"So I Feel Like We Were Just Theoretical, Whereas They Actually Do It": Navigating Twitter Chats for Teacher Education

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In this qualitative study, the authors analyzed the participation of preservice teachers in a discipline specific Twitter chat known as #sschat. Findings indicated that preservice teachers found value in the chat when they shared resources with practicing teachers, had resources shared with them, and built professional networks. However, there were instances when the preservice teachers felt like they contributed little to the chat because they did not have extensive teaching experience. Additionally, the preservice teachers expressed dissatisfaction with using Twitter as a platform for educational related chats. The authors concluded that the utility of such chats outweighs the negatives and provide guidelines that teacher educators should consider before asking their preservice teachers to participate in such spaces.

In the last decade digital technologies have allowed for the development of online spaces that have provided educators with opportunities to engage in virtual chats focused on educational related topics on social media platforms such as Twitter (Benko, Guise, Earl, & Gill, 2016; Reilly, 2017; Xing & Gao, 2018). As Krutka and Carpenter (2016) noted, "Social media services like Twitter have been credited with providing a means by which people can coalesce around issues, interests, and events in ways that can impact the social studies and even democratic activities" (p. 39). For example, the Twitter chat known as #sschat, has been developed specifically for social studies educators to better their craft (see https://sschat.org/about-us/).

Additionally, scholars such as Swan and Hofer (2008) have examined the nature and utility of technology use within teacher education programs and K-12 classrooms. Scholars and educators tend emphasize the importance of social media in education without interrogating or deconstructing these spaces (Kerr & Schmiechel, 2018) before encouraging preservice teachers (PSTs) to take part in these environments.

Therefore, this study joins ongoing efforts to research the use and impact of digital technologies to support educators in the development of their craft by examining the discipline-specific Twitter chat known as #sschat. We build on Krutka and Carpenter's (2016) contention, as well as Hicks, Lee, Berson, Bolick, and Diem's (2014) "Guidelines for Using Technology to Prepare Social Studies Teachers," in which they acknowledged the benefit of digital technologies to support social studies teachers in the development of their craft.

Subsequently, we sought in this study to answer the following questions:

What does it look like for PSTs to participate in an online, discipline-specific Twitter chat?

1. How do they describe their experiences?
2. How do they participate in the chat?

This paper begins with a description and discussion of the Twitter chat known as #sschat. Communities of Practice (COPs) are then examined, as they relate to participating and engaging in #sschat (although not everyone who tweets is a member of a COP). Findings from the study are then presented to show the benefits and limitations of Twitter chats as they relate to the development of social studies PSTs. Last are listed some suggestions for teacher educators interested in having their PSTs engage in Twitter chats.

Review of Related Literature

Twitter Chats and the Development of #sschat

Twitter began in 2006 "as a medium for users to respond to the simple prompt, *what are you doing*?" (Krutka, 2017, p. 2191) and was not intended for educational purposes. However, Krutka said, "By 2009 educators were using the hashtag #edchat as a means to affiliate around educational issues both asynchronously and synchronously" (p. 2191). He further noted, "Synchronous tweeting events called Twitter chats have become regular professional development activities for many educators using a wide variety of hashtags" (p. 2191). Twitter chats are now available for almost any educational topic or content area (see International Society for Technology in Education, 2018)

The Twitter chat/network known as #sschat was started by two people, Ron Peck and Greg Kuloweic, who had already been participating in #edchats. They believed that a discipline-specific chat would help them to improve their craft, and subsequently, the first #sschat discussion took place in July 2010 (Krutka, 2017). The chat has since taken place every Monday night from 7 p.m. to 8 p.m. Eastern Standard Time.

The Anatomy of #sschat

Each Monday night, different coleaders, such as teachers, teacher educators, and guest speakers, moderate #sschat. The chats usually focus on a specific topic, such as "Bringing

Elections to the Classroom," "Women's History and Gender Studies," and the "Election of 2016," to name a few.

The moderator poses questions to the group; these questions are sometimes provided in advance, but are usually not shared until the chat begins. The first question is typically focused on asking who is present for the chat, so the speaker can understand who is participating on that particular night. After asking the first question, the moderator uses the abbreviation Q1 to signify the first question of the chat. The person who provides an answer identifies that he or she is answering that specific question by placing A1 before the response. Additionally, all participants must place the hashtag #sschat after each Tweet, or their Tweets will not show up in the chat. For example, the first question and answer of the night may look like the following:

Ql: Ready to start this chat, who all is participating tonight? #sschat

A1: This is Jim from Tallahassee, I am an eighth-grade social studies teacher. #sschat

The participants follow this format until everyone has introduced themselves. After everyone introduces themselves, the moderator starts asking content specific questions about resources, ideas, strategies, and methods (see Figure 1 for an actual example of chat). The second round of questions may look like the following:

Q2: What are some strategies you all use to teach your students how to discuss controversial issues? #sschat

