Preparing Social Studies Teachers and Librarians for Blended Teaching

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Blended learning has grown rapidly in K-12 schools and is commonly seen as a potential vehicle to make learning more student centered by providing students with some level of control over their learning pace and path. As a result, blended learning is most likely to have a transformative effect when it is paired with constructivist learning strategies, such as guided inquiry, that emphasize student choice. In the research described in this paper, the authors examined one school district's year-long professional development efforts to prepare social studies teachers and school librarians to design and facilitate blended learning units. They conducted 11 interviews with six participants and two focus groups with seven participants. Based on their analysis of the interview and focus group transcripts, they found that the professional development was effective at improving participants' blended teaching knowledge, skills, and perceptions. Participants valued the facilitators' feedback and modeling. They also found their interactions and collaborations with other participants to be valuable when attempting to apply their learning to their classrooms. Actually facilitating units with their own students resulted in the largest impact on their perceptions of blended learning.

Defined as the strategic combination of online and face-to-face learning "with some element of student control over time, place, path and/or pace" (Horn & Staker, 2015, p. 34), blended learning is growing rapidly in the United States. By its nature, online learning activities provide students with more flexibility in their learning time, place, and pace than is typically possible in traditional activities. What is more difficult to provide is flexibility in students' learning path (the ways students pursue and demonstrate mastery of the content).

Decisions regarding students' learning paths can be made by adaptive learning software, the teacher, or the student (Graham, Borup, Pulham, & Larsen, 2017). The latter requires blended learning strategies to be paired with student-centered constructivist pedagogical approaches to learning, such as guided inquiry.

Researchers have found that teacher educator programs do little to prepare teachers for blended learning environments (Archambault, DeBruler, & Freidhoff, 2014; McAllister & Graham, 2016). As a result, the burden to prepare teachers for a student-centered blended environment falls largely on graduate programs and school districts. Because researchers have largely ignored district-level professional development efforts, school districts are designing and implementing these professional development opportunities without guidance from empirical research.

In this study, we addressed this need by qualitatively examining a year-long initiative provided by a school district to prepare its teachers to design and implement blended learning units using a student-centered guided-inquiry approach. Specifically, using teacher interviews we addressed the following questions:

1. Did the participants believe that the professional development helped them overcome barriers to effective blended teaching?
2. What were the mechanisms that participants believed helped them overcome barriers to effective blended teaching?

We begin this research report by critiquing the limited blended learning literature – and even more limited research – available to guide those providing teacher preparation for blended learning. Next, we describe the specific methods undertaken as a part of this case study, including a description of the professional development that was delivered. This description is followed by discussion of the two main themes in the data, as well as some of the limitations of the provided professional development. Finally, we conclude with a summary of the main findings, as well as specific implications for practice and suggestions for future research based on the main themes from the data.

Literature Review

To date, the literature focused on K-12 blended learning is limited (Barbour, Miron, & Huerta, 2017). At the same time, much of the literature currently being produced is largely focused on the practitioner experience or is published by advocacy individuals and organizations. The empirical research into K-12 blended learning is sparse and is often limited to an attempt to compare student outcomes between blended learning and learning in other mediums (Molnar et al., 2017).

In the following subsections is an outline of ways K-12 blended learning has been defined and described. We then discuss some of the issues that challenge teacher educators and providers of professional development with respect to the literature focused on blended learning. Finally, we critique some of the emerging research into the practice of blended learning.

Blended Learning Definition and Trends

At its core, blended learning is the combination of face-to-face instruction with computer-mediated instruction (Graham, 2006; Horn & Staker, 2015). Graham added that one of the primary goals of blended learning is to improve pedagogy by combining the advantages of face-to-face instruction with the advantages of computer-mediated instruction. However,

Graham also warned that blended learning can actually "mix the least effective elements of both worlds if it is not designed well" (p. 8). Garrison and Kanuka (2004) explained that the general notion of combining online and face-to-face learning may appear simple, but in reality designing blended learning units is highly complex and requires considerable knowledge and skills to do well.

Definitions for blended learning in higher education often include a requirement that some of the face-to-face class time be replaced with online activities (Picciano, 2009), and some definitions, including those commonly adopted by universities, go as far as designating the percentage of class time to be reduced by online learning, typically 20-30% (Bernard, Borokhovski, Schmid, Tamim, & Abrami, 2014). These structural definitions of blended learning focus on the benefits of flexibility, access, and cost effectiveness and less on pedagogy.

Most blended learning models at the K-12 level do not reduce students' seat time, because schools have caregiving and supervisory responsibilities that universities do not. Instead, blended learning definitions at the K-12 level tend to focus more on the pedagogical benefits of blended learning. More specifically, K-12 blended learning definitions focus on how the strategic combination of digital and nondigital learning activities can provide students with a more customized experience in their learning "time, place, path and/or pace" (Horn & Staker, 2015 p. 34).

