International Journal for the Scholarship of Teaching and Learning

Volume 13 | Number 1 Article 7

January 2019

Teaching Hidden History: A Case Study of Dialogic Scaffolding in a Hybrid Graduate Course

Amy K. Swan
George Mason University, aswan2@gmu.edu

Nathan M. Sleeter
George Mason University, nsleete1@gmu.edu

Kelly Schrum
George Mason University, kschrum@gmu.edu

Recommended Citation

Swan, Amy K.; Sleeter, Nathan M.; and Schrum, Kelly (2019) "Teaching Hidden History: A Case Study of Dialogic Scaffolding in a Hybrid Graduate Course," *International Journal for the Scholarship of Teaching and Learning*: Vol. 13: No. 1, Article 7.
Available at: https://doi.org/10.20429/ijsotl.2019.130107

Teaching Hidden History: A Case Study of Dialogic Scaffolding in a Hybrid Graduate Course

Abstract
Using an expanded version of Alexander's (2008) theory of dialogic teaching developed by Rojas-Drummond, Torreblanca, Pedraza, Vélez, and Guzmán (2013), this case study explored how instructors and students in a hybrid graduate course engaged in the process of dialogic teaching and learning (DTL). In particular, we examined the ways in which scaffolding strategies used in the course supported inquiry-based learning. Our findings suggest that instructors and students engaged in all five dimensions of DTL as defined by Rojas-Drummond et al. (2013), and illuminate the ways in which scaffolding can facilitate inquiry-based learning in interdisciplinary instructional settings.

Keywords
Dialogic teaching and learning, scaffolding, inquiry-based learning, graduate education, college teaching

Teaching Hidden History: A Case Study of Dialogic Scaffolding in a Hybrid Graduate Course

In recent years, the national conversation with regard to improving teaching at the college level has increasingly focused on student-centered teaching methods and inquiry-based learning (IBL) (American Historical Association, 2016; Association of American Colleges and Universities, 2017). While college teaching traditionally has tended to rely on teacher-directed lecture (e.g. Mulryan-Kyne, 2010), students in inquiry-based classrooms are empowered to construct their own learning (Siry, 2013). Hmelo-Silver, Duncan, and Chinn (2007) define inquiry-based learning as instruction where students "learn content as well as discipline-specific reasoning skills and practices (often in scientific disciplines) by collaboratively engaging in investigations" (p. 100). In addition, researchers have recognized that for inquiry-based learning to be effective, instructors must provide appropriate scaffolding (Hmelo-Silver et al., 2007). Crafting creative and engaging approaches to scaffolding, therefore, represents a key concern for instructors in higher education looking to successfully implement inquiry-based learning.

One possible avenue for effective scaffolding can be realized by leveraging the ability of students to work collaboratively both with each other and with instructors on inquiry-based projects. In this model, a dialogue or dialogic process supports students' learning and inquiry. As Wells explains (1999), the framework of dialogic teaching and learning (DTL) grew out of Vygotsky's theory of social constructivist learning, a theory that emphasizes "the co-construction of knowledge by more and less mature participants engaging in an activity together" (p. xii). Although Vygotsky wrote in the early twentieth century, his model of social learning has been increasingly employed by researchers as an alternative to the dichotomy of teacher-directed versus student-directed learning (Wells, 1999). Building on these theories, Mercer and Littleton (2007) have demonstrated that a "thinking together" approach allows learners to utilize language flexibly to build knowledge in collaborative settings in a manner that also helps them build

https://doi.org/10.20429/ijsotl.2019.130107

their capacity to think alone (p. 82). Kumpulainen and Lipponen (2010) have explored how dialogic inquiry can support learners' agency as they collectively work to integrate knowledge in informal and formal classroom settings. Researchers have further explored how a dialogic approach can support student understanding in a variety of curricular contexts including science, writing, and math (Chin & Osborne, 2010; Rojas-Drummond, Littleton, Hernández, & Zúñiga, 2010; Schwarz, Hershkowitz, & Prusak, 2010).

Important to DTL are the related ideas of scaffolding and collaboration. Scaffolding supports learners and enables them to achieve tasks beyond their ability when working alone (Fernández, Wegerif, Mercer, & Rojas-Drummond, 2015). Scholars of teaching and learning have shown that the success of inquiry-based and student-centered learning largely depends on whether instructors have established appropriate scaffolding so that students can access the skills they need to conduct inquiry in a given discipline. Scaffolding is a dynamic process by which student inquiry is supported and is often specific to a given project and individualized for each student (Van de Pol, Volman, & Beishuizen, 2010). Because of its necessarily individualized nature, collecting evidence of effective scaffolding remains a challenge for scholars of teaching and learning (Smit & van Eerde, 2013).

Theoretical Framework

Drawing upon research on dialogic scaffolding in collaborative elementary school classrooms (Rojas-Drummond, Torreblanca, Pedraza, Vélez, & Guzmán, 2013), we used Alexander's (2008) theory of dialogic teaching as the conceptual framework for this study. Dialogic teaching places an emphasis on dialogue, defined by Alexander (2008) as a mode of classroom talk through which various combinations of participants (e.g., instructor-class, instructor-group, instructor-student, student-student) achieve "common understanding through structured and cumulative questioning and discussion which guide and prompt, reduce choices, minimise risk and error, and expedite 'handover' of concepts and principles" (p. 39). Rather than lecturing students, he wrote, instructors engaged in dialogic teaching use classroom talk to probe students' understanding and ascertain how to best

advance, and scaffold, that understanding (Alexander, 2008). The theory aligns with the tenets of inquiry-based learning insofar as it posits that knowledge and understanding are acquired by testing evidence, analyzing ideas, and exploring values (Alexander, 2008). It thus provides a useful framework for understanding the ways in which scaffolding is enacted by instructors and students.