A2: I like to start low-risk by developing a class discussion around the Lorax. #sschat
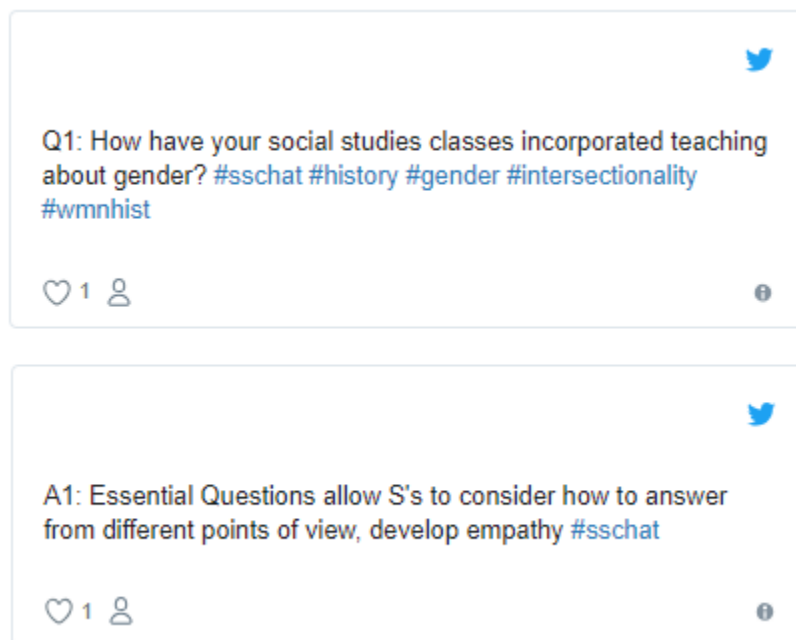
Figure 1. *Screenshot from an #sschat session.*

The chat continues with this format until the hour is over, but sometimes discussions continue privately after the chat concludes. All discussions from these chats are archived and publicly accessible online at the website created specifically for #sschat (see https://sschat.org/archives/).

Additionally, the hashtag #sschat is sometimes used to ask questions about social studies topics outside the chat. For example, a person needing a resource or an idea about how to teach a certain topic may tweet out a question during the day, and people will usually respond to the question. In many ways, #sschat has developed into a brand, as it now has a Facebook page, a website, as well as an in-person meeting that takes place each year at the National Council for the Social Studies (NCSS) conference (Krutka, 2017).

Communities of Practice

The Twitter group under the hashtag #sschat has allowed for the development of, and arguably is, a COP (Burns, Howard, & Kimmel, 2016; Hoadley, 2012; Wenger, McDermott, & Snyder, 2002). Wenger et al. (2002) said, "Communities of Practice are groups of people who share a concern, a set of problems, or passion about a topic, and who deepen their knowledge or expertise in this area by interacting on an ongoing basis" (p. 4).

The goal of #sschat is for social studies educators to deepen their knowledge and expertise through this weekly chat. For example, the #sschats' website includes the following description of #sschat:

> #Sschat is more than just a hashtag. It's an open group of dedicated network of educators and enthusiasts who aim to improve their personal, and our collective, teaching of social studies subject matter. We aim to help social studies teachers by helping to facilitate democratic collaboration where educators can challenge & support each other to grow in their craft and, consequently, offer richer learning experiences for students. Activities within our network includes the use of #sschat and affiliated hashtags on Twitter, discussions on our Facebook page, and participation in the annual NCSS unconference, but we are always looking to grow our network into new spaces. (para. 1)

While the definition of a COP and #sschat are not identical, they have arguably striking similarities, and as #sschat has demonstrated, technology has allowed for the development of very specific COPs (Woo, 2015). Joining a COP is a complex process for all involved. When a newcomer attempts to join or become a member of a COP, this process is characterized by the term legitimate peripheral participation (Fuller, Hodkinson, Hodkinson, & Unwin, 2005; Kim & Cavas, 2013; Lave & Wenger, 1991; Woo, 2015; Woodgate-Jones, 2012). According to Lave and Wenger (1991),

Legitimate peripheral participation provides a way to speak about the relations between newcomers and old-timers, and about activities, identities, artefacts, and communities of knowledge and practice. It concerns the process by which newcomers become part of a community of practice. (p. 29)

Arguably, the word *community* most always has a positive connotation. However, COPs are not always welcoming to new or outside members (Johnston, 2016; also see Kerr & Schmiechel, 2018). Therefore, it cannot be assumed that joining a COP is always a positive experience, especially for the newcomer.

Woodgate-Jones (2012) noted, "The pressure to conform (and therefore emulate the more experienced teachers) discourages the legitimate peripheral participants in these instances to share their own ideas" (p. 156). Therefore, in many instances the newcomers may try to emulate or replicate what the other members are saying or doing, instead of providing an authentic contribution to the community. Essentially, in the minds of many newcomers, to become a member means to act and behave like the other legitimate members; therefore, newcomers may struggle with developing their own identity in this new space.

This process then problematizes the benefit of Twitter chats for PSTs, especially if that participation is brief, because PSTs may not have had the opportunity to become a full member and subsequently develop their own identity in this community. They may instead focus their efforts on becoming like the other members of the COP.

Because of the complexity of joining a COP, Lave and Wenger (1991) have been criticized with oversimplifying this process by which a newcomer enters into a COP. For example, Johnston (2016) argued,

> The deleterious effects of failing to belong to the community cannot be overestimated, but tend to be underplayed in Lave and Wenger's theoretical analyses, where belonging seems to be associated with an almost inevitable process of becoming a core member of the community of practice. (p. 545)

Therefore, examining PSTs' participation in #sschat provides a twofold benefit. First, looking at this community provides insight into the process of joining an online, virtual COP and to the affordances of such spaces for the field of social studies and beyond in relation to the development of PSTs. The research questions of this study were designed to provide insight into the benefits of this type of COP for PSTs and to provide guidelines for immersing PSTs in Twitter chats to further support their development into practicing professional educators.

Methodology

Participants

The forum #sschat is a Twitter chat and a professional space focused on improving the craft of social studies educators; responses are archived and publicly accessible. Social studies PSTs enrolled in a graduate program in a research-intensive university in the mid-Atlantic region of the United States were asked to participate in this study. The students in this program were enrolled in the same methods class, field experience, and educational technology class.

While all three of these courses were separate courses, the same instructor taught both the methods course and the technology course. Additionally, the technology course, although separate, was interconnected with the PSTs' field experience and methods class and the same students took all three courses together.

