"Feeling like a different kind of smart": Twitter as Digital Literacy Mediates Learning for Urban Youth and Literacy Specialist Candidates

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ABSTRACT: This article shares the qualitative research findings of an emerging professional development schools partnership that investigated the way Twitter, as a type of digital literacy, mediated literature discussions of Lois Lowry's *The Giver* between urban high school students and master's degree literacy specialist candidates. The findings were organized into three themes that indicated Twitter's productive use for literacy engagement among participants: (a) extending time-on-task engagement by encouraging text-specific discussions; (b) organizing cognitive engagement through questions to enhance text comprehension; and (c) facilitating affective engagement by generating enthusiasm and a desire to be part of a broader, more authentic literacy community. Collectively, these findings have implications for designing socially mediated digital literacy activities that lead to theorizing about the potential of adolescent online literacies in classrooms, leveraging 21st century literacy-based technologies for academic learning, and expanding the literacy pedagogy of preservice teachers.

This article addresses the following NAPDS Essentials: 1. A comprehensive mission that is broader in its outreach and scope than the mission of any partner and that furthers the education profession and its responsibility to advance equity within schools and, by potential extension, the broader community. 2. A school–university culture committed to the preparation of future educators that embraces their active engagement in the school community. 4. A shared commitment to innovative and reflective practice by all participants.

Literacy learning that leverages digital technology continues to have a growing presence across the P-20 education continuum (Gutiérrez, Nixon, & Hunter, 2014; Haddix & Sealey-Ruiz, 2012; Stover, Yearta, & Sease, 2014). For teacher educators who work within the professional development schools (PDS) model, digital technology is a unique opportunity to reorganize instruction and reimagine learning for both preservice teachers and P-12 students (Garas-York, del Prado Hill, Day, Truesdell, & Keller-Mathers, 2018; Hunter, 2018). This article describes how one form of digital technology, Twitter, was used as a tool for literacy learning among master's degree literacy specialist candidates and high school students. We begin with a vignette to draw the reader into the digital space of Twitter and illustrate how the use of technology mediates literacy learning for both populations.

"Excuse me, Dr. Hunter," said #fry628,[1] "but I'm not quite sure how to respond to this tweet." The tweet in question was the start of a conversational exchange between #fry628, a master's degree literacy specialist candidate, and #LilDipper, a 10th grade student from a high school English language arts

(ELA) class, as they discussed aspects of Lois Lowry's *The Giver*. The tweet stream[2] began with #LilDipper offering a general observation about life and the unplanned obstacles one encounters. When #fry628 asked #LilDipper if he could relate to one of the challenges Jonas, the protagonist of the text, faced, #LilDipper tweeted back, "yes it has. it happen to me when i got lock up for 6 months unexpectedly and was away from my family. i had no one come see me."

#fry628 and #LilDipper were participants in a unique project that used Twitter to organize literacy engagement in an ELA class. However, because #fry628 had never worked directly with youth who had been incarcerated, she struggled to make sense of #LilDipper's experience as it related to the text. Her question to me [the first author] at the beginning of this article reflected her inexperience; however, I pointed out that something more meaningful was occurring and that #LilDipper had made a personal connection with the protagonist of the text. Drawing from her training in previous teacher education courses, #fry628 quickly commented, "He's making a text-to-self connection." "Absolutely," I replied, "and your next response to him will be crucial because you want to keep him involved with the text, keep him connected. So, how are you going to do it?" #fry628 continued her conversational exchange with #LilDipper by asking him to describe his emotions about

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[1] Participants used hashtag monikers to address and identify each other.
[2] Greenhow and Gleason (2012) defined a tweet stream on Twitter as "a constantly evolving, co-constructed conversation" (p. 471).

being jailed and relating those feelings to Jonas (see Figure 1). She was successful in her approach as #LilDipper tweeted about a difficult time in his life and the feelings associated with familial isolation—a theme similar to what Jonas experiences and a major plot point within the text.

The digital conversational practices that helped to organize the literacy learning in this instance served both the high school student and the literacy specialist candidate productively, as each individual was a learner meeting content-related outcomes. #LilDipper was able to make personal and emotional connections to a text that held the potential for deepening his understanding of the course content, while #fry628 practiced developing a digital literacy pedagogy using a technological medium that was fairly new to her.