Because seat time may not be reduced, blended learning is often confused with technology-rich instruction. Staker and Horn (2012) distinguished technology-rich instruction from blended learning by explaining that the former uses technology such as interactive whiteboards, document cameras, and digital content, but the internet is not used to "deliver the content and instruction, or if it does, the student still lacks control of time, place, path, and/or pace" (p. 6). Staker (2011) also distinguished blended learning from online learning by stating that blended learning requires the student to learn away from home in a brick-and-mortar location (i.e., typically a school) with an adult facilitator (i.e., typically the teacher).

At-school blended learning models can vary in the level of structure they provide students. Some of the most popular blended learning models require students to rotate stations at teachers' direction and on a fixed schedule (Staker & Horn, 2012). Stations can be on- or off-site and can focus on different types of interactions. For instance, one station may focus on students' interactions with the content, another station could focus on students' interactions with the teacher, and another station could focus on students discussing or collaborating with each other. In other models of blended learning, students' progress through online learning activities at their own pace, and the teacher only provides support on an as-needed basis (Staker, 2011).

While blended learning models can vary in their structure, all blended learning models place an emphasis on teachers working with students individually or in small groups instead of providing whole class instruction (Staker & Horn, 2012). This variety requires teachers to use a different set of skills than what is required in traditional or technology-rich instruction (Powell, Rabbitt, & Kennedy, 2014).

Blended Learning Trends and Issues

The most prevalent challenge facing the field is the need to prepare teachers to engage in blended learning contexts effectively without adequate research to support what constitutes effective models of implementation or pedagogical practices (Molnar et al.,

2017). This tension is probably best highlighted by the fact that in 2012 the Minnesota legislature passed a statue that stated,

All colleges and universities approved by the Board of Teaching to prepare persons for classroom teacher licensure must include in their teacher preparation programs the knowledge and skills teacher candidates need to deliver digital and blended learning and curriculum and engage students with technology. This section is effective for candidates entering a teacher preparation program after June 30, 2014. (Statute 1528, 2012, ¶4)

The difficulty with this kind of legislative mandate is that there was, and still is, little research to guide teacher education programs on what are the effective "knowledge and skills teacher candidates need to deliver digital and blended learning and curriculum and engage students with technology."

To date, the limited research that has been conducted into blended learning has focused on individual instances that have not been – and may not be able to be – replicated (Molnar et al., 2017). While these individual cases can be instructive, they often ignore confounding factors. For example, the Hybrid Learning Institute examined student performance in 31 different hybrid or blended learning programs. The researchers found that students in blended environments outperformed their traditional classroom counterparts (Dellicker Strategies, 2014). However, at no point in the reporting of this study did the researchers indicate whether the 31 different blended learning environments were consistent in their instructional model or pedagogical practices.

The resulting conclusion is that students in 31 random classrooms that used some form of technology or online tools in some fashion did better than other students in their school that did not formally use those tools. This lack of clarity in describing the study limits the ability of teacher education programs and professional development providers to use studies like this one in preparing preservice or in-service teachers.

An additional challenge when trying to identify promising practices is that much of the literature into K-12 blended learning has been published by advocacy organizations (e.g., the Christensen Institute, Hybrid Learning Institute, International Association for K-12 Online Learning, etc.; Molnar et al., 2017). These organizations have produced numerous publications that provide isolated case studies chosen to highlight successful implementations of blended learning – often without much evidence to back up that success – and then describe either the instructional model or pedagogical practices used, suggesting that these models or practices were the cause of the supposed success (e.g., Mackey & Watson, 2015; Powell et al., 2015). In these kinds of publications, causality is implied based on the correlation of some form of academic improvement or success and the implementation of some ill-defined blended learning models or practices.

Yet another challenge facing researchers is understanding what constitutes a successful blended learning program. For example, as a part of their annual study into K-12 online and blended learning, 2 years ago the National Education Policy Center reported that 87 blended learning schools existed in 16 different states (Miron & Gulosino, 2016). These schools enrolled 26,155 students and were found to perform at a lower level than their traditional brick-and-mortar counterparts. In addition, they were found to have an on-time graduation rate that was half the national average. The researchers reported that "district run blended schools also had higher proficiency rates than charter blended schools" (p. 5).

The following year, the researchers reported that they were able to identify 140 blended schools in 21 different states that collectively enrolled 36,605 students (Molnar et al.,

2017). The data from these students indicated that, unlike the previous year, a "much higher percentage of blended schools received acceptable ratings" for their students' performance (p. 3), particularly when compared to students attending virtual schools. However, the on-time graduation rate for students attending blended learning schools was still approximately half the national average.

As a follow-up to Molnar et al. (2017), the Michigan Virtual Learning Research Institute published a report that examined data from five individual states from the original national data set. While the national data set indicated that blended learning schools were improving, there were still deficiencies in student performance compared to their traditional brick-and-mortar counterparts.

Although data were available for only two of the five states (and one of those states only had data for a single blended school), Barbour et al. (2017) reported that fewer blended schools in Michigan were found to have an acceptable rating when compared to virtual schools (or the opposite of the national trend). The authors also reported that the blended schools in Michigan had on-time graduation rates of only 30%, compared to the national average for blended schools of 43% and an overall national average of 82%. The Michigan Virtual Learning Research Institute report highlighted the fact that larger data sets, such as the national data presented by the National Education Policy Center reports, often hide important local insights that may be useful in identifying potential sites where promising models and practices are developing.