This study focused on participation in #sschat in the fall 2016 semester, which is when the PSTs were in the early field placement instead of actively teaching a class as they do during their student teaching experience. Additionally, convenience sampling was used, and this study included a small sample size. All of these factors could be limitations to this study.

In the educational technology class, entitled Inquiry Based Learning with Digital Technologies, the PSTs were required to participate in #sschat to provide the PSTs with insight about the types of online professional opportunities that are available to educators. Specifically, this class is designed to provide the students with an entrepreneurial eye toward digital technology use in the classroom. For example, the course was described as follows:

This research course seeks to blend theory and practice to investigate what it means to teach and learn in both formal and informal learning environments with the range of modes, media, literacies, and content available. Using the very tools available to students both in and outside of the classroom (as well as emerging technologies), we will research and evaluate various technologies and digital humanities projects by critically exploring the potential instructional value-added technology implementation. Class meetings will typically involve collaborative work in small teams, class discussions, hands-on work with participatory media, and brief lectures. You will also join, participate, and report back your experiences in a series online professional learning communities (#Sschat and TPS [Teaching with Primary Sources] network). An experimental aspect to this course will be your participation in an ongoing transdisciplinary project focusing on teaching with 3D objects and visualizing the past to teach about cultural heritage and local history. Finally, students will apply research on learning to investigate their pedagogy, integrate technology into their practice and closely study the potential impact on student learning. (Hicks, 2016)

The social studies PSTs were required to participate in three to five #sschat Twitter chats and document their experiences in online blog reflections. They had to at least participate in three #sschats and had a choice of how many they participated in beyond three, as they had the choice to join other networks in addition to #sschat. All participants went with the minimum number of three.

The PSTs could choose any topic they wanted to for this assignment. For example, a range of topics were discussed from August 2016 to December 2016, such as "Honoring Indigenous Histories"; "Teaching with News Literacy in the Digital Age"; "Teaching with Comics and Art"; "Election 2016"; "Creating and Maintaining a Safe and Productive Classroom Environment"; "Listening and Speaking Skills in Social Studies"; "Teaching with Primary Source Documents"; "Local History"; "#Civility2016: Creating a More Civil Classroom This Election Season"; "Teaching Old Content New Tricks"; "Finding Ways to Engage Students with Existing Content"; "Document Evaluation and Claim Testing (Big History Project)"; "Digging Deeper During the Election"; "Capitalizing on Teachable Moments"; "Nurturing Empathy and Civic Engagement in Students"; "Elementary Social Studies"; "Election 2016: Looking Back and Forward"; "Slavery and the White House"; "NCSS Unconference (#NCSSUnCon) tweets"; "Media Literacy and Teaching Social Studies in the Digital Age"; "Teaching Slavery with Primary and Secondary Sources"; and "Teaching with Testimony: Enhancing Empathy and Critical Thinking" (see https://sschat.org/archives/).

In spring 2017, an email was sent to PSTs who participated in #sschat in fall 2016 requesting a 30-45-minute semistructured interview focused on their experiences after participating in #sschat (see the appendix for a list of interview questions). Although seven PSTs in this class participated in #sschat and documented their experience in blogs, only five agreed to participate in interviews (see Table 1). Any identifying information was blinded, and pseudonyms were assigned to ensure participant anonymity.

Table 1
PSTs Who Participated in #sschat vs. Those Who Agreed to an Interview

Name	Participated in #sschat	Agreed to an Interview	Number of Chats
Katy	Yes	Yes	3
Amy	Yes	Yes	3
Martha	Yes	Yes	3
Sarah	Yes	Yes	3
Jim	Yes	Yes	3
Melissa	Yes	Yes	3
Jenna	Yes	Yes	3

Data Sources

This qualitative study examined several sources of data, including

- Interview data from five PSTs;
- Blog reflections of seven preservice social studies teachers;
- #sschat archive transcripts of the chat sessions from fall 2016.

What follows is a description of each data source and what it offered to this study. Interviews with PSTs were conducted face to face. The interview questions served as a guide, and the interviews were approached as more of a conversation between the researcher and the participant, rather than a formal question and answer format. The goal of the interviews was to examine the "lived experience" of the PSTs and to see if the chat was perceived as having utility for them in their current or future practice (as in Seidman, 2013, p. 9).

All interviews were recorded and transcribed. The transcript data were compared to the blog reflections and #sschat archives, which are addressed in greater detail later in the data analysis section.

The blogs the students completed were part of a class assignment in which the PSTs had to participate in #sschat and then reflect and document their experience in a blog; the blog reflections were supposed to be around 300-500 words. The blogs were used as a point of comparison with the transcript data to see if what they said in the blogs resembled or reflected what they said in the interviews.

The #sschat forum archives all chats, and they are publicly available and accessible. However, in order to pull this data for analysis, the transcripts were cut and pasted from the #sschat website and placed in a digital document for further examination, providing greater ease of use. These archives served a key purpose in being able to identify the extent to which and how the PSTs participated in the chat.

Data Analysis

All data were analyzed using an inductive approach (as recommended by Rossman & Rallis, 2003). Using this approach,

researchers can draw upon the participants' words to develop themes and organize the data into categories to be further explored. This can be accomplished by engaging in a systematic process of reading the interview transcripts; identifying themes in the participants' responses constructed during the interview process; questioning how those responses are structured; and exploring the themes identified to develop an understanding of the participants' lived experiences. (Stewart, 2011, p. 287)

We first sifted the data looking for large thematic codes across the transcripts, known as thematic analysis (Maxwell, 2005). We approached the data in multiple ways, but eventually assigned two parent themes of positive and negative to the language that we perceived as having a positive or negative tone. This approach best captured and illuminated the experiences of the PSTs in terms of them becoming a new member of a COP, because this process can be both a positive and negative experience according to the research.