Social networking sites (SNS) continue to impact the day-to-day lives of adolescents and young adults as they communicate through them to exchange experiences and ideas (Lenhart, Purcell, Smith, & Zickuhr, 2010). This was seen in two related studies that examined social media[3] usage among teens (Lenhart, 2015) and young adults (Perrin, 2015); the researchers noted these two populations regularly and increasingly participate in and routinely use a range of available SNS. Interacting in these digital spaces should not be surprising. For instance, during a live-streamed event on Twitter from Stanford University, Ladson-Billings (2014) delivered a keynote that addressed the importance of SNS and young people:

> If you are going to be working with young people and you are not out in the social networks that they are in, Twitter, Instagram, Tumblr . . . then you don't even know what the conversation is that they are engaging in.

Current teacher educators and classroom teachers who focus upon the development of literacy learning and literacy pedagogy should be encouraged by studies on SNS and comments from Ladson-Billings. Indeed, we treat the totality of these discussions on SNS as calls to action for literacy educators to reconsider and reimagine the ways literacy-based, technological resources can be leveraged practically in P-12 classrooms, while working simultaneously to prepare future classroom teachers for literacy instruction.

This qualitative investigation shares the outcomes from and insights into the way Twitter, a well-known SNS, was used as a meditational tool to facilitate literature discussions of *The Giver* between students from two ELA classes in an urban high school and literacy specialist candidates enrolled in a master's degree program at an urban public comprehensive college. Drawing from a conceptual framework that blended features of sociocultural theory, sociocultural literacies, and scholarship

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[3] Both studies used the broader category of social media to include SNS.
[4] Greenhow and Gleason (2012) defined microblogging as "a form of social media that allow authors to create their own online content, tag it, and share it" (p. 464).

Figure 1.   Tweet stream conversational exchange between #LilDipper and #fry628.

on Twitter as a digital literacy space, this research study illustrates the ways participants used a microblogging[4] technology in situ to extend literacy engagement and rehearse pedagogical practices. The findings of this investigation support asynchronous literacy learning environments and contribute to the body of literature that advocates for the use of technological resources that constitute, in part, the social realities of adolescents and young adults in ways that enhance the academic outcomes for both populations.

Conceptual Framework

Literacy scholars who draw upon sociocultural theory regularly articulate how learning occurs as a socially mediated activity (Cole, 1996; Gutiérrez, Hunter, & Arzubiaga, 2009; Hunter, 2008; Lee & Smagorinsky, 2000; Pacheco, 2017; Smagorinsky, 2011). This theoretical perspective is further grounded in the work of Vygotsky (1978), as illustrated in his discussion of the zone of proximal development (ZPD). The ZPD represents the difference between what a child can do on his or her own and what a child can accomplish with assistance (Vygotsky, 1978). In education, the ZPD is often framed as a type of scaffolding a teacher or more expert other provides a student for him or her to complete a task. Although the activity-focused, social emphasis of the ZPD is a compelling feature on which we build, we challenge the unidirectional relationship of learning that is implied, a relationship that suggests instructional movement occurring from the teacher/more expert other to

the student. In contrast, we reimagined the ZPD as an activity within a digital context whereby the traditional teacher–student dichotomous relationship must be problematized and reconceptualized to adapt to the more fluid and dynamic interactivity of the people within it. Our reconsideration of the ZPD allows us to design learning activities that are multidirectional "so that both [populations] are simultaneously teachers *and* students" (Freire, 2000, p. 72; emphasis in the original text) and thus assume the broader identity of *learners*.

Larson and Marsh (2005) argued for a similar reconceptualization of literacy learning: "Conceptualizing learning from this perspective constitutes a shift from traditional teacher-centered or student-centered classrooms (concepts familiar to most teachers) to conceiving of classrooms as learning-centered contexts for learning" (p. 101). While we are in full agreement with the authors, we also call for a reconsideration of the learning context as well. Our context was not just the classroom but a web-based, digital space where literacy activities challenged the limitations associated with traditional spatiotemporal-restricted classroom environments as we conceived of ways to use technology in support of productive literacy outcomes that extend beyond the conventional boundaries of the classroom for all learners.