Alexander (2008) outlined five principles that undergird dialogic teaching. First, he wrote, dialogic teaching is *collective*; instructors and students work together to address learning tasks in groups or as a class. Second, this approach to teaching is also *reciprocal*, in that instructors and students "listen to each other, share ideas, and consider alternative viewpoints" (Alexander, 2008, p. 38). Third, dialogic pedagogy is *supportive*, as it provides an environment in which students can "articulate their ideas freely, without fear of embarrassment over 'wrong' answers," and students are encouraged to help each other "reach common understandings" (Alexander, 2008, p. 38). Fourth, teachers and students build upon their own ideas, as well as the ideas of one another, to *cumulative* effect. And fifth, dialogic teaching is *purposeful*, since it requires instructors to plan and direct classroom talk with an eye toward meeting educational goals.

In addition to the principles that he set forth, Alexander (2008) described indicators of dialogic teaching, including contexts and conditions that facilitate and support dialogic teaching. Among the contexts and conditions he described, two are particularly relevant to this study: deploying different organizational settings and tasks to meet educational goals, and working with students to develop "the capacity to engage with, and communicate in, different…genres" (Alexander, 2008, p. 42). Alexander (2008) also described characteristics that indicate dialogic teaching. With respect to instructor-student interaction, indicators include questions that are structured in order to elicit thoughtful answers, as well as the use of answers as a jumping off point for further questions and dialogue. In addition, students are encouraged to ask questions and provide explanations. In terms of student-student interaction, Alexander (2008) wrote that indicators of dialogic teaching include students encouraging

each other to participate and share ideas, and building on their own and each other's contributions. Instructor-student one-on-one interactions, he wrote, should be "instructional rather than merely supervisory" and provide feedback upon which students can build (Alexander, 2008, p. 43).

Alexander (2008) also discussed the role of asking and responding to questions. He explained that dialogic teaching is indicated by questioning within the context of whole class, group, or individual interactions that meets criteria including: builds upon prior knowledge; elicits evidence of students' understanding; "prompts and challenges thinking and reasoning" (p. 43); and provides students with time to think. Students' responses to questioning also indicate dialogic teaching, he wrote, if they include extended answers that involve reasoning, forming hypotheses, and "thinking aloud" (p. 43). Dialogic teaching is further indicated by instructor feedback on student responses that includes "informative diagnostic feedback on which pupils can build," and keeps lines of inquiry open rather than shutting them down (p. 44). Finally, Alexander (2008) wrote, dialogic teaching is indicated by student talk characterized by behaviors such as: asking different kinds of questions; receiving, acting, and building upon answers; analyzing and solving problems; and exploring and evaluating ideas.

Dialogic Teaching and Learning

Rojas-Drummond et al. (2013) proposed deepened definitions of Alexander's (2008) core principles. They also used methods derived from the ethnography of communication to associate the indicators of dialogic teaching that Alexander (2008) described, which they designated communicative acts (CAs) (Rojas-Drummond et al., 2013), to each of these expanded definitions. In addition, they identified a sub-system of CAs that are associated with scaffolding strategies and characteristics of scaffolding (Rojas-Drummond et al., 2013). We used a modified version of Rojas-Drummond et al.'s (2013) analytical system of DTL, specifically their expanded definitions and the CAs they designated as scaffolding strategies, to analyze available course data.

Purpose of the Study

A graduate course, *Teaching Hidden History* (THH), offered a unique opportunity to explore the dynamic between inquiry and dialogue in student learning. Each THH student researched, wrote, and developed an online history learning module that they could make publicly available and use in their own teaching or public history careers. One project began with the boundary stones that surrounded the original territory of Washington, D.C., and explored a historical narrative that intersected with slavery, abolitionism, and the Civil War. Another project began with a simple-looking Scottish tartan pattern and traced the history of Scottish nationalism and the construction of Scottish national identity from the nineteenth century to the present day. While each THH student was responsible for their own project, no one project was solely an individual effort. Collaboration among students and between students and instructors represented an important feature of the course. As THH involved students engaging in inquiry to create a project, and this process was informed and shaped by the collective efforts of students and instructors, the course provided an opportunity to explore how the dialogic process can support inquiry-based learning. Research questions for this study include:

1. How did course instructors and students engage in the process of DTL?
2. How did the scaffolding strategies employed throughout the course support inquiry-based learning for students?

To address these research questions, we conducted a case study of the THH course using data collected during the 2015-2016 and 2016-2017 academic years.

Methods

Study Site and Participants

This case study was conducted at George Mason University (Mason), located in a Northern Virginia suburb of Washington, D.C. The university offers more than 198 degree programs that serve a diverse population of 33,000 students (20,000 undergraduate) at four distributed campuses. The *Teaching Hidden History* course was developed by the Roy Rosenzweig Center for History and New Media (RRCHNM). RRCHNM, which is part of the Mason Department of History and Art History, creates

digital tools and resources to preserve and present the past, transform scholarship across the humanities, advance history education and historical understanding, and encourage popular participation in the practice of history. The course was funded by 4–VA (2017), a statewide initiative dedicated to fostering collaboration among Virginia universities with the goal of improving access to higher education.

THH was taught as a graduate-level summer session course in 2015 and 2016 (Schrum, Tường Vy Sharpe, Pellegrino, & Sleeter, 2015). A hybrid course, THH featured online components and in-person meetings utilizing telepresence rooms, so students from multiple 4–VA institutions could participate simultaneously. In 2015, the course was offered to students at Mason and Virginia Tech, and in 2016, the course was available to students at Mason and Old Dominion University (ODU). The course integrated digital history, history education, and best practices in teaching and learning history. Students conducted research using primary and secondary sources to develop digital history modules using a website created for this course in the open-source platform Drupal.