We then used a pink highlighter to distinguish the positive comments and yellow to distinguish the negative comments. We cut the quotes up and placed them in three separate folders marked positive, negative, and neutral. We spread all of the positive quotes out on a table and identified the nature of the positive data. Specifically, we looked for what the PSTs were talking about when they were speaking in a positive way.

We found that the nature of the positive quotes coalesced around codes that we identified as "Sharing Language" and "Networking Language." Our next step was looking at the negative data. We followed the same format as with the positive data, parsing out the comments and looking at what the PSTs were talking about when their tone was negative. Two codes were generated in relation to the negative data, which we called a "Lack of Teaching Experience" and "Unfamiliarity With Twitter" (see Table 2; this table was adapted from the figure titled "Coding categories and criteria" in Stewart & Boggs, 2016, p. A150).

Table 2
Code Categories and Criteria

Positive Comments		Negative Comments	
Sharing Language	**Networking Language**	**Lack of Teaching Experience**	**Unfamiliarity with Twitter**
Identified #sschat as a place of sharing resources, strategies, or ideas.	Saw #sschat as a key source of networking and community building.	Felt unable to fully participate and provide resources due to a lack of classroom experience	Did not have a background with Twitter which caused stress and anxiety in the context of a live chat.

These codes informed how we approached looking at the blog data. Therefore, we searched for similar parent themes of positive and negative in the blog reflections and distinguished them with a pink (positive) and a yellow (negative) highlighter. We then evaluated whether the nature of the positive and negative comments was similar to what we saw in the transcripts; we found a strong similarity between the two sources of data.

Finally, we analyzed specific chats that the PSTs identified they had participated in to see how they participated. To analyze these properly, we copied and pasted full chats into a

digital document and looked for specific instances of when the PSTs participated in the chat. For example, we looked at how the PSTs participated by seeing if they offered strategies to the teachers or simply offered unsubstantive comments because they were required to participate. We looked for examples where we determined whether the PSTs' comments looked like something a teacher would write. Specifically, we wanted to find examples where the PSTs shared ideas based on their experiences.

The findings from the archives come last in the narrative, because we wanted to tell the story of how the PSTs participated in #sschat from their perspective and then compare that data with what we saw in the chat archives. The three data sources (interviews, blogs, and archive transcripts) were triangulated to build the picture and tell the story reflective of the experiences of the PSTs (as recommended in Rossman & Rallis, 2003, p. 65).

Findings

We asked the following questions of the qualitative data: What does it look like for PSTs to participate in an online, discipline-specific Twitter chat? We also considered two subquestions: (a) How do they describe their experiences? (b) How do they participate in the chat?

Sharing Language

The PSTs tended to have positive comments regarding #sschat when it came to the concept of sharing. This sharing included the sharing of resources, ideas, strategies, and even relevant experience. For example, Katy said,

> I think we did one [#sschat] of geography, and I think I really liked that. And then we did one near the election, and it was on civics and that was interesting, because we had just had like a political conversation come up in my placement, and they kind of talked about how they handled those political conversations and what do you do? How do you react? How do you set that safe environment for everybody? So that was relevant to what we were doing. (Interview, Lines 122-126)

In this instance, Katy drew a direct line between what she saw in the classroom and what was discussed in the chat. One of Katy's tweets from a chat support this connection. For example, Katy also said, "To evaluate claims, we [her early field placement class] practiced on primary sources. In my placement we try to focus on cartoons #sschat" (PST Tweet, 2016). Therefore, #sschat was seen as a supportive and helpful space because the ideas shared related directly to her current placement and situation.

Katy also enjoyed when resources were shared with her, especially resources she could immediately use in her placement.

> I think for me I actually used something that we did one [#sschat] of them on. I think it was iCivics maybe. It was some game. I actually used that for something, for an assignment, I don't remember. I actually liked it, like someone was talking about it, they were prompting about it, I went to it, found it, figured out what it was, and I actually used it. I thought that was cool. (Interview, Lines 96-99)

Katy was excited about the chat because she was able to take something from it and use it immediately in her placement, which reinforced the relevance and utility of the chat.

Another PST also enjoyed the chat when she felt she could share her perspective with other teachers. For example, Melissa said,

> Umm, I think being a preservice teacher, the thing that we bring most to the table is a new perspective and fresh eyes, and we are not that much older than most of the students we teach. So much of the things they are comfortable and familiar with, are things we grew up being familiar and comfortable with. I mean I, again I am very comfortable with social media. I know how Facebook works. I know how Instagram works. I know Snapchat and things like that. In a classroom you have a familiarity with things that older teachers might be out of date with. So you can kinda make the lessons more applicable to them and more attached to their interest I guess. Fresh eyes. (Interview, Lines 181-188)

Melissa, who was not significantly older than her K-12 students, felt like her presence offered something different to the veteran teachers, because she knew how to make content more applicable or relevant to the students. Additionally, some of Melissa's comments in the Twitter chat seem to capture this sentiment of positivity and insight she believed she offered. For example, she said in one instance, "Absolutely agree that understanding & recognizing bias is essential as history students! Can't just ignore #sschat" (PST Tweet, 2016).

