"Why Haven't I Tried Twitter Until Now?":
Using Twitter in Teacher Education

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Abstract

As teacher educators, we have used Twitter with the goal of jumpstarting the professional learning networks and teacher identity development of students in our courses and programs. Our use of Twitter has evolved over time and can inform the work of other teacher educators. In this article, we offer examples of the benefits of incorporating Twitter in teacher education. We describe some of the common challenges we have experienced at our two institutions and across multiple semesters of use. Based on our collective experiences, we offer recommendations to others who are using or are considering using Twitter with preservice teachers.

"Why haven't I tried Twitter until now? Seriously enjoying it. Oh, I'm also no longer an egg! #AuburnELA"

--Tweet from a preservice teacher

Background

We have been using Twitter with preservice teachers (PSTs) for almost five years in a variety of contexts, from introductory courses covering foundations of education to methods courses at the elementary, middle, and secondary levels. In that time, we have found the social media platform to be an effective tool for enhancing course content and expanding the walls of the classroom. Moreover, we have seen how it can help PSTs expand their professional learning networks (PLNs) and diversify their opportunities for growth. Although we cannot claim that we have exhausted the possible uses of Twitter in teacher education, we discovered what we consider to be promising practices. The purpose of this article is to share what we have learned. First, we provide an overview of Twitter. After a brief literature review on the uses of Twitter in education, we offer an example of how Twitter can be used to help students develop their teacher identities. Then, we outline six challenges that we have faced when using Twitter followed by six recommendations for overcoming those challenges.

Twitter 101

Twitter is a microblogging platform that allows users to share short multimedia messages, known as *tweets*, with other Twitter users. Tweets can include up to 140 characters of text as well as hyperlinks, images, video, and live feeds. In contrast to Facebook, Twitter is an open social network that allows for asymmetrical relationships in which one user follows another but may not be reciprocally followed back.

It is normal for individuals to communicate with other users with whom they have no face-to-face relationships. Over the last several years, educators have used Twitter as a means to make connections, expand their spheres of influence, and collaborate with others.

The widespread use of *hashtags* (keywords preceded by the # symbol) is a Twitter convention important for understanding the platform's usefulness to educators. Hashtags have been employed to create "affinity spaces" (Gee, 2004), such as #literacy or #enviroed, where educators with common interests and needs can share ideas and resources and engage in conversation (Carpenter & Krutka, 2014; Rosenberg, Greenhalgh, Koehler, Hamilton, & Akcaoglu, 2016). Live chats make the platform popular with many educators. Twitter chats are moderated, hour-long synchronous conversations that typically occur on a weekly basis. At last count, there were over 200 chats related to a variety of education topics (for more on Twitter chats, see Gao & Li, 2016; Luo, Sickel, & Cheng, 2017). Hashtag affinity spaces and live chats make Twitter an easy way for educators to interact with colleagues beyond their schools, districts, and regions, thus combating the isolation that has often characterized the teaching profession (Carpenter & Krutka, 2014).

Research on Twitter

Twitter in K-12 education. Our initial interest in using Twitter in our work as teacher educators was a result of our seeing how some in-service K-12 educators were putting it to use. Recent studies highlight Twitter's potential to support the work of K-12 professionals (e.g., Greenhalgh & Koehler, 2016). While collaboration among educators has traditionally been limited to interactions with peers from the same school or district, Twitter opens up the potential for educators to interact with a wider pool of colleagues (e.g., Visser, Evering, & Barrett; Wesely, 2013). Survey research by Carpenter and Krutka (2014) found that many respondents valued Twitter's capacity to reduce different forms of isolation and the personalized, positive, and collaborative community it facilitated. Although the extant literature suggests that K-12 educators primarily have used Twitter for purposes of their own professional learning and development (Carpenter & Krutka, 2015), there is also a small body of research that points at potential uses of Twitter with K-12 students. For instance, Twitter has been employed to connect students to experts and formatively assess student understanding (Becker & Bishop, 2016), as well as to increase student engagement in discussions of class content (Hunter & Caraway, 2014). Given such uses of Twitter by K-12 educators, teacher educators have reason to consider possible applications of Twitter during teacher preparation.