The blended learning schools in these three studies represent those that have adopted a particular blended learning model for the whole school and often are self-identified as blended learning schools (Miron & Gulosino, 2016; Molnar et al., 2017). At this stage in the development of K-12 blended learning, most of the occurrences of blended learning are believed to be be done by individual teachers in individual classrooms (which was also more consistent with the practice of blended learning in the school district that was the focus of this study).

Unfortunately, the majority of research that has examined instances of blended learning has focused on teacher, student, or parent perceptions. For example, Siko and Barbour (2014) examined the general reactions of students and parents engaged in their first blended learning class.

At present, even less research has examined student outcomes in instances of blended learning. One example of this type of research was described by Davis (2015), who reported on seven initial studies finding small gains in favor of teachers using blended learning techniques and tools. One of these seven studies was conducted by Murphy et al. (2014), who examined 13 low-income blended charter schools that utilized a "rotation" model of blended learning based on Staker's and Horn's (2012) description.

Based on the data collected by Murphy et al. (2014), they were able to say that students attending the charter schools using blended learning did better than students attending other charter schools in that same network for two of the education management organizations. (There were no data on how either group performed in comparison to traditional public school students.) Further, students attending the charter schools in two other education management organizations that used blended learning performed better than students in a virtual comparison group. (It is worth noting that charter school organizations have regularly called into question the use of virtual comparison groups when the results have not favored educational reform options, see Center for Education Reform, 2015; Getting Smart Staff, 2015; K12, Inc., 2015; Mesecar, 2015.)

However, even Murphy et al. (2014) admitted that the actual implementation of the rotation model varied significantly at many of the sites – even within the same education management organization. Regrettably, all seven studies described by Davis (2015) – and others like them – represented relatively small samples (often a single class of students) and also generally used nonstandardized and nonvalidated instruments. Further, many failed to adequately describe the "blended learning techniques and tools" utilized, which limits the guidance these kinds of studies can provide teacher education programs and professional development providers.

Blended Learning Preservice Education and Professional Development

The task of providing preservice education and professional development for blended learning is to distinguish between models and practices specific to online learning and those that have shown themselves to be effective or promising specifically in a blended learning context. For example, in their discussion of the issues around teacher licensure for K-12 online and blended learning, Archambault et al. (2014) mentioned blended learning a total of 50 times. With the exception of the three instances where the authors were discussing the Minnesota legislation described in the previous section, the other 47 times the authors used the term *blended* it was accompanied by "online" (e.g., "online and blended teaching"). If blended teaching is the combination of face-to-face instruction with computer-mediated instruction, surely there is a unique set of knowledge, skills, and abilities that teachers need to have or to acquire in order to effectively combine instruction from these two mediums (Enyedy, 2014).

Presently, some isolated instances of research has examined teacher practices in blended contexts. For example, Lewis and Garrett Dikkers (2016) studied the perceptions of teachers in a single blended learning program offered by a statewide supplemental virtual school concerning what they felt would be helpful in terms of professional development. The data indicated that the teachers referenced a need for professional development to be provided by the virtual school and a need to understand online teaching techniques and the effective use of online tools.

In one of the more comprehensive studies, Oliver and Stallings (2014) conducted an extensive review of the literature related to both higher education and K-12 blended learning and reported findings suggesting that "effective teacher preparation for blended instruction must integrate three broad components – contextual, instructional, and technological – each of which is closely aligned with common instructional design processes familiar to most teachers" (p. 57). While the research into K-12 blended learning is still emerging, given the comprehensiveness of this review, these three components are a good place to begin.

The Michigan Virtual Learning Research Institute has conducted the vast majority of research studies into K-12 blended learning to date. Each year the Institute is directed to conduct research in certain priority areas by the state legislature, and since 2013-14 the institute has been consistently directed to

> identify and share best practices for planning, implementing and evaluating online and blended education delivery models with intermediate districts, districts and public school academies to accelerate the adoption of innovative education delivery models statewide. (Michigan Virtual Learning Research Institute, 2017, para 9)

As a part of their efforts to meet this directive, the Michigan Virtual Learning Research Institute has undertaken several investigations. One investigation, part of the institute's *The Changing Roles of Educators* series, focused on how blended learning is changing the role of the coach (defined as "educators, working for an outside organization, [that] provide guidance to teachers, administrators, and other school- and district-level personnel about how to holistically and meaningfully customize face-to-face and online learning for K-12 students" [Bruno & Kennedy, 2016, p. 3]). This study examined how classroom teachers' duties and responsibilities were evolving as they engaged in instances of blended learning (Bruno, 2017; Bruno & Kennedy, 2016).

In another study, Roberts and Stimson (2016) explored the experiences of blended learning teachers, in particular the practices they undertook within their blended environments. A third line of inquiry has been the initial development of an instrument to determine the readiness of teachers to engage in blended learning (Graham et al., 2017). At present, this research conducted by the Michigan Virtual Learning Research Institute represents the most systematic approach to examining K-12 blended learning, and embodies a reasonable starting point for teacher educators and providers of professional development.