As a socially mediated technological activity, SNS have become the digital environments where traditional forms of reading and writing are mixed with visual and aural elements, creating an expansive literate experience through multiple modalities (Lewis & Fabos, 2005). Knobel and Lankshear (2008) noted that SNS are forms of digital literacy because they represent "socially recognized ways in which people go about generating, communicating and negotiating meaningful content through the medium of digitally encoded texts of various kinds in contexts where they interact as members of Discourses" (p. 259).

As a multimodal, dynamic, and interactive form of digital literacy, Twitter is being increasingly recognized as a tool to organize worthwhile literacy learning in educational settings (Beach & O'Brien, 2015; Morrell, Dueñas, Garcia, & López, 2013). As Greenhow and Gleason (2012) argued, tweets—message exchanges of no more than 140 characters (at the time of our investigation) crafted, shared, and read by Twitter subscribers—can be done as part of both formal (i.e., content acquisition) and informal (i.e., social relationship building/maintenance) learning. The authors recommended that educators use Twitter "to ask and answer questions, brainstorm, focus or extend in-class discussions, help students connect, collaboratively generate information, and learn concise writing styles" (p. 473).

Treating Twitter as an integral part of classroom learning is becoming more noted in education (Hunter & Caraway, 2014). Building upon Greenhow and Gleason's (2012) idea of a backchannel communication, Carpenter (2015) suggested that Twitter allows participants to have parallel conversations that occur simultaneously with traditional classroom discussions. These additional conversations can augment the overall learning experience, leading to increased engagement with course material and positively affecting academic achievement (Hunter & Caraway, 2014) by offering more frequent and authentic conversational exchanges with people other than the teacher. We want to extend the productive value of Twitter and other SNS by suggesting that they not only hold the capacity to improve the learning outcomes for P-12 students but also allow preservice teachers to develop digitally based instructional practices that could inform and enhance this population's overall pedagogical learning outcomes. This conceptual understanding of socially mediated activity whereby all participants are simultaneously learners, coupled with a treatment of Twitter as a productive meditational tool that organizes literacy interaction within a digital context, frames the analysis of this study in an effort to reconsider both learning and instruction for two distinct populations simultaneously.

Methodology

This investigation employed a pragmatic qualitative research methodology (Merriam, 1998; Savin-Baden & Major, 2013) to understand socially mediated activity in a digital literacy environment. A pragmatic qualitative research methodology provided flexibility in observing, noting, and discussing the conversational exchanges that occurred within a microblogging environment (i.e., Twitter). This methodological framework served the interests of this investigation productively, primarily because the framework was not beholden to any one methodological orthodoxy in pursuit of understanding the affordances and limitations associated with using Twitter as a tool for both literacy engagement and pedagogical development. A primary concern was to avoid restricting the data collection and analysis in a way that could limit the kinds of insights generated from the investigation. Guiding the investigation were two research questions: (a) How can Twitter mediate literacy engagement among high school students? (b) How can Twitter support the pedagogical development of literacy specialist candidates? The research questions sought to capture the interactivity between two groups of learners as they participated in a microblogging environment that was newly integrated into both classrooms.

Site Selection and Rationale

This study involved one public charter high school serving predominantly African American and Latinx students and one public comprehensive college, both located in an urban environment within the Northeastern region of the United States. It represented the first collaborative project within an emerging partnership between these two institutions using the PDS model, which calls for researchers and practitioners to collaborate to improve educational outcomes for both student populations (Darling-Hammond, 2005).

Participant Recruitment and Selection

Mrs. Heidie Buffomante (formerly Caraway) was an ELA teacher in a public charter high school who was deeply interested in

using mainstream forms of technology (e.g., tablets, cellular telephones, apps, etc.) with her students. She suggested Twitter because it was a digital platform she noticed many of her students using at the time and decided to focus on its integration in only two of her six classes so she could productively manage the incorporation of this new technology in her classes. The first class was a ninth grade honors ELA course with 10 participants, while the second class was a tenth grade ELA course with 20 participants. The literacy specialist candidates were master's level graduate students enrolled in a course designed to teach them literacy instruction strategies and techniques for linguistically diverse learners. The first author taught this master's level course, while the second and third authors were literacy specialist candidates enrolled in the course and participants in the project. This course gave the literacy specialist candidates opportunities to work with learners who reflected a range of diverse linguistic and dialectal backgrounds. The literacy specialist candidates were recruited to take part in this project, and six volunteered to participate.