The course was revised between 2015 and 2016, including a personnel change. One of the three 2015 instructors returned to teach the course in 2016 and co-taught the course with the 2015 evaluator. In the 2016 iteration, instructors created two assignments that asked students to explicitly reflect on the collaborative process, one at the midpoint of the course and one at the end. These included reading an article on collaboration, a written reflection on the article, and a written reflection on collaboration. To further promote collaboration, students were assigned a collaborative partner, and they worked together throughout the course. Students continued to collaborate in small groups and as a large group, but they worked closely with their collaborative partner on a regular basis. They were provided with a structured process for reviewing partner modules and for providing feedback. In addition, each student met individually with an instructor at least three times in 2016.

A structural change involved adding a week to the course, expanding the total number of weeks from eight to nine. During weeks seven and eight, students presented their final projects to

the class. Students articulated their overall argument, justified the choices they made with regard to resources and topic, and received critical feedback, often gaining new insights. Students then revised their modules based on this experience before submitting the final version in week nine (Sleeter, Schrum, Pellegrino, & Tường Vy Sharpe, 2018).

Fifteen students were enrolled in the course in 2015, including six students at Virginia Tech and nine students at Mason. In 2016, 10 students enrolled in the course, including one at ODU and nine at Mason. Across both years, seven students were female, and 18 were male. One student was in a doctoral program in history, one a doctoral student in education while the other 23 were in master's programs in history or education. Five were pre-service teachers, six were practicing teachers, and the rest were graduate students in history or education working in a variety of fields, including public history. Students in the 2015 and 2016 classes were invited to take part in the study on the first day of class and all 25 students agreed to participate.

Data Collection

We explored the bounded system of the THH course by collecting multiple sources of evidence (Yin, 2014). Documentation included syllabi, Blackboard course sites, assignments, blog posts, and final projects. We also collected online peer feedback from the 2015 class and online instructor feedback from both the 2015 and 2016 classes.

In addition, we conducted focus groups and individual interviews with students. Nine students from the 2016 class took part in focus group interviews on the last day of their class in July 2016. Ten students from the 2015 class and 10 students from the 2016 class took part in individual follow-up interviews in spring and summer of 2017. Focus group interviews were conducted by the first and third authors, both of whom are higher education faculty members at Mason, as well as by an education faculty member at ODU. Most of the individual interviews were conducted by the first and third authors, and one was conducted by the second author, who was a THH instructor, a staff member at RRCHNM, and a doctoral candidate in history. Examples of focus group interview questions included:

"What are some of the things you considered when you were choosing sources for your module and writing up the text to go along with them?" and "What did you learn from the experience of collaborating with your peer review partner?" Individual interview questions included: "Starting with the brief description of the module topic, can you walk us through your thinking as you moved through the assignments?" and "Talk about your process and your thinking — what influenced you at each stage? How did you move from step to step?" Students were provided with printed copies of their assignments and final projects at the interview for reference as they answered questions.

We also collected observational evidence in 2016. The first author and an education faculty member at ODU, both of whom were passive observers, attended all in-person class meetings in their respective locations and took detailed fieldnotes on discussions, activities, and presentations.

Data Analysis

All interviews were audio or video recorded and transcribed verbatim. In an effort to maintain confidentiality, participants were assigned pseudonyms. Blog posts, interview transcripts, and fieldnotes were uploaded into the qualitative data analysis software program QSR NVivo which facilitated the process of coding and categorizing data (Yin, 2014). Coding, which organized the data into meaningful categories (Coffey & Atkinson, 1996), was completed by the first and second authors and a RRCHNM research assistant who is a Mason doctoral student in history. Initial codes included "brainstorming," "collaboration," and "digital skills." Further analysis of the coded data, as well as course syllabi, Blackboard sites, assignments, and online feedback, was guided by our research questions and theoretical framework.

In order to establish the trustworthiness of the study, we spent adequate time collecting data (Merriam, 2009) and attended to all of the evidence for our case study (Yin, 2014). In addition, we triangulated our findings by using multiple investigators, sources of data, and data collection methods (Merriam, 2009). We also provided rich, thick descriptions and engaged in the process of peer review (Merriam, 2009).

Limitations

Despite the strengths of the research design, the study has several limitations. First, the findings may not be generalizable due to the unique structure of this course — distributed across multiple higher education institutions — and the small student population. Second, due to changes in the course between 2015 and 2016, online peer feedback was not available for the 2016 course. We were, therefore, unable to compare online peer feedback across both iterations of the course, and we were only able to learn about 2016 peer feedback from individual and focus group data.

Third, we did not collect observational evidence in 2015. We thus missed interactions or events during 2015 in-person class meetings that may have provided additional insight into course instruction and students' experiences in the course. In addition, we did not conduct focus groups in 2015, and individual interviews were conducted more than one year after the conclusion of the 2015 course and several months after the conclusion of the 2016 course. Further, while students were provided with copies of course deliverables for reference during their individual interviews, the interviews nonetheless required students to draw upon their memories of the course, which may have affected the ways in which they characterized their experiences.

In spite of these limitations, a major strength of the research design is that it allowed for the collection of a large amount of data in a variety of forms. We were able to systematically document concrete details of practice and acquire a thorough understanding of participants' activities through fieldwork and documents. Individual and focus group interviews, in turn, facilitated our understanding of how students made meaning of their experiences in the course. In addition, the researchers had a very high response rate. Eighty percent of participating students agreed to be interviewed. The researchers were unable to locate most of the remaining students. Finally, despite the passage of time between completing the course and conducting interviews, interviewees discussed class structure, collaborations, and their own work with fluency. They often

remembered specific conversations or suggestions that shaped both their thinking during the course and their final project.

Findings

Collective Dimension

Analyses of available data revealed ways in which the collective dimension of DTL was demonstrated in the THH course, primarily during face-to-face meetings in the 2016 iteration of the class. THH instructors used a variety of strategies to address learning tasks and solve problems with students, fostering the development of a learning community. Findings also showed that the instructors orchestrated various forms of participation, all of which involved students' participation in collective activities.