Twitter in higher education. Twitter's use by tertiary students as a part of their coursework has received substantial attention from researchers. Prior studies have suggested that Twitter can contribute to university-level teaching and learning processes in a variety of ways and across diverse content areas, such as marketing (e.g., Barn, 2016), nursing (e.g., Waldrop & Wink, 2016), and science for nonscience major courses (e.g., Halpin, 2016). In one of the seminal studies on Twitter in higher education, Junco, Heiberger, and Loken (2011) reported that students using Twitter as part of an introductory seminar course for pre-health professional majors had significantly higher engagement and grades than control group students. Studies have generally found positive student perceptions of Twitter's use in education (e.g., Elavsky, Mislan, & Elavsky, 2011; Gikas & Grant, 2013). For example, in Rinaldo, Tapp,

and Laverie's (2011) research, students in four different course sections indicated that Twitter helped increase involvement and course satisfaction and facilitated achievement of their academic goals.

Twitter in teacher education. In addition to such research suggesting Twitter's benefits to teaching and learning in higher education generally, the use of Twitter in teacher education has been the subject of a handful of studies in recent years. In one of the first such studies, eight PSTs in New Zealand used Twitter during their student teaching experiences to share brief reflections regarding daily experiences in the classroom (Wright, 2010). This activity helped PSTs generate and develop self-reflection, while also mitigating the potential isolation and emotional overload of student teaching. Similar to the research in higher education generally, PSTs typically perceive benefits to the use of Twitter in their courses (e.g., Carpenter, 2015; Krutka, 2014). For example, the 20 PSTs in Cook and Bissonnette's (2016) study considered Twitter a useful dialogic space. Twitter has also been credited with helping PSTs move beyond passive consumption toward functioning as active creators of information (Nicholson & Galguera, 2013) and extending engagement with course materials and concepts (Carpenter, 2015).

Twitter's capacity to connect PSTs to other educators has been noted in several studies. Lord and Lomicka (2014) reported the benefits of Twitter use in teacher education in terms of the formation of a community of practice among preservice and in-service language teachers (*N*= 80). In Carpenter's (2015) study, PSTs interacted via Twitter with a wider variety of K-12 education stakeholders than their coursework and field placements typically enabled. Benko, Guise, Earl, and Gill (2016) reported that Twitter provided PSTs with opportunities to "participate with communities of practice, and write for an authentic audience" (p. 21). The connections that PSTs make with in-service educators via Twitter can also persist beyond graduation (Carpenter, 2015). For example, Risser (2013) described the case of a novice high school mathematics educator who used Twitter to create for herself an informal mentoring network that facilitated her successful transition from student teacher to first-year teacher.

Literature on Twitter use in other educational settings suggests some related obstacles (e.g., Kruger-Ross, Waters, & Farwell, 2013; Tang & Hew, 2016), and the extant research related to Twitter in teacher education also indicates that challenges can accompany its use. Despite common depictions of PSTs as "digital natives" who intuitively understand technology, the relevance and potential utility of Twitter has not always been apparent to PSTs. Several studies (Carpenter, 2015; Cook & Bissonnette, 2016; Krutka, 2014) have noted a minority of PSTs who were initially skeptical or dismissive of Twitter. Cook and Bissonnette (2016) found that PSTs experienced several obstacles in their uses of Twitter to share their developing positions on social justice related topics, including difficulty extending in-class conversations and trouble negotiating the social norms of the platform. Benko and colleagues (2016) suggested that PSTs using Twitter "may need scaffolding and guidance for developing critical reflection skills and maintaining involvement in communities of practice" (p. 1). Even when such support is provided, a single course experience may not be enough to convince some PSTs to continue professional use of Twitter. For example, Carpenter (2015) followed up with PSTs (*N*= 20) in the semester after they had been introduced to professional use of Twitter and found that while they almost all still maintained positive attitudes towards such uses of Twitter, the majority did not utilize Twitter as a resource during their student teaching semester. While it is apparent that Twitter can potentially support PSTs'

development, it also appears that such benefits can be challenging to realize. As is the case with almost any pedagogical tool or strategy, successful use of Twitter with PSTs seems dependent in part on how teacher educators implement and scaffold its use. We seek to provide practical and specific guidance for using Twitter in teacher education based on our collective experience using Twitter in a variety of different courses at two institutions.