Blended Learning and Social Studies

When examining blended social studies courses, it is important to examine what makes social studies unique. One of those qualities is that social studies content places an especially high premium on developing learner inquiry skills (Berson et al., 2014; Doolittle & Hicks, 2003; Heafner & Handler, 2018). Various national and state social studies standards now view inquiry skills as a priority and provide guidelines for this work (National Governors Association Center for Best Practices and Council of Chief State School Officers, 2012, Virginia Department of Education, 2018). The College, Career, and Civic Life (C3) framework developed by the National Council for the Social Studies (NCSS, 2013a) also emphasizes leveraging social studies to prepare students for life after high school graduation. The C3 consists of four dimensions that include (a) development of an inquiry mindset, use of social studies concepts and tools, evaluation of sources and use of evidence gathered, and communicating conclusions. Furthermore, the C3 framework emphasizes the importance of purposeful technology use, especially in dimensions three and four (NCSS, 2013a, 2013b).

These frameworks support teachers in their efforts to ensure students master the social studies standards and effectively use technology while doing it. Educators must use both general and content specific pedagogies, as outlined by Shulman's pedagogical content knowledge (PCK) framework. Shulman (1986) explained that while teachers must design learning with both content knowledge (CK) and pedagogical knowledge (PK), those two types of knowledge overlap, resulting in two types of pedagogical knowledge — general pedagogical knowledge and subject-specific pedagogical knowledge.

More recently, Mishra and Kohler (2006) added technological knowledge (TK) to Shulman's (1986) PCK framework. They maintained that teachers' TK also interacts with their PK and CK, which added four constructs to Shulman's original framework: TK, technological content knowledge (TCK), technological pedagogical knowledge (TPK), and technological pedagogical content knowledge (TPCK; Mishra & Kohler, 2006; more recently renamed technology, pedagogy, and content knowledge, or TPACK;).

Just as Shulman (1986) argued that teachers should have knowledge of both subject-specific and general pedagogies, Mishra and Kohler (2006) argued that there are subject-specific and general uses of technology. While the TPACK framework has proved popular

with researchers and practitioners, in practice making meaningful and consistent distinctions between the elements of TPK and TPACK has proved difficult, leading some research to question the validity of the framework (Archambault & Barnett, 2010; Graham, 2011; Graham, Borup, & Smith, 2012).

Based on Shulman's PCK and Mishra and Koehler's TPACK frameworks, the design of blended teaching professional development is best when situated within a specific subject area and the pedagogies unique to teaching that subject. Availability of research specific to blended learning in social studies is lacking. Heafner and Handler (2018) found a "paucity of studies in the field" (p. 336) focused on blended learning in the social studies (e.g., Beeson, Journell, & Ayers, 2014; Curry & Cherner, 2016; O'Brien, Lawrence, & Green, 2014). While studies are beginning to be done, they usually focus upon implementation of specific programs (O'Brien et al., 2014; Riel, Lawless, & Brown, 2016).

Despite limited research on blended social studies courses, researchers have turned their attention to ways technology can be integrated into social studies. One example included the teacher acting as a guide supporting students' interactive exploration of immigration issues (Mazur, Brown, & Jacobsen, 2015). Another project involved the examination of students who used content learned to produce authentic political advertisements (Berson et al., 2014).

One case saw students engaged in research they used to create websites related to the U.S. Civil Rights Movement (Scheuerell & Jaeger, 2015). Krutka, Nowell, and Mcmahon (2017) conducted a study of ways Twitter was used by teacher candidates to explore how that application could be used by secondary students to learn about the involvement of women in globalization and education. This type of research could provide direction on some aspects of blended learning, but more research is needed that examines all aspects of designing and facilitating blended learning.

Methods

In this study, we examined one school district's year-long professional development efforts to prepare social studies teachers and school librarians to design and facilitate blended learning units. In the following section, we describe the nature of the specific school district as well as the nature of the professional development. We then describe the process undertaken to collect and analyze the data utilized in this exploratory case study.

Context and Setting

This case study was conducted at a large K-12 public school district in the Mid-Atlantic region. The particular context studied was a professional development program, named the Social Studies and Library Digital Curriculum Project, designed to prepare high school social studies teachers and school librarians to design and teach blended learning units using a guided inquiry approach. The professional development was facilitated by two school district education specialists skilled in both blended learning and guided inquiry.

The professional development program started during the summer when participants, divided into collaborative teams based in content specialty, met for approximately 5 hours a day over 2 consecutive weeks. During this time participants met both as a whole group and as members of smaller collaborative groups to build understanding in blended learning and guided inquiry. They then applied that understanding by designing two instructional units.

Following the 2-week summer sessions, professional development participants met with the facilitators in four quarterly face-to-face meetings in October, December, March, and June. The quarterly meetings were used to discuss, plan, and develop two additional instructional units. Professional development participants also facilitated the four designed units with their students. They engaged in readings assigned between quarterly sessions and participated in voluntary online discussions regarding these readings. Participants regularly met as development teams to develop their instructional units.