As the THH course was a graduate-level seminar, most face-to-face class meetings were structured around class and small-group discussions. We found that these discussions, all of which were planned and organized by the instructors, fell into three categories: scholarly; final project content; and research and technical skills. Scholarly discussions, which took place in the second and third face-to-face class meetings, were based on assigned readings. Students were asked to break into small groups, and the instructors provided every student with a different question about the readings. For example, students were asked to discuss readings on collaboration and come to a consensus on what factors make for successful collaboration. Following their small group discussions, students came back together as a class to debrief with the instructors. The aim of these small group and class discussions was to encourage students to reflect on historical thinking, digital history, collaboration, audience, and teaching and learning.

Instructors and students engaged in discussions about final project content during the first three face-to-face class meetings. These discussions initially took the form of brainstorming and became more focused on content once students settled on project topics. During the first class meeting, for example, students formed small groups and talked about their initial final project ideas. The following vignette, drawn from research team fieldnotes, illustrates the brainstorming process:

> Mateo asked if anyone had any ideas. Alexandra said "vaguely." She said that at her school they teach based on one over-arching theme, and students have to write essays related to that theme. In the upcoming school year, they would be focusing on the inter-war period, so she thought it would be interesting to focus on Europe, Italy, Japan, Germany, and maybe propaganda. Mateo asked if she had an idea of the artifact she would use, and she said, "I was thinking maybe something abandoned," something that in the aftermath of WWI was overlooked or broken. Steve suggested that some images depicting hyper-inflation in Germany might be effective.

As the vignette shows, students in this group helped Alexandra address the central learning task of the course – using an image or object to delve into a broader historical narrative – by offering suggestions of images or objects that might be appropriate for the topic that she was considering for her final project and by discussing the narrative she could explore with that object.

Instructors also used class meetings throughout the course to collectively address themes related to research and technical skills. Such discussions focused on learning digital skills and resolving problems associated with final project development. For example, during the second class meeting, instructors explained copyright law, showed students how to do a reverse image search using Google or another search engine called TinEye, and provided an opportunity for students to ask questions about images they wanted to use for their modules. Similarly, in the last class meeting, one of the instructors addressed online formatting issues that a few students had encountered as they finalized their projects. Most students noted that these discussions were helpful, though one student, Kristen, shared in her interview that she would have appreciated more class time dedicated to working individually on technical aspects of her module. As Kristen explained, she might have been able to resolve technical problems more quickly if an instructor had been available to troubleshoot immediately, rather than discussing technical issues with the entire class.

Reciprocal Dimension

With respect to the reciprocal nature of DTL, our findings suggest that THH instructors engaged in scaffolding CAs associated with this dimension in order to help students build on their ideas and link them into coherent lines of thinking and inquiry. As those aims are components of the cumulative dimension of DTL, findings on instructors' reciprocal scaffolding of CAs are therefore included in our discussion of cumulative CAs. However, instructors and students demonstrated the CAs included in Rojas-Drummond et al.'s (2013) expanded definition of the reciprocal dimension both in the classroom and online.

Our analyses of observational data from the 2016 class showed that classroom meetings were an opportunity for instructors and students to listen to each other as well as exchange and share ideas. Indeed, similar to the brainstorming described in the previous section, instructors and students spent portions of early class meetings discussing individual student projects. For example, in the second class meeting, Steve shared that he was trying to decide if his original topic, genocide, was too broad. He said he was thinking about using a Holocaust memorial as his central object, and instructors and peers helped Steve think through the perspective that he wanted to take with his project. They suggested alternative possibilities for his project's overarching theme. One of the instructors asked Steve if his project was about history or memorialization. His classmate, Lauren, suggested that he could focus on hope and explore Victor Frankl's work on consciousness.

Course instructors also encouraged pupil-pupil dialogues. In 2015, students were required to comment on two blog posts of their peers each week. In their comments, they indicated that they were "listening" to each other by showing that they had thoughtfully considered peer blog entries. They also exchanged and shared ideas. For example, Edward, whose project focused on a 1920s radio show, wrote in his week five project status blog post, "More and more, I think that I'm finding myself most successful when I approach the project from a museological lens." He also shared that he was finding it difficult to locate public domain or copyright-cleared images to use in his module. In his comment on Edward's post, Brian wrote,

> Taking a museological approach is a great idea because the object labels kind of read like museum placards…Is [the show] considered to be under copyright? Radio networks never bothered to copyright material before it aired simply because programming was considered so ephemeral that it wasn't thought to have any commercial afterlife.

He went on to share his own knowledge about copyright issues associated with radio programs from the era in which the show aired.

In 2016, instead of requiring students to post comments on classmates' blog posts, course instructors assigned students to collaboration partnerships early in the semester. While students were not asked to record their discussions with collaboration partners or share the content of emails that they exchanged with each other, analyses of student blog entries, as well as interview and focus group data, shed light on the reciprocal nature of these pupil-pupil dialogues. One student, Mateo, shared that while feedback from his partner Tom was "hugely beneficial and helped shape the direction [he] was going," the two found it challenging to connect since Tom was not located at Mason and both had busy schedules outside of class. Another student, Paul, wondered in his interview if some partnerships might be more effective than others. As he shared,

> Is it better to put people who have different topics together and now they have a better understanding of something new, or is it better to have somebody who does have an understanding of that topic so that they can encourage that person to hop up to that next level?

In spite of the issues noted by Mateo and Paul, several students said that working with their collaboration partner encouraged them to consider alternative viewpoints, possibilities, and hypotheses. As Alexandra explained,

> …the ability to bounce your ideas off of somebody else can really lead you to breakthroughs…It can help you connect ideas that you've already had with maybe different themes or different motifs, or even just connect them in a way that you hadn't thought of connecting them before.