Developing Teacher Identities on Twitter: Cases From Our Programs

As teacher educators, we help students *become* teachers. We do more than help them acquire new knowledge and skills. We support their development of new identities in a professional community (Zoch, Myers, Lambert, Vetter, & Fairbanks, 2016). In *Teaching Selves*, a landmark text on teacher identity, Danielewicz (2001) argues that professional identity formation is a key factor in teacher development, attrition, and job satisfaction. Representative of the sociocultural turn in literacy-and-identity studies, Danielewicz sees identity as negotiated and produced through discursive practices (Gee, 2000; Street, 2000). Because (teacher) identity is never given or natural, but continually negotiated in relation to institutions, communities of teaching practice, and cultural scripts and larger narratives of "good teaching," it is important that teacher education programs take identity seriously and design programmatic structures and experiences for its deliberate and ongoing construction. Examples of these structures and experiences include giving PSTs opportunities to collaborate with each other and with the profession, to exercise agency and authority when possible, and, through both, to be recognized as a teacher. Simply calling our students teacher candidates is not enough. PSTs need opportunities to create and try on an "identity kit" of teaching— which includes ways of speaking, writing, and interacting as and with teachers (Gee, 1996, p. 142).

PSTs can use Twitter to try on and practice a professional identity. They can accumulate professional resources, be recognized as a member of the teaching community, and contribute to the learning of others. Twitter offers PSTs opportunities for both identity exploration and development of early career professional learning networks (PLNs). As digital tools afford teachers opportunities to engage with exponentially more educators and resources online, PLNs are playing an increasingly important role in educators' ongoing growth (Mackey & Evans, 2011; Trust, Carpenter, & Krutka, 2017; Trust, Krutka, & Carpenter, 2016). We recognized the strong potential of Twitter for supporting PSTs' emerging professional identities and learning networks.