Data Collection and Analysis

The participants included 12 teachers and four librarians who were organized into collaborative groups based on the following content specialties: U.S. history, world history, and government. All were invited to participate in two phone interviews and a face-to-face focus group. The first interview occurred in October with six participating. The second interview was conducted in March with five of the six participants of the first interview. Last, all six interview participants plus two others participated in one of two focus groups held directly following the final face-to-face session in June.

All interviews and focus groups were recorded and transcribed. The interview transcripts were sent to the participants to review for accuracy. Guided by elements of constant comparison coding methods (Glaser, 1965), all 11 interviews and both focus group transcripts were analyzed by a member of the research team. Members of the research team also met regularly to discuss the themes identified from the coding. Any disagreements were discussed until resolved. The identification and grouping of themes was guided by, but not limited to, Ertmer's barriers to change framework. Ertmer (1999) identified first- and second-order barriers to change. First-order barriers include lack of resources, knowledge, and skill. Second-order barriers are based on teachers' mindsets, values, and beliefs. While first-order barriers are relatively easy to overcome when resources are secured, second-order barriers are more persistent because they "may not be immediately apparent to others or even to the teachers themselves" (p. 51).

Findings

The data revealed two dominant themes, each of which are discussed in the following subsections.

Incoming Perceptions and Goals

Participants varied greatly in their previous knowledge, skills, and experiences related to blended learning, as well as to their individual goals for professional development. For instance, David and Linda had limited knowledge of or experience with blended learning, with Linda stating she "had never even heard the term blended learning" prior to hearing about the professional development. As a result, Linda had a rather modest goal of "trying to incorporate more of the technology into the classroom to get students excited."

Other participants had misconceptions regarding blended learning. Several stated that prior to experiencing the professional development, they believed blended learning was totally self-paced independent study with little teacher monitoring. Charles explained that he "really didn't know too much about [blended learning]" and believed it required students to be constantly on the computer. His perception quickly changed during the 2-week summer professional development session when he realized "that's not what it is; there's more to it than that."

Jennifer also described how before participating in the professional development she viewed blended learning as a teacher "just turning the computer over to the kids, and letting them run loose." However, after the 2-week experience she recognized the importance of intertwining the online and face-to-face learning activities in such a way that neither could function effectively without the other.

Several participants had already begun to blend their teaching previous to taking the professional development but found their efforts were "kind of scattered all over the place" and required direction that would allow them to be more purposeful in how they designed and facilitated blended learning activities. Additionally, Jennifer viewed blended learning as a way to support at-need students, such as English language learners and special education students, but realized she lacked the knowledge and skills to design and facilitate blended activities for those types of students.

While participants' incoming knowledge and goals varied, they were highly satisfied with the professional development and believed they were able to improve as blended teachers. Prior to the professional development, David believed blended learning was students who would "go home and watch a video and come back and we'll test on it." In his final interview David believed he had a "great understanding" of blended learning and that the professional development was "opening all kinds of doors, in terms of the types of activities that you would give [and] the places where the kids can do it."

Robert added that the professional development "definitely enabled me to understand how [blended learning] is defined more clearly and also it's helped me understand the challenges of implementing it…. One thing I can definitely do better is allow for those varied paths, that differentiation." Teachers also found that the professional development forced them to examine their current practices and ask, "Why do you do what you do?" and "Why am I doing that?"

Linda stated in her final interview that the way the professional development combined blended learning with guided inquiry changed her "whole philosophy" in ways that that she believed would have lasting changes on her teaching, "I can't teach another way. I just can't. I find that [blended learning] is really, really good for kids." Similarly, focus group participants agreed they would continue to blend their instruction. One participant summarized, "We have more confidence to do it on our own."

Robert believed that the professional development had an impact, in part, on its duration. One participant explained that "it held you accountable since it meets through the school year." Similarly, Robert stated, "I think it's an effective professional development because you keep touching base. It acts like a PLC [professional learning community]." Jennifer also found that the professional development "definitely changed [her] understanding of [blended learning]" because it focused more on pedagogy than technology: "The professional development has impacted maybe not so much my use of the tools themselves but more the pedagogy surrounding them…. What's impacted me is letting the students drive a little bit more." While the focus was on pedagogy, participants still reported that their technological skills increased. Sarah found that her technological skills grew but her focus was on using technology "to enhance choice for kids."

Mechanisms of Change

When describing how they improved their skills and understanding, participants identified four mechanism of change. Guided by Moore's (1989) interaction framework, we categorized the mechanism as (a) participant-content interactions, (b) participant-

participant interactions, (c) participant-facilitator interactions, and (d) participant-student interactions.

Participant-Content Interactions. During the professional development, participants found they were able to get the big picture by reading two books on blended learning as well as shorter readings and by watching videos on blended learning and guided inquiry. Sarah said that the professional development materials were "short, digestible, and the discussion that we have was fairly rich.... Those reading activities were designed very well." Linda said that the textbooks were "an excellent resource" that she planned revisiting after the professional development. Similarly, Robert stated that "by having that professional material right in front of me, it gives me a vocabulary to things that I'm doing and helps me build on it."