Students also said that discussions with their collaboration partners facilitated the process of making their reasoning explicit. As Jeff explained, "…the benefit of collaboration is just being able to explain what your goal is and what your narrative is going to be. Being able to explain that to somebody is important. If you can't do that, then you don't have a firm grasp of what you're trying to do." Similarly, Kristen shared that collaborating with her partner was helpful in determining if her project components would achieve common understanding among those who read her module. As she wrote in a blog entry at the end of the course, "It was very validating when the thoughts I was trying to express in my narrative were recognized and…they made sense to someone other than myself." Viewing her partner's project through a critical lens, she continued, helped her bring the same critical perspective to her own project and ensure that she was developing her narrative appropriately.

Supportive Dimension

Dialogic scaffolding within the supportive dimension of DTL primarily took place in the context of digital spaces, as well as in one-on-one meetings with instructors. Analyses of available data show that course instructors used online activities and assignments as well as individual meetings to guide and prompt the development of students' modules, as well as reduce choices and expedite "handover" of concepts and principles. Some activities and assignments promoted understanding and learning through modeling, while others — in conjunction with one-on-one meetings — did so through guided participation, dialogic inquiry, and aided discovery.

Modeling. Instructors employed a number of online activities and assignments to demonstrate effective ways of communicating digital history. During the second week of the course, assignments included reading selected *Journal of American History* Digital History Reviews; one *Digital History Reader* module; and one "Beyond the Textbook" module from the *Teaching History* website. Students were also required to complete a module on analyzing historical objects from *Hidden in Plain Sight*, an asynchronous online class designed for practicing history and social studies teachers. In addition, they wrote a

blog post in which they critiqued a history or history education website related to their final project topic. During the third week of the course, students completed two modules from the *Hidden in Plain Sight* course that served as examples of the final project structure. They were then asked to compare the two modules in a blog post. Later, in week five, students were encouraged to review a particular page of several *Hidden in Plain Sight* modules. All of the online content students read and reviewed showed them how to think critically about digital history. In particular, the *Hidden in Plain Sight* modules illustrated how to: form a hypothesis about a historical object; explain history in a digital context; and construct a historical argument by providing reasons, justifications, and evidence (Tường Vy Sharpe, Sleeter, & Schrum, 2014).

Guided participation, dialogic inquiry, and aided discovery. In addition to assigning online tasks that promoted understanding and learning through modeling, instructors required students to complete a series of online activities and assignments that facilitated the project development process. In the second week of the course, for example, students were required to: find two primary sources in digital archives related to their project topic; identify one physical archive that contained primary sources related to their topic; identify two secondary sources related to their topic; write a brief description of their topic, including the historical time period in which it took place; identify their intended audience; and write an annotated bibliography entry for one of their primary sources and one of their secondary sources. Online activities and assignments for weeks three, four, and five were similarly structured. They required students to identify and document images and objects, as well as draft narrative text, for their final projects. Students were also asked to write two project update blog posts. Instructors provided online feedback on all activities and assignments, and they met (in person or via video chat) with each student three times. By week six, students were expected to post a complete draft of their final project to the class website.

By structuring course activities and assignments this way and requiring students to concentrate on key tasks, the

instructors aided in the project development process. Tom commented in an individual interview, "I appreciate the ability to build this piece by piece. . . . There's no great rush at the end to find everything. It was almost built by the time we had to build it and make it work." While most students agreed with Tom about the process of building their modules, some of his classmates noted that they nonetheless felt rushed when the server crashed in week six of the 2016 class – the week before their in-class module presentations. The site was restored, but Kristen and others had to re-upload parts of their final projects.

Online comments and one-on-one meetings also provided opportunities for instructors to discuss and help solve any problems that students encountered. For example, in her week four project update blog post, Jennifer wrote that she was finding it difficult to focus her project on a concept, Scottish nationalism, rather than an event or object. As she explained,

> …the more I think about my project, the more confused I get about it…. I'm wondering if I should consider shifting my project somehow to focus on an event or object, but still have a conversation about nationalism going on in the background, or if I should continue the way I'm going and just see how it turns out.

In response, an instructor encouraged Jennifer to think about questions related to one of the primary source objects she had identified:

> Nothing wrong with feeling frustrated at this point – it's part of thinking through the process. . . . One way to approach this topic would be to show how the tartan and the invention of a common heritage connect to nationalism. What is the tartan "doing" with regards to nationalism? What role does it play? Why and how did people embrace things like traditional dress and heritage? There's definitely a hidden history there.

Through these comments, the instructor gave Jennifer hints about how she might arrive at a solution to her dilemma, showing how she could reformulate the way she was thinking about one of her sources in relation to her project topic.

Students shared during interviews that instructors offered similar types of suggestions in one-on-one meetings. Peter, for

example, said that talking with both instructors helped him "dig deeper" and "realize what I wanted…my finished product to be." However, after week six of the course, instructors provided less formal support to students as they finalized their projects. Rather than seeking assistance from the instructors, students were expected to work with their collaboration partners, provide an in-depth critique of one classmate's final project, and prepare more general feedback for all of their classmates' projects. Responsibility for project-related problem-solving was thus shared between instructors and students.

Cumulative Dimension

Analyses of available data also illustrated the ways in which students and instructors engaged in the cumulative dimension of DTL. As discussed in previous sections, students built on their own and others' ideas and linked them into coherent lines of thinking and inquiry through brainstorming and other forms of peer collaboration. Instructors facilitated this process by offering additional suggestions and feedback online and during class meetings. Knowledge among course participants was thus, per Rojas-Drummond et al. (2013), "jointly constructed, integrated, extended, elaborated, and transformed through a process of questioning, responding, discussing, and providing feedback" on an ongoing basis through the course (pp. 14-15). Findings related to the three major scaffolding strategies in the cumulative dimension – questioning, feedback, and emphasis on the temporal dimension of learning – are discussed below.