To this end, and in an effort to encourage our students' Twitter use, Authors 2 and 4 "made a bet" that the National Council of Teachers of English (NCTE) Twitter account would like or respond to the tweets from our students. This hunch, as the exchange below makes clear, turned out to be true. Dialoguing with professional organizations like @ncte has changed how many of our students perceive themselves as present and future teachers. Consider Sally, a senior, and Leslie, a junior (all names are pseudonyms); both are English education majors. Sally and Leslie began the program with little to no previous experience using Twitter, whether for personal, educational, or professional purposes. While initially uncertain of how to participate and what the benefits might be, they were eager to have a nontraditional way to contribute to class and meet participation expectations.
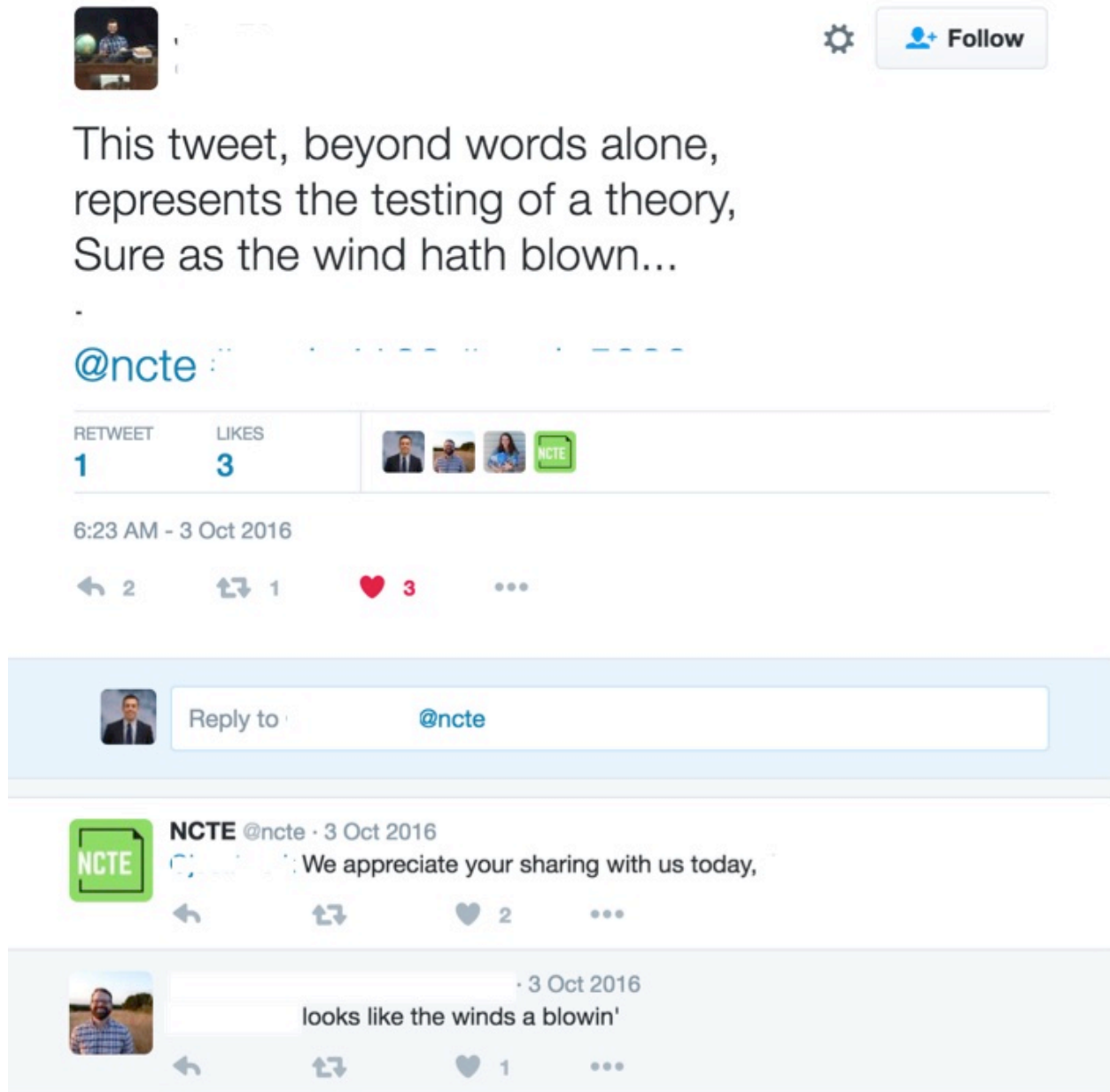
Fig. 1: Preservice teacher's Twitter exchange with professional organization account

At the outset, we encouraged them to look to our accounts for suggestions of who to follow, including teachers, professors, and organizations. Following and interacting with @ncte served as a catalyst for many valuable learning experiences. Their first interactions with @ncte came in the form of sharing an article or blog post with their classmates. What they immediately found was that @ncte responded by thanking them for their contribution. As the semester progressed, and Leslie and Sally experienced continued acknowledgement from @ncte, they gained confidence and increased their participation.

This began to take the form of tweets composed and sent to @ncte (and to their classmates and professors), rather than just likes and retweets of existing material.

To date, @ncte has liked, retweeted, and/or responded to multiple tweets from Leslie and Sally. These are important moments of professional recognition for our students. As they negotiate a complicated boundary identity, between student and teacher, being recognized by their professional organization as valued members increases their confidence and helps them develop a professional voice. Being recognized by and in dialogue with "the profession"—as represented in this case by @ncte—has helped our students deepen their engagement with course material and widen their professional conversations with members of the ELA teaching community.