Participant-Participant Interactions. While the course content was critical in helping participants gain a vision of the importance of blended learning and guided inquiry, participants said that their discussions with peers about the content allowed them to deepen their understanding of the information and identify practical strategies for applying the principles in their own classrooms. Sarah summarized her time with other participants as "thinking, talking, working, and collaborating with each other."

These interactions occurred largely during the face-to-face sessions at the start of the professional development and in other face-to-face meetings during the year. Jennifer said, "The face-to-face sessions were crucial because they helped me understand exactly what blended learning was, what other people thought blended learning was, and helped me wrap my mind around how this might look in my classroom." During face-to-face sessions participants commonly rotated between stations of activities that depended on participants interacting with each other. Robert said,

> I think what's been most effective is when we look at things and discuss things in the stations that we've done as colleagues. For example, this past session when we got together, we had little [reading] segments. We had a handout from a book highlighting the importance of reflecting on what we're doing in our classroom...in greater depth and talking about it with colleagues to see how they do it in their class as well as identify some of the challenges.

In addition to discussing the professional development materials, participants said they appreciated time to share and receive feedback on their projects and experiences before applying their learning in their classrooms. John added, "It was helpful to see other groups' unit plans and pull ideas especially for ... the types of activities they were doing, how they were implementing different things, how they were doing the different parts of guided inquiry."

Jennifer said that she "learned more in the summer... in larger groups" but appreciated opportunities to hear "what other groups are doing and hearing about other forms that are actually being practiced... throughout the year as well." Robert also said he appreciated his time to discuss course projects but wished they "could have seen each other's lessons more clearly throughout the experience."

Early in the professional development, participants were placed in teams that collaboratively designed and developed instructional units throughout the year. Collaborative groups also commonly met outside the mandatory professional development face-to-face sessions, perhaps at a coffee shop, which David described as a way of efficiently "tidying up the last part" of collaborative projects. Participants largely valued the

opportunities to collaborate with peers. Sarah summarized, "I've gotten a lot of great use just out of the design thinking, talking, working, and collaborating with others."

Professional development discussions and collaborations also impacted the ways teachers taught. Not only did they help participants collaboratively engage in unit design, but they modeled interactive learning strategies that participants could use in their own classrooms. Based on his own experiences participating in online discussions, Charles said it was especially important to blend his students' discussions, because at times he found they were hesitant to comment in class: "…But if I pose that question online, they're going to give an answer, even if it's a wrong answer. And I feel they're not afraid to say that online."

Participant-Facilitator Interactions. The professional development facilitators played a critical role in improving participants' perceptions, knowledge, and skills. The lead facilitators' monitoring and motivating efforts, whether in the face-to-face or online setting, was described as effective but not overbearing at promoting participant reflection.

Joseph, the lead professional development facilitator, established a nurturing presence through his availability by e-mail and his participation in face-to-face discussions. In these interactions, participants said that he actively built trust by treating the participants more as colleagues than learners. His ability to share what he knew in an understanding and relatable way and then reflect on what participants shared helped them more fully engage in the learning activities.

Robert described his experience by saying, "I feel like Joseph takes the teachers seriously, and he tries to sincerely and earnestly reflect on what teachers share." Participants also said they appreciated that Joseph was flexible and responsive to their needs. For instance, when participants expressed concerns at having to complete two design templates — one for blended learning and one for guided inquiry — he created a single template that contained elements of blended learning and guided inquiry.

Participants also found that Emily, a cofacilitator, was helpful in presenting the guided inquiry process and then helping learners refine their skills using it. She also commonly visited teachers' classes to provide feedback and was available via email to address participants' questions, comments, or issues. The facilitators worked to provide continuous feedback until participants recognized their learning gaps and understood how to address them. Jennifer detailed the effect of Emily's and Joseph's support and feedback on one of her blended guided inquiry learning units: "[Emily and Joseph] invested a lot of time into explaining exactly what we needed to fix. As a result, I felt like I understood it a lot better."

Participants said they appreciated that during the professional development they were not only taught blended learning strategies, but professional development facilitators modeled those strategies in their professional development activities. For instance, David appreciated that he was able to experience blended learning as a student, because it allowed him to better recognize that "both online and face-to-face professional development activities have value."

Similarly, Jennifer said she enjoyed the professional development and found that the professional development's blended approach allowed her to develop a more positive opinion of blended learning. She particularly valued how the professional development supported her in "being able to practice [blended learning]," because she was being taught with the methods she would have to use with her students.

Participant-Student Interactions. While participants' interactions with the content, peers, and facilitators were valued and helpful in improving their knowledge, skills, and perceptions, actually implementing their blended units and interacting with their students as they facilitated their learning in the units had the most transformative impact. Sarah explained that, while it was challenging to give up some of her control over students' learning, it was a good experience "letting go and watching them fly." She added, "It's been neat to see the sage-on-the-side [teaching model] come to life, I think. And again, seeing students take ownership is really exciting." Similarly, Skylar said that facilitating his units removed his doubts that blended learning and guided inquiry "actually can work."

Because of their successful experiences, participants were motivated to develop additional blended units on their own. Linda said the following:

> When I did my first lesson ... last year I changed my whole year because that's where I saw the power of this type of learning. And so this year, I was already into blended learning. I already knew the impact, so I really didn't need to be sold on it.