Questioning. Instructors and students alike used questioning to help advance students' work on their final projects. In their online feedback to students, for example, instructors often asked questions that explored students' levels of understanding in relation to key course learning goals, such as students' understanding of how they planned to use resources to construct a broader historical narrative. For example, in response to Kristen's review of a history education website, one instructor asked an open question, "Why do you see this resource as most useful for the undergrad art history audience?" Similarly, Edward shared that peers asked him questions that challenged how he was framing his narrative. As he explained,

> Like a lot of people were asking, "Didn't minstrelsy come out of the Civil War?" "Are you going to talk about the Civil War in this?" – and I had to think that through…so that was interesting and gave me ideas of things I should mention.

Feedback. As with questioning, instructor and peer feedback were geared toward providing assistance to students as they developed their final projects. One student, Mateo, noted that the feedback he received from his peers was,

> …mainly critical, which made identifying what did work more difficult. In this respect, feedback ceased to be useful as I was left judging what was worth taking action on…

Peer feedback as he perceived it thus focused on whether or not his work was adequate or inadequate, as described in the Rojas-Drummond et al. (2013) model. However, other students shared that feedback was used to provide informative suggestions upon which they could build, offer encouragement, and address questions or concerns that students expressed in class or online. For example, in online feedback on Tom's draft narrative text for the sources he planned to use for his final project, one of the instructors first praised Tom's work by writing, "I think you've positioned these sources really well to achieve the objectives. Really well done. I'm excited to see the project live." The instructor then went on to provide comments and ideas about how Tom was planning to use the resources he identified, including, "The first five sources specifically take Sherwood's story and give it proper context. As you make the transition to modern day, I wonder if you might find a way to challenge viewers to consider the implications of the [witch] trials in light of the unfolding American identity." Tom could do this, the instructor suggested, by using an additional source or by making a more explicit connection between two sources in his narrative.

Emphasis on the temporal dimension of learning. Instructors and students made connections between their prior knowledge and course content in different ways. With their combined expertise in teacher education and history, the instructors drew upon their respective areas of specialization when offering students feedback and guidance. Students shared in interviews that they found this helpful as they developed their

projects. As one student, Martin, explained, "[One instructor] was kind of the lead on the archival work and some of the copyright stuff, whereas the other instructor was more focused on the educational aspect of it. Both kind of tag-teamed audience, purpose, readability." Likewise, as students were pre-service or practicing teachers or graduate history students, they drew upon prior experience or content expertise as they created their final projects and offered feedback to their peers.

Purposeful Dimension

Finally, in terms of the purposeful dimension of DTL, we found that instructors planned and steered in-person classroom talk and online work with the aim of achieving specific educational goals. The goals and intentions of the course were made explicit in the course syllabus, course website, and class discussions, and guided problem solving and learning. In addition, instructors used scholarly readings and assignments to promote metacognitive reflection on the purposes, significance, and usefulness of what students learned. Our analyses suggest that participation in focus group and individual interviews may also have promoted such reflection. In addition, it offered students an opportunity to contextualize and situate their learning and consider how they might apply what they learned in the future.

Analyses of the course syllabus, course website, and observational fieldnotes showed that the educational goals of the course were clearly explained to students. Required activities and assignments were described in detail in the syllabus and on the course website, and on the first day of class the instructors explained how the activities and assignments facilitated the development of the final project. In addition, assigned readings, assignments, focus group, and individual interviews prompted students to connect what they learned in the class to a broader context. They also prompted students to evaluate their own learning processes and outcomes. Readings, which students were required to reflect on in blog posts and class discussions, focused on topics such as digital history, technological pedagogical content knowledge, learning through digital media, design criticism, and the creative process. An end-of-course blog post as well as individual and focus group interviews asked

students to reflect on their experiences in the course, including major challenges they encountered as they developed their final projects and the role of peer collaboration in the project development process.

Students shared that reading about topics as they developed their projects made course requirements seem "more purposeful." Alexandra, for example, explained in an individual interview,

> If you are told to collaborate, you're like "ok, this is just a means to an end." When you're told to read an article about collaboration and reflect on it before you collaborate, that allows you to understand that this has a greater purpose than simply the action of collaborating itself. That [the instructors] want you to be a better collaborator and that that is also an observable, demonstrable skill that you can improve upon.

She then connected learning about collaboration to her work outside the THH classroom as a high school history teacher:

> I don't think most people think of collaboration necessarily as a skill but more of like a necessary evil, but we do everything [in my high school] in teams. Teamwork is a huge component of my job. So, being a better collaborator, and, again, starting with those specified, outcome-oriented discussions, I think, is a great thing to take away from [the course].

Others made similar observations in blog posts and interviews, sharing that creating their final projects reinforced the value of using primary and secondary sources in the classroom and provided them with new ideas about how to incorporate technology into their instructional practice.

Discussion

This case study examined two iterations of the hybrid, distributed THH course through the lens of DTL. The study explored how THH instructors and students engaged in the process of DTL and the ways in which scaffolding strategies used in the course supported inquiry-based learning. Our findings suggest that THH instructors and students engaged in all five dimensions of DTL as defined by Rojas-Drummond et al. (2013).

With respect to the collective dimension of DTL, we found that instructors planned and organized discussions in face-to-face class meetings related to three areas: scholarly; final project content; and research and technical skills. These class-wide and small group discussions not only fostered a sense of community among course participants, but also provided an opportunity for students to navigate issues associated with historical thinking, digital history, collaboration, audience, and teaching and learning.