Most of the PSTs saw the archives of the chats as a resource they would use in their future practice, even if they did not participate in the live chat. For example, Amy said, "I will probably continue to use the archives, on the website, but I probably won't like tweet" (Interview, Line 216). Jenna also said,

> Even if the #sschat becomes less frequent or dies out because there's not a moderator, there are those archives and they'll always, most likely always going to be a resource on the internet for teachers to, at least if not get straight ideas from, spark ideas for other things. (Interview, Lines 225-228)

It appears that Amy and Jenna both saw the value of the #sschat archives as a way to help them develop new ideas, strategies, and resources. Additionally, Katy wrote in her blog, "Sschat can contribute to student learning by keeping me up to date on the best research-based practices and strategies." However, whether these PSTs actually continued to use the archives is unknown.

Networking Language

The PSTs almost unanimously identified that #sschat stood out to them as great way to network and community build. However, the concept of networking had a twofold meaning. For example, the PSTs would participate in the chat in a physical group while eating dinner. When they spoke of these networks, they were addressing both the experience of doing it together and building a network in an online community. For example, Jenna discussed how she liked participating in the chat with her peers:

And that [doing the chat together] was fun because we could have a conversation outside of Twitter in more than 140 characters and then help each other summarize it, so in that way that was an interesting way of synthesizing the information and having to talk about it first and express it. And then having other people analyze it with you, I think it was a really interesting way to digest the incoming information, because sometimes people would say something, and we'd be like, oh could we apply that? Or does that seem like that wouldn't work well with what they were observing? That wouldn't work well in the classroom I'm

observing in, and stuff like that. So, it was kinda cool to have the wider #sschat network going and our own smaller network where we knew each other and were in the same classes and we could share how it related to class. (Interview, Lines 62-70)

Similarly, Katy said,

> So we would just, we actually made like dinner plans, and we would just sit around and #sschat and talk about what we were going to say and retweet each other and like what each other said. So it was very collaborative and we had people from other disciplines [English education] come to and like participate as well, so it was an interesting group experience, yeah. Made it a lot more entertaining than if we were doing it by ourselves. (Interview, Lines 76-80)

Additionally, Martha reflected in her blog, "However, the most rewarding experience [of #sschat] was sitting with many of our cohort members and talking to them about our responses as we submitted them. This personal component made chats fun and personable." The PSTs found value in having outside support while doing the chat, possibly because they lacked experience, but that subject will be addressed in more depth later on in the article.

The PSTs also found value in building an online community through participating in the chat. Amy said,

> The positive outcomes, even though it was online and you couldn't see people, it was very community oriented. I was like oh, there's a bunch of teachers who want to help each other and are doing a super cool job in their classrooms and aren't terrible, like everyone tells us we are (laughs). Like, these are actually cool people and they want to do fun. Like, they are constantly updating themselves. Like, there's so many teachers who, like, never change anything, like, the same thing every year, reusing, and these people weren't. They were constantly trying to get new ideas, trying things in their classroom, and were really open to change. That was cool and that was positive. It made me want to keep in mind these professional things. (Interview, Lines 230-237)

Melissa echoed a similar sentiment:

> Umm, so it definitely, like I said, brings us back to that developing a group of people to rely on, talk to, bounce ideas off of. Like I said, it is a critical place, but it's not critical, from what I've noticed in a hurtful way. So you have kinda this forum where you can say, I think I might do this in my classroom, what do you people think? They might be like that's a terrible idea, or they might be, like, "That's a great idea," or "I've done that and this worked a little better." So you do have the experience of other people. Like I said, it does give you insight into people that think differently than you. A lot of time in schools I feel like most of the faculty kinda fall on the same spectrum of thought, and that's just because the people hiring you are looking for a certain person to fit a certain mold. So generally the people they hire are pretty similar. But I think school district to school district and county to county varies widely, so to have that insight from other places, you get a different perspective than what you have or have access to around you. (Interview, Lines 270-280)

Sarah also wrote in her blog, "This week was especially fun for me because I saw my 11th grade civics teacher was participating [in #sschat] and gave me her email and said she

could be my reference [if] I ever needed one when looking for a job." Therefore, the PSTs found value in #sschat in terms of developing a network of support with other educators, which then allowed them to become better social studies teachers. However, their responses become more complex in light of their negative comments after participating in #sschat.

Lack of Teaching Experience

The PSTs were in the early field placement of their program and had not started student teaching. Therefore, they did not think they had much to offer to the #sschat community in terms of related experience. For example, Katy said, "So I feel like we were just theoretical, whereas they actually do it. They are just saying oh, this is what I do. This is what I've done" (Interview, Lines 61-62). Additionally, Jenna reported, "Sometimes I didn't feel like I had super meaningful things to say because I didn't have the experience yet" (Interview, Lines 192-193). Amy said,

> Well, the experiences we had, I think the question was posted at 7, so it was kinda hard to be able to, and we don't have a ton of resources, whereas a lot of people who were currently teaching had more resources than us, but it was kinda hard to be able to find resources within the time to send to people. So maybe a notice saying like, "Do this on your computer with all your resources," versus trying to do it on your phone, because then you don't have time to get resources to people, or links, or stuff like that. (Interview, Lines 75-80)

Amy went on to write in her blog, "I found myself able to answer these questions [evaluating claims] but wishing that I had more experience in the classroom to better reply to questions." Amy's interview response and then her related blog reflection seemed to suggest that her lack of resources and inability to produce those resources quickly was tied to her lack of experience.

Martha felt even more strongly about her lack of contribution to the chat. She said, "No, I don't think I offered anything really different [to the #sschat community]. I mean, I had slightly different ideas, but no, I think they would have done just as well without me there" (Interview, Lines 174-175). Martha's tweets also indicated that because she lacked experience she was unsure if her comments were even valid. For example, in one instance she used a question mark at the end of her comment which seems to suggest she was unsure if she was offering sound advice. Martha said, "My students rarely question their sources. Maybe annotated bibs before they write a paper? #sschat" (PST Tweet, 2016).