Our Shared Text

Published in 1993, *The Giver* is a young adult fiction novel that follows the life of 12 year-old Jonas, the protagonist of the dystopian narrative, as he is selected by a group of elders to be the successor of a role entitled, the Receiver of Memories. This position requires him to serve as the repository of past memories within his society. Jonas is mentored by the Giver, the current Receiver of Memories, who guides the protagonist through the process of receiving all of the memories of the community. As the story unfolds, readers learn that Jonas struggles with his new role and its demands such as detachment from his family, learning of the society's troubling secrets, and the life and death decision he must make in order to maintain his humanity.

While the use of *The Giver* in the high school was a decision that predated our integration of Twitter, a conclusion determined by a curriculum team at the high school, the first author and Mrs. Buffomante felt the text was still an appropriate one for adolescents as it attended to "enduring themes such as choice, deception, nostalgia, responsibility, and suffering" (Hunter & Caraway, 2014, p. 79) that many youth will experience during the course of their lives. In addition, because the text is one that is often read in secondary education classrooms, it as a fruitful mentor text for literacy specialist candidates with which to work as they used it to practice organizing literacy-based instructional engagement.

Twitter Engagement

This 8-week research study was part of a broader 3-year investigation exploring the academic use of SNS in high school classes and higher education courses. Because we had conceived of Twitter as a socially mediated activity that promoted digital literacy for our distinct populations of learners (Hunter & Caraway, 2014), two separate, private accounts were created: one for the high school students and one for the literacy specialist candidates. Both accounts followed—or subscribed to—each other. Whereas the literacy specialist candidates had full access to their account, the high school students initially participated in their account only during school hours using classroom tablets. However, the high school students lobbied quite convincingly for full access to their account and the ability to use their personal cellular telephones, which was eventually granted. As an added measure of caution, each Twitter account was protected, meaning that only the subscribers who had been approved by the creators of the accounts (i.e., the first author and Mrs. Buffomante) could view the tweets and participate in the discussion.

All participants created hashtag monikers to serve as aliases (e.g., #LilDipper, #fry628, etc.) in place of actual names. Hashtag monikers provided a level of anonymity, protecting participants' identities on Twitter. Participants used the hashtag monikers to address each other and as signatures. As the project progressed, the use of the hashtag moniker became a routine practice of the high school students and the literacy specialist candidates, as the groups solicited each other specifically for conversational exchanges.

The literacy specialist candidates were assigned five high school students from across the two ELA classes, a mixture of both ninth grade and tenth grade students, and were required to communicate with them using Twitter. Beyond the assigned students, however, the literacy specialist candidates were encouraged to engage with any of the other student participants. In contrast, the high school students were not required to take part in the Twitter-based conversational exchange. Their participation was optional, given that many students had limited or no access to the Internet or devices that connected to Twitter beyond what was accessible in the classroom. High school students who chose to participate could dialogue with both other high school students and literacy specialist candidates; high school participants received the same amount of assignment credit as those students who completed conventional assignments given by Mrs. Buffomante. The project was structured this way to ensure that every student who chose to participate would have a literacy specialist candidate communicating with him or her directly, while also allowing everyone the opportunity to speak with each other at anytime.

Our primary use of Twitter centered upon creating an alternative classroom culture of engagement where technology was leveraged. Many of the Twitter-based assignments prompted students to examine text themes, motifs, and symbols; make text-to-self and text-to-world connections (as in the case of #LilDipper at the beginning of this article); explore character motives; and analyze plot development. To foster a distinct culture of doing literacy, we also urged all participants to use a combination of institutionalized and vernacular forms of writing typical of the written linguistic practices found on Twitter. Our intent by encouraging a range of writing forms was to support both youth and literacy specialist candidates in becoming members of this unique microblogging community through actual practice.

Data Collection and Analysis

Screenshots of all the Twitter-based conversational exchanges as tweet streams were gathered via a preloaded screenshot program on an iMac computer. The screenshots were sorted, arranged, and saved in chronological order so that the developmental progression of topics and ideas could be analyzed. In addition, semistructured focus group interviews were conducted with the high school students, while the literacy specialist candidates were asked to complete an open-ended questionnaire. Interviews and questionnaires were used to capture the nuanced experiences of individual participants, affording them the opportunity to share successes, highlights, struggles, and disappointments with this new form of interactivity.