The reciprocal dimension of DTL was demonstrated during pupil-pupil dialogues in online and face-to-face settings, as well as during class-wide discussions in face-to-face class meetings. In both types of exchanges, instructors and students listened to one another and shared ideas and expertise. Similarly, we found that the supportive dimension of DTL was primarily demonstrated in the context of digital spaces and in one-on-one meetings between students and instructors. Online activities and assignments, as well as meetings with instructors, promoted understanding and learning through modeling, guided participation, dialogic inquiry, and aided discovery. Instructors and students thus engaged in the process of project-related problem-solving together.

These findings on the collective, reciprocal, and supportive dimensions of DTL align with the wide body of research on cooperative and collaborative learning which shows that working together in instructional settings creates positive interpersonal relationships by promoting social interdependence (Johnson, Johnson, & Smith, 2014). Cooperative learning has been described as "the instructional procedure of choice" when the aim of faculty is to maximize student learning and ensure mastery and understanding of challenging material (Johnson et al., 2014, p. 114). In addition, research shows that structured collaborative learning can be particularly meaningful for graduate students, as it allows them to engage in two hallmarks of inquiry-based learning, self-direction and defining their own learning needs (Jones, 2014).

In terms of the cumulative dimension of DTL, we found that course participants used the scaffolding strategies identified by Rojas-Drummond et al. (2013) to advance students' work on

their final projects. In digital spaces and in face-to-face class meetings, instructors and students drew upon prior knowledge from a variety of disciplines to ask questions and provide feedback that challenged the way students were using resources or structuring the narratives of their projects. The purposeful dimension of DTL was also demonstrated in the course, as classroom talk and online work were designed to achieve specific educational goals. In addition, readings and assignments on a range of topics promoted metacognitive reflection on student learning.

Our findings on the cumulative and purposeful dimensions of DTL are supported by research on interdisciplinarity, insofar as the THH course provided instructors and students with opportunities to integrate new and existing knowledge (Lattuca, Voigt, & Fath, 2004, p. 30). Lattuca, Voigt, and Fath (2004) posit that because interdisciplinary courses such as THH include multiple perspectives, they might be a particularly effective way to encourage complex views of knowledge among students. Such courses may also enhance student learning by engaging them in "authentic tasks similar to those they will be expected to perform as workers or as citizens" (Lattuca et al., 2004, p. 32) and producing learning outcomes that are transferable to other contexts (Ivanitskaya, Clark, Montgomery, & Primeau, 2002). Further, a review of the literature on interdisciplinary studies (Ivanitskaya et al., 2002) showed that learning outcomes associated with interdisciplinary learning included advancement in metacognitive skills and critical thinking.

Implications for Policy, Practice, and Research

Our findings suggest several implications for policy, practice, and future research. With respect to policy and practice, THH was supported by 4-VA (2017), a Virginia state initiative that supports collaborative research and course sharing. Given the demand for a workforce that can employ interdisciplinary approaches to problem-solving and collaborate across disciplines (National Science Foundation, 2017), there is a need for more programs like 4-VA that provide funding and logistical support for interdisciplinary collaborations and innovative approaches to teaching.

In addition, as our findings illustrate, new technologies make it possible for instructors to monitor and check students' understanding outside of face-to-face environments. As institutions expand their online and hybrid course offerings, faculty members and instructional designers should consider more intentional use of scaffolding in these types of courses. Universities should also provide training and guidance on how to effectively use available technology to scaffold inquiry-based learning.

In terms of future research, THH was fundamentally an interdisciplinary course, as it integrated multidisciplinary knowledge (history content, history pedagogy, and digital history) across a central theme (Ivanitskaya et al., 2002). This interdisciplinarity provided an opportunity for students to develop and utilize historical thinking, pedagogical, and digital skills, key abilities that are often taught separately. Drawing upon Shulman's (1986) seminal work on pedagogical content knowledge and Mishra and Koehler's (2006) exploration of technological pedagogical content knowledge, future research should examine the effectiveness of teaching and practicing these skills simultaneously. Likewise, prior research has focused on transfer, the concept that students can apply skills and knowledge learning from one setting or discipline to other contexts (Center for Engaged Learning, 2013). Future research on courses such as THH might focus on the extent to which students use course-related skills in professional practice.

Conclusion

While researchers in the scholarship of teaching and learning (SOTL) have focused on strategies for conveying ways of knowing and habits of mind to students (Calder, Cutler, & Kelly, 2002; Goldschmidt, 2014), implementation of inquiry-based projects in hybrid classes has been underexplored. Further, use of digital spaces to scaffold inquiry-based learning is an emerging landscape in SOTL, as new technologies make it possible for instructors to monitor and check students' understanding outside of face-to-face environments (van de Pol et al., 2010). THH provided a context in which to explore this landscape, as it combined many new elements for instructors

and students. The hybrid nature of the course, combined with distribution across institutions, increased the possibility that students would be less engaged than they might have been in a face-to-face class with peers on the same campus. The course scaffolding and facilitation, however, allowed instructors and students to develop skills, content knowledge, and collaborative relationships that supported their academic work. The dimensions of DTL addressed here illuminate the ways in which scaffolding can facilitate inquiry-based learning in interdisciplinary instructional settings. Further, our findings demonstrate how instructors might, as Alexander (2008) recommended, keep lines of inquiry open rather than shutting them down while also providing purposeful direction to students.

References

Alexander, R. (2008). *Towards dialogic teaching: Rethinking classroom talk* (4th ed.). Cambridge, United Kingdom: Dialogos.

American Historical Association. (2016). *AHA history tuning project: 2016 history discipline core.* Retrieved from https://www.historians.org/teaching-and-learning/tuning-the-history-discipline/2016-history-discipline-core

Association of American Colleges and Universities. (2017). *LEAP principles of excellence*. Retrieved from https://aacu.org/leap/principles-of-excellence

Calder, L., Cutler II, W. W., & Kelly, T. M. (2002). History lessons: Historians and the scholarship of teaching and learning. In M. Taylor, Huber & S. P. Moreale (Eds.), *Disciplinary styles in the scholarship of teaching and learning: Exploring common ground* (pp.45-68). Washington, DC: American Association for Higher Education and The Carnegie Foundation for the Advancement of Teaching.