The PSTs expressed a range of feelings about what they offered in relation to the chat. For example, Melissa felt like she offered a new perspective and Martha believed she offered little to nothing. However, the majority of the qualitative evidence suggests that most PSTs felt they offered very little to the veteran teachers, even though they saw value in the chat.

Unfamiliarity With Twitter

Many of the PSTs did not like using Twitter to participate in live chats. Therefore, a majority of their negative comments coalesced around their dissatisfaction with Twitter as platform for a chat versus #sschat itself. For example, Amy said,

> Well, it [#sschat] was stressful to me because I have no idea how to use Twitter, and I didn't know how to Tweet or anything about it. I didn't know you couldn't type a paragraph, you could only use a certain number of characters. I didn't know

what retweet means, so I had a lot of assistance from friends to do that. I think I actually ended up, like, writing my response on a piece of paper and someone would tweet it for me. But, it was stressful because it was only an hour, so you had to start and then they would do like, rapid fire questions. You had to introduce yourself, and then there were five questions, and it seemed like by the time you could come up with an answer, like a good answer, and post it, you were already like, two questions behind and trying to catch up. I didn't find, I couldn't read what other people were saying during the hour that I was doing it. Like, when I was reading people's responses, it was like after the hour was over I would go back and see what people actually said. During the hour, I was like, "Oh my gosh! How do I answer this! Do I have any resources! Can I put a link in there?" I was like, "Oh my gosh, the next question!" So I was stressed out. I sweated a lot, but afterwards it was cool and less stressful, and then I could see the links. But every Monday we were required to do it. I was like freaking out on Monday, because I knew it was coming. (Interview, Lines 33-47)

Also, Martha expressed frustration with trying to communicate within the character limit.

I think it [dissatisfaction with Twitter as a chat platform] is because it is so hard to come across with a positive tone, or really with any tone other than very blunt. It is 140 characters and you're trying to cut it down so you can't say, "I was thinking about what you said" [referencing a chat participant], and, "Uh, I wouldn't do that in my classroom," or "I would change this in my classroom." (Interview, Lines 34-37)

These two PSTs were dissatisfied with Twitter for different reasons. Twitter chats stressed Amy out, and Martha did not like the tone of comments within the chat.

Additionally, Melissa was lost in the chat and struggled to keep up:

Umm [laughs], for me, I spent a lot of time, like, trying to find what was going on. Because Twitter is not the most easily accessible throughout a conversation, even though there is a hashtag, you do have to be refreshing your recent, um, like, if you type in a hashtag and then look for the most recent, like, at the top and things like that. I usually try to find the most recent threads to see what's going on in real time, but it is like constant refreshing. So for the most part [laughs], that was me refreshing to see what people were saying. People were responding to me, I was responding back to them, and then trying to, the questions sometimes get a little lost with all the answers, so you go digging for them too. (Interview, Lines 117-124)

Melissa also wrote on her blog, "It's not only frustrating [the Twitter platform], but it limits the depth and complexity of answers from anyone participating in the chat." Therefore, Melissa was both dissatisfied with the format of the chat and also the lack depth in relation to the chat comments. However, this frustration could change in light of Twitter changing the amount of characters allowed in each post.

Considering the Archives

The previous findings can be further contextualized by comparing those data sources to what we observed within the #sschat archives. The PSTs saw value in the chat when they could receive strategies and mostly saw value in themselves when they could provide strategies back to the teachers. Since the PSTs lacked experience, they believed they did not have much to offer. However, after evaluating several chats, they arguably offered more

than they thought they did (see Table 3 for examples of what some of the PSTs said within the chats).

Table 3
Examples of Comments Made in #sschat

PST	Chat Comment	Comment Type
Katy	In our unit projects, 7th graders must support any of their claims with at least 1 piece of evidence. Could definitely do more. #sschat	Lesson Example
Amy	It is important to use cross disciplinary strategies and collaboration. Perhaps work with an English teacher? #sschat	Affirmation
Martha	When you practice SCIMC [historical document analysis scaffold] with students (modeling), it becomes second nature. But it may take some time.	Resource
Melissa	Love giving them [students] supporting/contrasting material to back up their claims... kind of like a treasure hunt for the truth! #sschat	Lesson Idea
Jenna	@BigHistoryPro provides students with a structure for claim-testing. #sschat	Resource

When examining what the PSTs offered in the archives, it appears they sold themselves short in terms of what they were able to add to the conversation. If they had not introduced themselves as PSTs at the beginning of the chat, it is not apparent whether anyone would have even known the difference between the PSTs and an experienced teacher when looking at their comments. For example, Katy offered a specific example of what she was doing with her students, Amy provided an idea for collaboration, Martha provided a specific scaffold for analyzing historical sources. Melissa also provided a lesson idea, and Jenna offered a resource; they were contributing significantly to the chat.

However, it is also of interest that some of the more active teacher participants in #sschat participated well over 10 times over the course of a chat. In contrast, many of the PSTs would only participate around five to seven times during a chat, although Melissa participated 12 times in one chat. Aside from Melissa, the PSTs may have done the bare minimum to meet the requirements for the assignment, rather than trying to become fully enculturated in this community, which could influence the way they reflected on their experiences with #sschat.

Discussion

On its website #sschat described itself as a place where educators share their knowledge so that they can better the craft of themselves and other fellow social studies educators. Therefore, when the PSTs added to the chat and took away strategies and ideas, they felt like they were utilizing this space in the way it was intended. However, when they could not participate by adding, they perceived a lack of value.

