each person has determines his/her points of view, so you have to consider the past experiences of the author and how they might influence his opinions and the way he sees the main things he's talking about.