Center for Engaged Learning. Elon University. (2013). Transfer and the scholarship of teaching and learning. Retrieved from http://blogs.elon.edu/issotl13/studying-and-designing-for-transfer/transfer-and-the-scholarship-of-teaching-and-learning

Chin, C., & Osborne, J. (2010). Students' questions and discursive interaction: Their impact on argumentation during collaborative group discussions in science. *Journal of Research in Science Teaching*, *47*(7), 883-908.

Coffey, A. & Atkinson, P. (1996). *Making sense of qualitative data: Complementary research strategies*. Thousand Oaks, CA: Sage Publications.

Fernández, M., Wegerif, R., Mercer, N., & Rojas-Drummond, S. (2015). Re-Conceptualizing "scaffolding" and the zone of proximal development in the context of symmetrical collaborative learning. *Journal of Classroom Interaction*, *50*(1), 54-72.

4-VA. (2017). About. Retrieved from http://4-va.org/

Goldschmidt, M. (2014). Teaching writing in the disciplines: Student perspectives on learning genre. *Teaching & Learning Inquiry, 2*(2), 25-40. doi: http://dx.doi.org/10.20343/teachlearningu.2.2.25

Hmelo-Silver, C. E., Duncan, R. G., & Chinn, C. A. (2007). Scaffolding and achievement in problem-based and inquiry learning: A response to Kirschner, Sweller, and Clark (2006). *Educational Psychologist*, *42*(2), 99-107.

Ivanitskaya, L., Clark, D., Montgomery, G., & Primeau, R. (2002). Interdisciplinary learning: Process and outcomes. *Innovative Higher Education, 27*(2), 95-111.

Johnson, D.W., Johnson, R.T., & Smith, K.A. (2014). Cooperative learning: Improving university instruction by basing practice on validated theory. *Journal on Excellence in College Teaching, 25*(3&4), 85-118.

Jones, E.A. (2014). Examining the influence of structured collaborative learning experiences for graduate students. *Journal on Excellence in College Teaching, 25*(3&4), 163-175.

Kumpulainen, K., & Lipponen, L. (2010). Productive interaction as agentic participation in dialogic enquiry. *Educational dialogues. Understanding and promoting productive interaction*, *1*(4), 48-63.

Lattuca, L.R., Voigt, L.J., & Fath, K.Q. (2004). Does interdisciplinarity promote learning? Theoretical support and researchable questions. *The Review of Higher Education, 28*(1), 23-48.

Mercer, N., & Littleton, K. (2007). *Dialogue and the development of children's thinking: A sociocultural approach*. London, United Kingdom: Routledge.

Merriam, S.B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.

Mishra, P. & Koehler, M. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017-1054.

Mulryan-Kyne, C. (2010). Teaching large classes at college and university level: Challenges and opportunities. *Teaching in Higher Education*, *15*(2), 175-185.

National Science Foundation. (2017). Introduction to interdisciplinary research. Retrieved from https://www.nsf.gov/od/oia/additional_resources/interdisciplinary_research/

Rojas-Drummond, S., Littleton, K., Hernández, F., & Zúñiga, M. (2010). Dialogical interactions among peers in collaborative writing contexts. In K. Littleton and C. Howe (Eds.), *Educational dialogues: Understanding and promoting productive interaction* (pp. 128-148). London, United Kingdom: Routledge.

Rojas-Drummond, S., Torreblanca, O., Pedraza, H., Vélez, M., & Guzmán, K. (2013). 'Dialogic scaffolding': Enhancing learning and understanding in collaborative contexts. *Learning, Culture, and Social Interaction, 2*, 11-21.

Schrum, K., Tường Vy Sharpe C., Pellegrino, A. & Sleeter, N. (2015). From a Scottish tartan to two oily hands: Students reveal historical narratives in familiar artifacts. *The American Historian.* Retrieved from http://tah.oah.org/content/from-a-scottish-tartan-to-two-oily-hands-students-reveal-historical-narratives-in-familiar-artifacts/

Schwarz, B. B., Hershkowitz, R., & Prusak, N. (2010). Argumentation and mathematics. In K. Littleton & C. Howe (Eds.), *Educational dialogues: Understanding and promoting productive interaction* (pp. 115-141). London, United Kingdom: Routledge.

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher, 15,* 4-14.

Siry, C. (2013). Exploring the complexities of children's inquiries in science: Knowledge production through participatory practices. *Research in Science Education*, *43*(6), 2407-2430.

Sleeter, N., Schrum, K., Pellegrino, A., & Tường Vy Sharpe, C. (2018) Teaching Hidden History: Student outcomes from a distributed, collaborative, hybrid history course. *The History Teacher*, *51*(4).

Smit, J., & van Eerde, D. (2013). What counts as evidence for the long-term realisation of whole-class

scaffolding? *Learning, Culture and Social Interaction*, *2*(1), 22-31.

Tường Vy Sharpe, C., Sleeter, N., & Schrum, K. (2014). How we learned to drop the quiz: Writing in online asynchronous courses. In J. Dougherty & T. O'Donnell, (Eds.), *WebWriting: Why and how for liberal arts teaching and learning*. University of Michigan Press. Retrieved from epress.trincoll.edu/webwriting

Van de Pol, J., Volman, M., & Beishuizen, J. (2010). Scaffolding in teacher–student interaction: A decade of research. *Educational Psychology Review*, *22*(3), 271-296.

Wells, G. (1999). *Dialogic inquiry: Towards a socio-cultural practice and theory of education*. Cambridge University Press.

Yin, R.K. (2014). *Case study research: Design and methods* (5th ed.). Thousand Oaks, CA: Sage.