Data analysis focused on the conversational exchanges between participants within the tweet streams as a form of socially mediated digital literacy activity. Each author independently coded the tweet streams using an open-ended coding process (Savin-Badin & Major, 2013) and then met to consolidate and categorize the codes. Themes were then discussed and agreed upon by the three authors. Focus group interviews and questionnaire responses were used to support the discussion of the themes. The themes served as the findings, and data exemplars were selected to illuminate outcomes.

Findings

Three themes emerged that illustrated a continuum of literacy engagement (Guthrie, 2004). The first theme relates to the way Twitter assisted in extending time-on-task engagement, because content-specific learning occurred beyond traditional school hours, both after school and on the weekends, and encouraged participants to either revisit the text frequently or perform additional related work. The second theme describes how Twitter helped to organize cognitive engagement through intentionally designed questions to enhance comprehension of the text. The third theme outlines the manner in which Twitter supported the facilitation of affective engagement by generating enthusiasm about having conversational exchanges with others and wanting to be part of a broader, more authentic literacy community. Collectively, these findings suggest that Twitter has the potential to offer more robust and meaningful literacy engagement experiences to improve academic learning outcomes and enhance digital pedagogical practices.

Theme 1: Twitter Extended Time-on-Task Engagement by Encouraging More Text-Specific Discussions

Theme 1 illustrated the way tweet stream interactions served as a space to extend time-on-task opportunities for the high school students and the literacy specialist candidates to discuss *The Giver*. The engagement was organized around explicit conversational exchanges directly about or in relation to some aspect of the assigned text. Over the course of the project, the high school students either generated or participated in a total of 186 tweet stream interactions, and the literacy specialist candidates produced or engaged in 158. Each tweet stream represented a distinctly new discussion topic about the text or a shift from one topic to another. In some cases, tweet streams shared a "tweet root," an initial tweet that started and developed into two or more distinct conversational exchanges. Tweet streams that shared a tweet root but reflected different conversational exchanges were a common feature within the project, as the same participants responded differently to the same inquiries. As participants continued to initiate new tweet streams or joined ongoing discussions, conversational activity increased on Twitter.

Collectively, the high school students and literacy specialist candidates took part in 344 additional discussions, or back-channel communications (Carpenter, 2015; Greenhow & Gleason, 2012), about or related to *The Giver* beyond the traditional classroom instructional activities facilitated by Mrs. Buffomante, the ELA teacher. During focus group interviews, students commented on how accessing tweet streams provided additional insights into the way participants were reading the text. As #Brainiac, one of the most engaged ninth grade students in this project, explained,

> I think that what I enjoyed most about the Twitter experience was the exchanging of ideas and thoughts that we had because sometimes we don't get to exchange our ideas like that, but having Twitter and seeing all these different people's ideas, it opened a new way to think about stuff and you can see different themes that you might not have thought of before and meaning inside the text that you would not have seen without that perspective.

Similarly, #unknown shared that the experience "helped us to like see other people's point of view of the book, so that we got to see what everyone was thinking." #LilDipper, the student from the opening of this article, described his experience in this way: "I know it sounds funny, but I liked opening up to people and with this thing [Twitter] we did. I got my ideas out and I read other people's ideas. That was real cool." #koko, a literacy specialist candidate, shared that she "found that the students . . . included thoughtful questions and comments regarding *The Giver* in their tweets." #Jojo wrote, "Tweeting gave them [the high school students] a purpose to read a book, and other accompanying activities gave them ways to connect the book to their own lives in relevant ways." As indicated by the participants' comments, tweet streams became a productive medium for sharing ideas and interpretations about the text.

As tweet streams served to provide access to a range of evolving book-related interpretations, the literacy specialist candidates began to urge the high school students to revisit portions of the text that had been previously read. Revisiting the text provided students with opportunities to reread the narrative for specific information or to recognize how the plot unfolded.

#Tammy, a 10th grade student, mentioned how effective revisiting the text was for her.

> I really liked that we got to open up about the book and that we got talk about it with somebody that could answer us back. The person I had was answering me back and had me stumped. I had to go back and forth into the book to find the answer to her questions. At one point, I was like, "Dang, this grad student got me reading this book more times than Mrs. Buffomante."