In addition to widening their network of mentors, Twitter offers PSTs an alternative way to participate in and contribute to required coursework. We have encountered PSTs who were typically reticent to participate in traditional large-group, face-to-face classroom discussions, but willingly share their opinions and analyses via Twitter. Jackie's story is another illustrative example. She was a relatively shy student who typically spoke up in class only when required to do so, but she found Twitter to be a useful way to contribute her ideas related to course content. During the semester, Jackie sent the most tweets, tweeted at people the most, gained the most followers of any of her peers, and participated in more than the required number of chats. Jackie went on to be hired by a principal who was an avid Twitter user and was impressed that she had already begun to develop a professional Twitter presence prior to her graduation. Now in her fourth year as a teacher, Jackie continues to use Twitter with her students, for her own professional learning purposes, and as a virtual mentor for our current PSTs.

We present these examples not to suggest that success automatically occurs with Twitter use, but to provide glimpses of the possible benefits. We have seen similar scenarios unfold across our different courses, programs, and institutions. However, we have also experienced our fair share of growing pains as we have learned how to best use Twitter as teacher educators. So that others can benefit from—and perhaps avoid completely retracing—our learning curve, we describe in the following section some of the challenges that we have navigated.

Challenges

> *"I'm really stretching things here, trying to find a way to connect my #ElonEd tweets to education. Any suggestions?"*
>
> *--Tweet from a preservice teacher*

While the potential benefits in teacher education abound, there continue to be obstacles associated with incorporating Twitter into teacher education. Below, we discuss six challenges we have experienced: (1) the disconnect between personal fluency and professional know-how (Kumar & Vigil, 2011), (2) the perception that Twitter is outdated, (3) the integration of Twitter into course content (Lowe & Laffey, 2011), (4) the reluctance to imagine useful Twitter professional development, (5) the use of hashtags to organize information, and (6) the evaluation of Twitter participation.

First, our PSTs sometimes struggle understanding the relationship between personal and professional Twitter use. Many already use Twitter personally. While we initially anticipated this would help them understand the potential of professional Twitter, we quickly realized the opposite was also possible. One student, for example, posted frequently about Taylor Swift on a personal account and was completely at a loss for how to use Twitter for professional purposes. PSTs may perceive the gulf between their personal and professional use as too wide a chasm to cross. We were not initially explicit enough about the mechanics of professional participation on the platform (e.g., liking, retweeting, using hashtags), and failed to discuss the relationship and potential tensions between personal and professional tweeting.

Second, a number of students expressed concern that Twitter is outdated and has been replaced among their peers by tools such as Instagram and Snapchat. We heard the phrase "I don't do Twitter" on several occasions. In some instances, initial forms of resistance grew into fixed positions. This was, in part, because in our early attempts, we failed to appropriately explain our goals for Twitter use to our students. We assumed that because we were intrigued by how in-service teachers were using Twitter professionally, our students would also be. We required students to use Twitter without first helping them to see it as one tool for PLN development and a space in which PSTs can practice being teachers by creating, contributing to, and learning from a diverse network of educators.

Third, when we initially implemented Twitter in our courses, we made the mistake of framing it as something done *outside of class* to extend and enrich our in-class conversations. This led to some PSTs seeing Twitter as a side conversation, only slightly related to the main content of the course. We didn't help our students understand how their Twitter use could contribute directly to their grappling with and learning of core course content. If PSTs perceive Twitter and the classroom to be two disparate spaces, participation will often lag.

Fourth, some of our students had difficulty making connections between their life as undergraduate teachers-in-training and their future careers. Students often struggle putting themselves in the mindset of a classroom teacher and can only guess at what an in-service teacher does to develop professionally. Many of our students at first do not see how Twitter can be useful for a practicing teacher. Although there are many educator role models and experts that PSTs can in theory connect to via Twitter, some of our students have initially struggled to tap into these networks.