This perceived lack of value is consistent with the literature on COPs (Burns et al., 2016; Hoadley, 2012; Wenger et al. , 2002). For example, perhaps the PSTs felt as if they needed to add specific strategies because that is what the other full members of the community were doing. Therefore, in instances when the PSTs were unable to contribute, they felt

illegitimate because they felt like they lacked credibility (as also noted by Kim & Cavas, 2013). With the exception of one of the participants, the PSTs did not consider that they offered a new perspective to the practicing teachers.

The tension the PSTs felt in terms of not being able to contribute speaks directly to the concept of legitimate peripheral participation (Fuller et al., 2005; Kim & Cavas, 2013; Lave & Wenger, 1991; Woo, 2015; Woodgate-Jones, 2012). Becoming a new member of a COP is not always a smooth process, and the PSTs exemplified firsthand what this process felt like for them.

Their discomfort had nothing to do with how they were treated, but how valuable they felt intrinsically in this community. Therefore, when they could not emulate the other members, they felt like they did not belong and struggled to conceptualize who they were in this informal learning space. Woodgate-Jones (2012) noted "the potential for great conflict in identity formation when joining a COP" (p. 150).

The PSTs felt like what they had to contribute to the chat was theoretical because it was divorced from practice. However, they did not consider that they may be learning newly developed, research-based strategies that would be of benefit for the other teachers who are not currently enrolled in a methods class. For example, in the one instance Martha offered a historical analysis scaffold she had learned about in class that none of the other practicing teachers indicated that they had used or even heard about. In this instance, Martha provided something new to the practicing teachers.

When looking in the archives at the types of information the PSTs provided, such as the case with Martha, the PSTs offered insight, strategies, tools, and ideas in their comments. The PSTs were close to the research and the literature, but did not realize the potential utility of their knowledge to the in-service teachers.

The PSTs still felt that no matter how much they knew about a topic, the application was missing and so then was their confidence. The ways the PSTs described their experiences reflect what Abbot (2010) termed "amateur ignorance."

Amateur ignorance, that is, is not sheer ignorance of facts or literature; it is principally ignorance of the possible modes for evaluating those facts and then setting them and the literature into an order that will stand against the onslaughts of new facts and literature. This may seem obvious; amateurs lack the specialists' knowledge of quality, rigor, and theory. But it is essential to realize that they are not necessarily ignorant of facts and literature. Amateurs may know a great deal about those things. They just don't have any sense how to put that great deal in order; they lack the skills of social thought. (p. 184)

Although the PSTs had a great deal of knowledge, when asked to reproduce their knowledge on Twitter, they did not feel they had any routines or habits (as defined by Ahmed & Jones, 2008; Bourdieu, 1977) and, essentially, did not know how to play the game or perform their role in front of the other practicing teachers (see Holland, Lachicotte, Skinner, & Cain, 1998; Morrison, 2005). They lacked the needed dispositions and it appeared that they did not have what Bourdieu (1977) called "habitus" (see Ahmed & Jones, 2008; Morrison, 2005).

Morrison (2005) noted, that habitus "both enables creativity and constrains actions and practices, combining action/agency and structure" (p. 314). Within the structure of #sschat, the PSTs did not exhibit creativity, but exhibited constraint. For the PSTs, Twitter was in a sense, a figured world (Holland et al., 1998; Urrietta, 2007).

In a figured world, the participant tries to determine who they are in this new space that is different, although connected to the actual world (Holland et al., 1998; Urrietta, 2007). In the case of #sschat, the PSTs were navigating their identity as PSTs who knew a great deal about the field of social studies and teaching strategies. At the same time, they lacked what some people call pedagogical content knowledge (Shulman, 1986), and they, therefore, did not know if what they knew was of value in this new space. Although they were in the process of growing and developing the needed dispositions, this growth was uneven among the PSTs.

Furthermore, the PSTs did not consider that their presence challenged the other full members of the COP to help them to learn. As Fuller et al. (2005) found, "For example, our research has demonstrated that experienced workers are also learning through their engagement with novices, and that part of the process of legitimate peripheral participation for many novices is to help other workers to learn" (p. 64).

In the context of #sschat, the PSTs offered the full members the opportunity to help them develop more as teachers and may have even helped the practicing teachers reflect about the criteria for effective practice so they could then explain it to the PSTs (as suggested in Woodgate-Jones, 2012).

Although the PSTs did not fully buy into #sschat as a space of utility for them, they liked knowing that the community existed, even if they did not foresee themselves participating in anymore chats. They also liked knowing the chat archives were a resource they could depend on in the future. The PSTs liked the product of the chat, but not the process of participating in the chat outside of doing the chat together as a cohort.

Additionally, one arguable benefit of Twitter chats is that teachers can engage in them from any location, but the PSTs took the opposite approach and chose to engage collectively. Their preference to do the chat together could speak to their lack of confidence in themselves; being in a group helped to mitigate this issue and their collective presence helped to build their confidence.

The Twitter platform itself impacted their lack of enthusiasm for the chat. Because of the character limit, they felt constrained, which stands in contrast to other research. For example, Reilly (2017) examined Twitter as a professional development tool and found that, "students reported that because of Twitter's character limitation, their reflective thinking was refined as they composed their tweets" (p. 59). Benko et al. (2016) similarly noted,

Numerous research studies analyzing the use of Twitter in teacher education programs and by in-service teachers have concluded that Twitter use can result in preservice and in-service teachers feeling like they belong to a teaching community — a community in which teaching resources are shared, issues in education are debated, and encouragement is provided. (p. 3)

While research indicates the benefit of Twitter for creating a COP for teachers, in the context of this study, it was a much different story.

Some of our participants also got lost in the chat, finding it hard to keep up with the pace of the exchanges. Similarly, Xing and Gao (2018) found that "when a chat generates three or four tweets every second, it might overwhelm some participants" (p. 396). That is certainly the case with #sschat in this study, especially due to a large amount of people answering the questions.