#Tammy's remarks were very accurate, as #Jojo, a literacy specialist candidate, shared that one of the many pedagogically reflective inquiries she considered when crafting questions was, "How can I get them [the high school students] to refer to the book to support their ideas?" During the focus group interview with high school students, #Cake_$$$$ elaborated on rereading and even revealed additional academic work she felt compelled to perform.

> #Cake_$$$$: First you would give a simple reply to their [the literacy specialist candidates'] question, but then they would ask you another question that would make you think about what they just said and what you're about to say. Then when another question came up that I didn't understand, I had to look in the book to find the answer.
> Interviewer: So in many ways the grad students had you going back into the book for information?
> #Cake_$$$$: Not just the book. Sometimes I had to get on Google to search a word because I had no clue what that meant. It's like the grad students had me doing extra work.

Students regularly reported on how the literacy specialist candidates, as mediated through the tweet stream interactions, demanded a different level of involvement with the text and encouraged more types of academic engagement.

Theme 2: Twitter Organized Cognitive Engagement by Using Questions to Enhance Comprehension

As #Cake_$$$$ and other students had noted, questions served as the primary way conversational exchanges were organized on Twitter. The literacy specialist candidates crafted and deployed a range of questions for the high school students to stimulate thinking about and around *The Giver*. These questions reflected cognitive, metacognitive, and affective reading activities and involved encouraging text-to-self and text-to-world connections, generating storyline anticipation, and urging speculation on character motives. As an example of Theme 2, #Jojo encouraged #LD, a ninth grade student, to recall a previously read portion of the text and used questions to explore and predict possible outcomes (see Figure 2). The high school students found the use of questions very valuable in developing a more robust understanding of the text. #EJKing, a 10th grade student, explained, "I had a lot of ideas about the book on my own, but
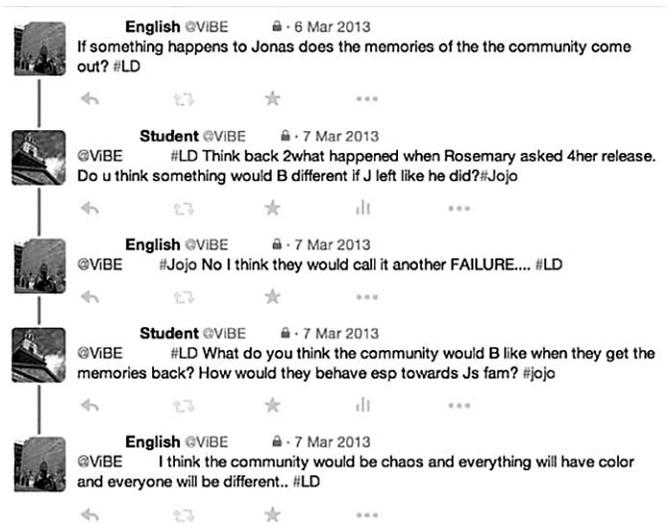

Figure 2. #Jojo prompts #LD to recall previous narrative action and predict plot outcome.

the questions they [the literacy specialist candidates] asked made me look for details to support my opinions and sometimes made me try to defend them." #Intellygence, another 10th grade student, extended this idea:

> What helped me was the back-and-forth thing where I'd asked something and then they'd [literacy specialist candidates] answer my question and ask something back, like every time. It was crazy because it challenged me to answer back and that helped me think. Certain questions I had to really think about.

#LD shared her thoughts on this topic as well:

> I found that they [the literacy specialist candidates] asked us a lot of questions. Some of them we knew and other ones, I was like "Whoa! Where did that take place?" and sometimes the questions would carry back into the classroom as part of our discussion. I guess I never thought of it that way but it really improved our discussions because it raised the bar.

The reaction from #LD should not be surprising, given that the literacy specialist candidates were quite deliberate in their design and use of questions, as #kus95 reported:

> I wrote down questions, questions that pressed for further thought. I would ask for topical questions, trying to allow the students to use their own background knowledge to connect to the story. I would also ask questions that had a slight connection to the book but allowed for conversation.

#fry628 wrote that she "tried to help them [the high school students] connect their personal lives to the book in a different

ways." While reflecting upon the way she framed questions for the high school students, #Jojo used the following meta-questions to guide her inquiry development:

> How can I draw out more ideas? What can I say to guide them without giving them the answer outright? How can I affirm their thoughts and boost their confidence? How can I guide students to discover prominent themes in the novel? . . . This project allowed me to see/help foster deeper comprehension.