Similarly, David said, "I didn't know much about guided inquiry design when I started this, and then as the year went on [I used guided inquiry] in pretty much every lesson I did." Linda added that she was especially "sold" on blended learning because students would tell her, "We work so hard in this class. You make us work! You expect us to come in. You expect us to do stuff. You expect us to take control of our learning." Linda said she was especially surprised that students were "actually engaged and working" the last 2 weeks of school when they were typically "bouncing off the walls."

These benefits came with a cost. Participants found that designing and using blended instruction took considerable time. David said that the blended learning approach required him to get "to class a little bit sooner" to "get a handle on the technology." Sarah also found that providing students with "access to technology" was difficult and believed that it would have been easier if she was in a "one-to-one [laptop per child] environment." Jennifer added that in student-centered activities "there are going to be a lot of different things to manage at once. ... You really don't have time to sit down and give individual, personalized feedback." In general participants said that the benefits outweighed the costs.

Participants also increased their appreciation of blended learning when they found they could be more responsive to students' needs. Jennifer described how this increased focus on students helped her see when "there's something within the lesson that is inherently flawed or that needs to be beefed up, and I can do that instantaneously." Charles and Sarah both said that the move to a student-centered approach helped them better serve the needs of students with greater challenges, such as English language learning, emotional disorders, special education needs, and autism. Overall, the professional development helped both teachers and learners be more energized and productive throughout the learning process.

Limitations of the Professional Development

Participants identified two primary limitations of the professional development and provided suggestions for improvement. First, participants found that the online communication between sessions could have been improved. Throughout most of the year the facilitators were highly responsive to inquiries and proactive in reaching out to participants. However, for a 2- month stretch in the middle of the professional development the lead facilitator was off on paternity leave, and participants found a

breakdown in communication and support. James said that "during that window of time there was nobody communicating with us" and believed that "there should've been a shared ownership [between the facilitators] so when one person is out, we still have a continuation of contact."

Participants also found that participation in the online discussion was somewhat lacking because it was not mandatory. John said that he "was terrible about keeping up" with the discussions because they were optional and suggested making them mandatory. Focus group participants agreed that the online discussions should be made mandatory. John also said that participation in the online discussions was low because the prompts were unengaging. He suggested "making it more collaborative as opposed to just doing readings and then answering questions online. For instance, maybe sharing student samples of ultimately what they are creating or sharing ideas almost like an online PLC [professional learning community]."

Second, while participants appreciated how the professional development modeled blended learning principles, they saw opportunities where blended learning principles could have made their face-to-face time even more effective. For instance, participants highly valued the time they had to interact with their peers and the facilitators. However, some participants found that too much of their face-to-face sessions were spent in direct instruction.

Charles saw some irony on "getting lectured on how to do blended learning" and believed that "some of the lectures they did … were redundant and not always necessarily related." As a result, participants recommended that the facilitators closely examine the direct instruction they provided and "put some of that online" for participants to view before coming to the face-to-face sessions. Similarly, David recommended that the facilitators teach guided inquiry by using guided inquiry approaches and said that some portions of the professional development were "just a lecture." For instance he believed he would have had a better experience if they had participated in a sample guided inquiry activity.

Furthermore, focus group participants said that not all of the activities were focused on using blended learning to better facilitate a guided inquiry approach to learning. For instance, participants found that some of the guest speakers' messages, while interesting, were not aligned with the goals of the professional development.

Discussion

Blended learning requires different competencies and skills than are required to teach traditional courses. Powell et al. (2014) explained that becoming a skilled blended teacher required new skills and "mindsets that help [teachers] shift towards new forms of teaching and learning" (p. 6) that are more student centered and personalized. In fact, Heafner and Handler (2018) argued that social studies was a particularly relevant discipline to examine the "new opportunities for teaching and learning [that are presented by this] … technological innovation" (p. 335).

Even though social studies often represents the highest level of online and blended learning enrollment of any of the disciplines (Gemin & Pape, 2017), as Heafner and Handler (2018) noted, there is a "paucity of research, particularly empirical studies, in the social studies" (p. 350). While this case study is not generalizable, it is an important step in the body of research related to blended learning in the social studies.

In response to the first research question, the professional development offered by the school district appeared to help teachers to overcome both first- and second-order barriers as identified by Ertmer (1999) and described in the methods section. The professional development appeared to help all participants develop technological skills and awareness, regardless of their incoming experience or skill levels. The professional development also helped them overcome second-order barriers to change by helping them see the transformative potential of blended learning. This finding was consistent with other studies that have focused on blended learning in the social studies, where researchers have often reported that teachers have had a desire to use blended learning tools in their classes (Beeson et al., 2014; Curry & Cherner, 2016; O'Brien et al., 2014).

While some participants were admittedly ignorant about blended learning, however, none of the participants were especially resistant to the concept. Kipp (2013) suggested that one of the reasons for this apparent willingness was that blended learning offered a range of opportunities for teachers along the spectrum between completely face-to-face and completely online – allowing a teacher to enter the blended learning spectrum at a comfortable place. As a result, future research should examine professional development strategies with teachers holding more entrenched views of blended learning.