Fifth, in the spirit of using Twitter to enhance course content and class conversations, we initially created individual course hashtags (e.g., #EDU355, and so forth), asking students to use the relevant hashtag when tweeting. We eventually realized this approach was limiting. Individual course hashtags were mechanically limiting; some tweets pertain to multiple courses, so adding multiple hashtags is cumbersome. The course hashtag also limited the potential for cross-course and cross-program conversation among peers and faculty and interaction with the larger Twitter community and profession.

Finally, assessment has presented challenges. How can we meaningfully and fairly assess Twitter use from our students? We continually wrestle with what counts as quality Twitter participation, engagement, and collaboration. Does liking or retweeting "count" the same as composing tweets with original content?

Students value clear, transparent assessment criteria for all they do. If PSTs do not feel fairly and accurately assessed on their Twitter work, they may be less likely to buy in and consider future applications.

Recommendations

The challenges described above are representative of all of our classrooms, especially of our early attempts to implement Twitter in teacher education. We have gradually learned from our mistakes and are currently addressing them. We continually tweak assignments, provide more concrete directions, and expand expectations.[1] Below we offer six recommendations for enhancing the use of Twitter in the preparation of PSTs: (1) use an institutional or program hashtag instead of course hashtags, (2) expect a minimum number of tweets per week, (3) suggest who to follow, (4) require participation in chats, (5) use Twitter and resources found via Twitter in class, and (6) invite students to share, reflect, and write about what they learn from their PLN.

Hashtags are a means to navigate and subdivide the many affinity spaces (Gee, 2004) on Twitter. We opt for program and institutional hashtags (#AuburnELA and #ElonEd, respectively) used by students in all of our courses. There are several benefits to this approach. First, the shared hashtag connects students and faculty across courses. Any time students search the hashtag, they can peruse a list of tweets from all PSTs and not just their classmates, which increases learning opportunities and fosters connections beyond the singular course. Second, course hashtags end when the course ends. A program or institutional hashtag, however, continually unites PSTs and faculty, extending the possibility of collaboration and the sharing of resources, even after graduation. Third, a program or institutional hashtag can be used for other purposes beyond courses, like organizing Twitter chats, communicating with local teachers and school districts, and supporting alumni. We have found that one common hashtag broadens how Twitter can be used in teacher education.

Second, consistent with the findings of Junco, Elavsky, and Heiberger (2013), we recommend requiring a minimum number of tweets, usually between two and four per week. While this may sound like micromanaging, we have found that establishing this goal from the beginning increases the likelihood that students will engage earlier and more often. Not having a weekly requirement allows students to delay their participation until the end of the semester. While we do not all necessarily track tweets per week, we use the expectation to remind students to actively engage with Twitter. More importantly, we regularly search our program or institutional hashtag and read tweets from our students. Liking their tweets communicates that we see and appreciate their active participation. It is similarly important to selectively retweet and reply, which acknowledges their effort and insight, and shares their voices with a larger audience.

Third, we provide a list of recommended accounts to follow. Since most students have little experience using Twitter professionally, they need suggestions for building their PLN. If they only follow their classmates and professors, they are not likely to see the value of being on Twitter as they already have other means of communicating with those people. We tell our students to follow at least 30 teachers,

professors, journalists, news outlets, and state and national organizations. It is important for Twitter to not become an echo chamber, so we advise them to follow a variety of accounts that represent multiple perspectives. For example, we recommend students follow both supporters and opponents of charter schools in order to be aware of how and why they disagree. We have recently begun recommending alumni whom our PSTs can follow in addition to in-service teachers in our local school districts; these educators have become a rich resource for mentoring and collaboration beyond what we typically provide for our PSTs.