Because of the variety of questions the literacy specialist candidates drew upon to organize conversational exchanges, the high school students communicated that their understanding of the text increased.

Theme 3: Twitter Facilitated Affective Engagement Through Enthusiasm and Connectedness

While the use of Twitter contributed to extending and organizing classroom discussions, Theme 3 reflected how its overall integration brought a new enthusiasm for and enjoyment around engaging the text. #Brainiac said of her enjoyment,

> I really looked forward to coming in [to class]. I'd run over to the tables with the tablets and log in. I wanted to tweet my ideas, and I knew that when I got back on Twitter there was going to be a reply that would kind of make me think differently about the book.

#Brainiac's articulated enthusiasm also appeared in one of her tweet stream interactions (see Figure 3) with #Jojo, as both participants discussed the purpose of the pill that individuals within the Community must consume to mitigate the Stirrings in *The Giver*. #Brainiac made certain to emphasize her enthusiasm by ending her tweet with a colon and closing parenthesis [:)], a "smiley face" emoticon that represents happiness and in some cases excitement. Other high school students reported how much they enjoyed working alongside the literacy specialist candidates. #Tammy shared, "They [the literacy specialist candidates] made us more excited about the book 'cause we could talk to someone different than Mrs. Buffomante." As expressed and demonstrated by the high school students, the critical parts of the project—namely, the use of Twitter and access to college students—created a level of excitement to engage with the text and have discussions about it with a new audience through a different medium.

The opportunity to speak to someone other than the classroom teacher reflected a desire by the high school students to be part of a broader literacy learning community. As #KidNinja, a ninth grade student, noted, "It [Twitter] helped us like see other people's point of view of the book. It gave us the chance to merge all of our thoughts and come up with other ideas and things about the book." Figure 4 shows just how the merging of ideas occurred as book-related topics expanded and

Figure 3.   #Brainiac articulates enthusiasm about being academically engaged.

evolved over the duration of a tweet stream. These conversational exchanges involved three ninth grade students (#unknown, #individual, and #Brainiac) and two literacy specialist candidates (#kus95 and #fry628), and took place over 4 days (February 25–28). Additional instances of this activity were seen as participants became more familiar with the routines of the project. For example, #LilDipper shared that accessing a more expert other (Rogoff, 2003) contributed to his understanding of the text:

> I liked the way we were able to converse with someone who knew more than us because, you know, college students might be reading the same story, but come at it differently than a bunch of sophomores. Their [the literacy specialist candidates'] ideas helped our thinking.

During the focus group interview with the 10th grade students, participants described the benefits of being part of a wider community of literacy learners:

> Interviewer: Would you like to have more interactions with college students?
>
> #LilDipper: Yeah!
>
> Interviewer: Why? Aren't you afraid that that these people may say something that is over your head?
>
> #LilDipper: No.

Figure 4.   Multiparticipant evolving conversational exchange.

Interviewer: Good, because you are all smart and ya'll could hang with them, for real.

#LilDipper: I know that, but talking to them made me feel like I was a different kind of smart, like being pushed to the maximum of what I already know.

Interviewer: And why is that important?

#Tammy: Because it builds confidence.

#Intellygence: And intelligence.

#Cake_$$$$: And breaks people out of their shell.

#LilDipper: It's just really different from what we get in school.

[All students nod their heads affirming this statement.]

Searching for authentic conversational exchanges beyond what took place in school was also summarized by #unknown when she acutely observed,

> The Twitter thing made you feel more like a professional because we were talking to these grad students, and no offense Mrs. Buffomante [student turns to look at Mrs. Buffomante], but we get tired of writing for you and because we know what you want, we give it to you, but with the grad students, everything was different and it was like we was at their level.

Within her reflection, even #Jojo opined upon the significance of being part of a broader literacy learning community and its impact on adolescent student identity:

I believe because they were interacting with graduate students (not just their teachers) many student[s] seemed to hold themselves to a high standard. I feel as though when "outsiders" come in (especially outsiders that are considered to be knowledgeable but still students themselves), students are automatically going to react differently.

Embedded in the comments of both #unknown and #Jojo was the potential value associated with having more authentic literacy learning experiences with a community of learners where the academic outcomes are not developed for teacher validation or institutionally sanctioned results.