Last, although our participants identified many negatives associated with participating in #sschat, we tend to agree with the argument made by Woo (2015) who said,

Novices need exposure to mature practice (Sorin, 2004) and the more a member can access mature practice, the closer a member moves from the community's periphery to its center. In terms of supporting and changing teaching and learning practices through technology in schools, central practitioners are a source of mature practice and they can serve to initiate or familiarise people to the community. (p. 166)

There is still value in PSTs participating in #sschat, as well as other educational chats, even amid the issues the PSTs identified. Neither was the forced participation of the PSTs in #sschat necessarily negative. For example, research by Burns et al. (2016) indicated that forced participation is not necessarily a cause for concern. Burns et al. forced participants to engage in a discussion on Blackboard for a class assignment. One of the participants noted that without being forced to respond to others, she would not have participated, because someone had already said something similar to what she wanted to say. Therefore, she felt that being forced to participate was a good thing for her; otherwise, she would have not engaged with others.

Because the PSTs in this study were forced to participate, they now know about a COP and resources they would not have known about otherwise and may pursue other professional opportunities in the future because of their experiences in #sschat.

Conclusions

This study exemplifies the need of a space for PSTs to learn from a knowledgeable other (Hoadley, 2012) in a manner that scaffolds their needs as neophytes. Although there were knowledgeable others in this community, it was a struggle for the PSTs to participate, because they perceived the chat as being focused on those with classroom experience. However, the struggle the PSTs felt can be mostly mitigated with careful planning and preparation by teacher educators. If a teacher educator wishes to have PSTs engage in a Twitter chat such as #sschat, the following guidelines should be followed to address the issues voiced by the PSTs in this study.

- Although not all PSTs need a Twitter tutorial, it may still be a good idea for instructors to discuss Twitter, how to use it, and the utility of such spaces for teacher preparation and professional development. PSTs could first look at the types of chats that are available and then identify the benefit of such spaces for their own practice.
- PSTs may need to be introduced to Twitter as an idea generator/democratic space where all ideas are shared and valued, which is in line with the mission of #sschat. More specifically, PSTs in social studies may need to spend some time exploring the #sschat website in order to fully understand the purpose of the network known as #sschat.
- PSTs may need support in seeing what they offer to practicing teachers in a Twitter chat. This support could be accomplished by having the PSTs do graffiti on large chart paper to reflect as a group about what they may offer in this space to other practicing educators.
- PSTs need to be aware of resources that make participating in a Twitter chat less stressful. For example, there are tools that add the hashtags automatically to comments and allow the experience of a Twitter chat to not to be so overwhelming (see tweetchat.com). Teacher educators could develop an

> assignment in which PSTs explore Twitter tools and then report back to the class what they found to be useful.
>
> - PSTs may need more conceptual support about what a COP offers to them as beginning educators and more explanation about what the process of becoming a new member of a COP looks and feels like. This approach could help them contextualize and understand their own experience when becoming a member of this new space. PSTs may need to have early exposure in teacher education programs to informal learning spaces and the concept of a COP, in general.

Future research might incorporate these guidelines at the beginning of the semester and then have the PSTs participate in #sschat over the course of a year. Similar data to what we used could be collected to compare it to this study to see how or if the experience and perceptions of PSTs differ after implementing the guidelines that we propose. Conducting such a study would prove useful to the field of education writ large and to social studies specifically.

Last, new informal spaces such as #sschat "can support the holistic needs of teachers" (Trust, Krutka, & Carpenter, 2016, p. 16). Similarly, in the recently revised social studies guidelines, Hicks, et al. (2014) contended that

> we see great value in supporting teachers to develop the critically aware dispositions that enable them to be ready, willing, and able to identify and engage with online professional learning sites while also reaching for innovations afforded by digital technologies to meet their immediate instructional needs. (p. 445)

For in-service teachers #sschat provides an opportunity and a space to exchange ideas, methods, and strategies and have vetted resources to try in their classroom the next day, thus meeting "their immediate instructional needs" (Hicks et al., 2014, p. 445). Meeting the needs of PSTs, however, becomes a bit murkier and more complex. Nevertheless, after considering the guidelines we offer in retrospect as a result of this study, having PSTs participate in #sschat is still a worthwhile experience that can meet their needs when they are provided with the right scaffolds.

Acknowledgement

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Appendix
Interview Questions

- What did you all talk about in your #sschat?
    1. What did you learn?
    2. What stands out about using Twitter as way to participate?
- What experiences did you have prior to using twitter or engaging in discussion online?
    1. Have you ever used social media for discussion prior to #sschat?
- Do you believe you are a skillful user of social media? Why?
- What skills does someone need to have to be able to participate in #sschat?
- How does #sschat work?
- When did you decide to participate?
    1. What prompted that decision?
    2. How long have you participated in #sschat?
- Did you participate alone?
- Did you prepare for #sschat? If so, how?
- What did you do during the discussion?
- What was your favorite topics on #sschat?
- What was the most well remembered event and learning from participating in #sschat?
- Were there any challenges to actual participation in real-time?
- What were the struggles to participating? Why?
- Can you provide examples of when you felt engaged in the chat? What do you think you offered?
- Do you think there are different ways to chat in this environment?
- How did people respond to you and how did you feel you responded to them in the chat?
- What allowed you to feel comfortable in participating?
    1. What led you to feel like you were not ready to participate?
- Will you continue to use it? If so, how?
- What are the positive outcomes of participating in this community?
    1. What are the opportunity costs and challenges?
- What changes in format would you like to see to improve the chat?