In response to the second research question, participants identified several mechanisms that helped them overcome barriers to effective blended teaching. While the course content was helpful, it appeared participants' interactions with the facilitators and other participants had more of an effect on their understanding of blended learning and how it could be applied to their teaching contexts. Essentially, it was the collaboration with their peers regarding blended learning that allowed participants to gain the most from the experience (Beeson et al., 2014; Curry & Cherner, 2016).

Participants also said it was helpful when the facilitators modeled blended learning and guided inquiry, allowing them to experience the instructional strategies as a student. Inversely, they became frustrated when the teaching methods did not match the message. For instance, one participant found it ironic to be "lectured on how to do blended learning." This sentiment is common in the field of K-12 online learning, where it has become accepted that to adequately prepare teachers to teach online, they need to have the experience of learning online themselves (Kennedy & Archambault, 2013).

Perhaps most helpful in overcoming second-order barriers and improving participants' mindsets was actually facilitating the creation of blended units with their students. Teachers involved in a statewide blended learning initiative in Rhode Island had similar feelings: engaging in blended learning with their students forced teachers to confront their sense of lack of control and embrace the potential for change (Kennedy, 2016).

Prior to facilitating their units, some participants were unsure how students would react to the units they were developing and were surprised when their students were "actually engaged and working." In her book *Making the Move to K-12 Online Teaching: Research-Based Strategies and Practices,* Rice (2012) indicated that the use of online tools in a class allows the instruction to become more learner centered and, by extension, more engaging to the student.

Finally, participants found that the length of the professional development was important, because it held them accountable and provided ample opportunities to "practice [blended learning] with students throughout the year. However, 'professional development is only one element required to achieve institutional change and widespread adoption of blended learning practices'" (Oliver & Stallings, 2014, p. 73).

Some other elements that need to be present – or at least considered – include school or district action plans; events that raise awareness among teachers and staff; incentives for all stakeholders; and models of best practice, research-based templates and exemplary courses (Fetters & Duby, 2011; Garrison & Vaughan, 2013; Taylor & Newton, 2013).

Conclusion and Implications

As blended teaching is becoming more common in schools across the United States, teacher preparation programs have not responded adequately to meet this need (Archambault et al., 2014; McAllister & Graham, 2016), and the burden to prepare teachers for blended environments has been largely assumed by school districts and the teachers themselves. There is also a lack of research specifically focused on the skills needed to become successful blended teachers or on the strategies for effectively developing those skills. As a result, in this research we examined a school district's yearlong professional development designed specifically for social studies teachers and librarians to design and facilitate student-centered blended units using guided inquiry principles.

While findings from this case study should not be generalized, Merriam (1998) explained, "Insights gleaned from case studies can directly influence policy, practice, and future research" (p. 19). The findings from this case study have the potential to provide some insights to those seeking to prepare teachers for the demands of blended teaching. More specifically, we recommend that school districts consider the following four design principles that appear to be particularly impactful on participants' readiness to teach in blended learning environments:

1. Extend professional development opportunities throughout the year to afford teachers many opportunities to develop and apply blended teaching skills.
2. Afford teachers many opportunities to interact and collaborate with other teachers and a professional development facilitator both face-to-face and online.
3. Ensure that facilitators' methods match the message they wish to convey to teachers.
4. Provide opportunities to teachers to facilitate blended learning units in their classrooms and to formally reflect on their experiences.

These recommendations are supported by Desimone's (2009) argument that professional development is most effective when it is content-specific, requires active learning, aligns with district goals, is extended (at least 20 hours of contact time), and is collaborative. Professional development typically occurs in the form of workshops during an in-service day (Cochran-Smith & Lytle, 1999). While teachers are expected to apply what they learn to their classrooms, there typically is no accountability or extended support for doing so.

Similarly, "traditional professional development occurs away from the school site, separate from classroom contexts and challenges in which teachers are expected to apply what they have learned and often without the necessary support to facilitate transfer of learning" (Killion & Harrison, 2006, p. 8). Because the professional development lasted for an academic year, teachers in this study were able to design, facilitate, and evaluate multiple blended units, steps which appeared especially valuable in overcoming obstacles to effective blended teaching.

As school districts increase their professional development efforts, researchers should also increase their efforts to identify best practices that can then inform future professional development efforts. Although the "complex specificness" (Wolcott, 1994, p. 107) of case studies prevent generalizations to be made, they are critical in new areas of research

because they allow us to understand "how things work" (Stake, 2010, p. 16). This case study relied on teacher perceptions, and future case studies should extend the data collected to include other stakeholders, such as professional facilitators, school administrators, and students.

Researchers should also move beyond qualitative case studies to develop validated measures of teachers' blended teaching skills, such as Graham et al.'s (2017) blended teaching readiness instrument. These types of quantitative measures will help researchers and school administrators identify teachers' needs, better tailor professional development to meet those needs, and measure the effectiveness of that professional development. While difficult, these collaborative efforts between practitioners and researchers are critical to better preparing teachers for the demands of blended courses and, in turn, improving learning outcomes in their courses.

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