Discussion and Conclusion

We found that Twitter, as a socially mediated digital literacy tool, positively impacted the literacy engagement of school-aged youth, while simultaneously enhancing the pedagogical development of literacy specialist candidates. Students were able to have more meaningful opportunities to engage the assigned literature through a series of conversational exchanges that encouraged communications about events associated with the text. These opportunities were achieved by initiating new conversations, joining ongoing discussions, revisiting and rereading portions of the text, or performing additional work related to it. Collectively, these activities deepened the high school students' knowledge of the novel. Having more discussions about a text affords readers the opportunity to broaden their ideas about the book, gain access to the perspectives of others, and grasp richer meanings within a narrative (Milner & Milner, 2008).

Throughout the project, the literacy specialist candidates deliberately posed a range of questions to the high school students to help foster a more robust form of literacy engagement. These questions served to increase the reading comprehension of the students. By doing so, high school students acknowledged that they developed more detailed knowledge about the text, while the literacy specialist candidates practiced executing comprehension strategies in an online environment. This practice served to enhance the ongoing pedagogical development of the literacy specialist candidates. Equally important, though, the questions modeled the kinds of cognitive, metacognitive, and affective/social activities successful readers deploy when reading a text. Many of the high school students recognized the usefulness of the questions and discussed just how their thinking and literacy activities were impacted and extended.

Lastly, the integration of Twitter also influenced the affective qualities of literacy learning. The high school students supported bringing a mainstream social networking site into their learning environment (Hunter & Caraway, 2014), and Twitter's inclusion prompted a unique way to display expertise of content-related tasks (Carpenter, 2015; Greenhow & Gleason, 2012). Moreover, the high school students appreciated the opportunity to share ideas with master's level graduate students

from a local college. The high school students also noted that being part of a broader literacy community that extended beyond the traditional classroom to include more expert others (Rogoff, 2003; Vygotsky, 1978) involved more authentic academic-related tasks and was an enriching experience. This finding was corroborated by a literacy specialist candidate who recognized this value, suggesting that the self-concept of students was enhanced as a result of communicating with someone other than the teacher.

While the findings of our study suggest positive learning outcomes for the use of Twitter in the classroom, we acknowledge important limitations with our collective work. To begin, we focused exclusively on the literacy learning outcomes through the conversational exchanges vis- à-vis tweets for two distinct populations of literacy learners. As such, the examination performance outcomes between high school students who used Twitter compared to those individuals who did not utilize it fell outside the purview of this investigation. We certainly would encourage research into the ways social networking sites could be leveraged to impact classroom testing results. Furthermore, there is a dearth of prior research into the use of Twitter in the P-20 classroom, with even fewer studies available that discuss how social networking sites are used as meditational tools to serve the learning interests of P-12 and higher education simultaneously. We are optimistic that the findings from our research would encourage others to conduct additional investigations into these efforts as a way of contributing additional insights into this expanding field of literacy learning.

Lastly, we recognize that whereas the strength of our work rests upon the positive PDS relationship we have with our partner school, many P-12 classroom teachers may not have similar access to higher education partners, but nonetheless want to incorporate Twitter in their classroom. For those teachers, we recommend using Twitter to establish conversational exchanges between different classroom periods of the same teacher, across the classes of school colleagues, or even with individuals within or beyond districts. Further, we urge our practitioner colleagues to consider designing digital courses that require text-based responses, creating digital literature circles, or connecting with the authors' of particular texts, many of who tweet regularly.

The implications of this investigation are significant as they contribute to the further theorization of adolescent online literacies in classroom environments (Alvermann, 2008) and suggest that high-school-aged students could benefit greatly from being able to access and leverage 21st century literacy-based technological tools for positive academic learning outcomes (Beach & O'Brien, 2015). In addition, teacher education programs could be encouraged to take advantage of these same tools to expand the pedagogical practices of future teachers. Finally, the mutually beneficial partnership that can exist between P-20 institutions and higher education cannot be overstated, especially when the participants in and from these settings can see the advantages of achieving positive learning outcomes during socially mediated activities involving these two

populations. We call for continued research into additional SNS (e.g., Instagram, Snapchat, Facebook, etc.) in P-20 environments to examine learning scenarios that draw upon popular forms of technology to mediate digital literacy learning in productive ways. Use of Twitter and other SNS can contribute meaningfully toward new understandings that could emerge from such investigative partnerships. SUP

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