Fourth, we require participation in chats. The wide variety of existing chat topics allows students the freedom to choose chats that are relevant to their interests and that fit their schedules. For example, #sschat is a vibrant discussion on matters related to social studies that occurs every Monday night at 7:00 pm EST, while #21stedchat is an interdisciplinary and cross-grade level chat that takes place on Sunday nights at 8:00 pm EST.[2] Chats, more than any other activity on Twitter, push PSTs out into larger conversations where they interact with more people, encounter more ideas, and expand their PLN. Such early networking is important given the professional isolation that has often plagued teaching (Lortie, 1975). Although some PSTs have mixed feelings about chats at first—expressing how stressful it can be to monitor the questions, read through multiple answers rapidly, and contemplate how to contribute—they usually get more acclimated with experience. This is why we require them to participate in at least one chat per month during the semester or term. We recommend modeling how Twitter chats work early on, even leading a "slow chat" in order for them to practice using the question-and-answer format and overcome any initial fears.

Fifth, we use tweets and other online resources found via Twitter in class. PSTs need to see Twitter as an integral part of a course instead of supplemental activity they do on their own. There are multiple ways to do this. We invite students to share what they have been reading and learning on Twitter at the beginning or end of class. We take time to share how Twitter has enhanced our own professional development. This includes, for example, sharing screenshots of tweets we find relevant to course content and referencing other resources we have found via Twitter. Furthermore, projecting a list of tweets using the program or institutional hashtag can encourage analytical discussion of exemplar tweets, professional communication, and PLN engagement more generally. On several occasions, we have even invited local teachers who are active on Twitter to be guest speakers in our classes to share their experiences, best practices, and advice. When class has to be cancelled for any reason, we create alternative assignments that require PSTs to use Twitter, like searching particular hashtags, finding tweets and chats related to course content, and tweeting questions to authors of course texts.

Finally, we invite students to share, reflect, and write about what they learn from their PLN. This can happen in multiple ways. While we set some numerical expectations to guide how and how often PSTs use Twitter, we do not merely count tweets and chats to gauge the value of their participation. Instead, we use formative assessments in class in which students write for a few minutes about what they have been reading about and learning on Twitter, as well as a summative assessment at the end of the semester in which students reflect more deeply about the role of PLNs in their continuous improvement

as educators. We even allow students to self-assess their own participation and learning, which we believe aligns with the spirit of teacher-directed professional development.

Conclusion

As explained above, we have experienced challenges in our use of Twitter as teacher educators, but we have also identified practices that have led to improvements in our students' learning and professional experiences with Twitter. Every semester we see evidence that our students learn from others via Twitter in a variety of sometimes unpredictable ways. What they learn is not always planned in the syllabus or directly related to course content, but we have seen them take important steps towards developing their PLNs and taking ownership of their learning. When PSTs have access to broad and diverse professional networks, opportunities for mentoring and growth are multiplied. Moreover, integrating Twitter into teacher education courses provides PSTs with a source for continued learning as they graduate and begin teaching.

There are many educators at all levels using Twitter to solicit and offer advice, share instructional resources and ideas, and improve their practice. We believe that PSTs need to be prepared to learn from and contribute to this discourse, which can facilitate their successful transition into the profession. Because there is a "large gap between Web 2.0 use in [PSTs'] daily lives and in their coursework" (Kumar & Vigil, 2011, p. 144), teacher educators must help PSTs understand the ways that social media such as Twitter can contribute meaningfully to their development. Ultimately, we want PSTs to develop the dispositions and skills necessary to evaluate and identify the digital tools and spaces that can help them grow, thrive, and contribute. This way, each time another technology, platform, or application comes out, they will fully consider how it can support their learning and that of their students.

Notes

1. Examples of Twitter-related assignments that we have used recently with our PSTs are available via a Google document found at the following url: http://bit.ly/twitter_in_ted. We encourage teacher educators to borrow or adapt these assignments as they see fit. We also invite our colleagues to add their own Twitter assignments to the document.

2. A schedule of chats can be found at:
   https://sites.google.com/site/twittereducationchats/education-chat-calendar

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