

Benko, S. L., Guise, M., Earl, C. E., & Gill, W. (2016). More than social media: Using Twitter with preservice teachers as a means of reflection and engagement in communities of practice. *Contemporary Issues in Technology and Teacher Education*, 16(1), 1-21.

More than Social Media: Using Twitter With Preservice Teachers as a Means of Reflection and Engagement in Communities of Practice

Susanna L. Benko

Ball State University

Megan Guise

California Polytechnic State University, San Luis Obispo

Casey E. Earl

Navasota Junior High School

Witny Gill

Ernest Righetti High School

Abstract

English teacher education programs often look for ways to help preservice teachers engage in critical reflection, participate in communities of practice, and write for authentic audiences in order to be able to teach in the 21st century. In this article, the authors describe how they used Twitter to provide opportunities for reflection and collaboration during methods courses in two English education programs. The authors examined the affordances and limitations of using Twitter in methods courses and suggest revisions to help other teacher educators consider ways to use Twitter in their own courses. Specifically, the authors suggest that Twitter is useful for ongoing reflection and provides potential for preservice teachers to engage with larger communities of practice outside of their own institution; however, preservice teachers may need scaffolding and guidance for developing critical reflection skills and maintaining involvement in communities of practice.

This self-study describes the attempts of authors Susanna Benko and Megan Guise as English educators working to integrate Twitter into their methods courses and investigates different opportunities that Twitter provided for preservice teachers. We describe these attempts from multiple perspectives—both from English educators (Susanna and Megan) and preservice teachers enrolled in teacher preparation courses (third and fourth authors Casey Earl and Witny Gill). Specifically, we focus on the ways in which Twitter provided preservice teachers with opportunities to reflect on their own teaching, engage with communities of practice, and write for an authentic audience. These reflections may provide blueprints for implementing a similar assignment and provide a rationale for Twitter's usefulness as a tool to integrate into teacher education.

Reflecting, Connecting, and Writing Through Tweeting

The Essentials of Twitter

[Twitter](#), an online social networking platform, was created in 2006 in San Francisco, California. When joining Twitter, users are asked to create a username, follow other users, and have other users follow them. [**Editor's Note:** For website URLs, see the [Resources](#) section at the end of this paper.] Users may choose to use Twitter simply to follow other people that they find interesting or relevant. They may also choose to tweet, posting bursts of information no more than 140-characters long—including photos, videos, and links to websites—making these tweets public or visible to a select network.

Tweeting also includes its own set of symbols and language. For example, hashtags (#) are a way to group together tweets by topic, and “@username” is used to mention a specific person on Twitter or to reply directly to a person on Twitter. “RT” is used in front of a Tweet that has been retweeted.

Applications for smartphones (e.g., [TweetDeck](#) and [Tweetcaster](#)) allow Twitter users to gain access to their account and to organize their tweets and the tweets of people they follow. Other tools useful for those who tweet include URL shortening services such as [tinyurl](#), [bit.ly](#), and [goo.gl](#). Twitter also automatically shortens a URL to 22 characters when typed into the tweet box.

In the sections that follow, we provide a brief review of research on critical reflection, communities of practice, and teachers as writers, integrating research on educational uses of Twitter within each section.

Reflecting in Teacher Education

Reflective thinking has long been considered an important part of teacher education. In his argument for reflection as a critical part of quality instruction, Amboi (2006) called reflection “a quintessential element that breathes life to high quality teaching” (p. 24). Dewey (1933) wrote about reflective thinking—thinking that is grounded in a problem, a question, or unknown, which leads to “an act of searching, hunting, inquiring to find material that will resolve the doubt, settle and dispose of the perplexity” (p. 12). In teacher education, preservice teachers often bring many questions—and plenty of doubt—to their coursework and student teaching. By promoting reflective thinking in teacher preparation programs, teacher educators can help their preservice teachers become active, careful thinkers who make deliberate, purposeful choices.

Reflections—by way of journals, weblogs, or other forms—have been commonly incorporated into teacher preparation programs in both coursework (Bull, Bull, & Kajder, 2003) and student teaching (Collier, 1999). Research studies examining the use of Twitter as a tool for reflection in teacher education programs have found that tweeting can help to develop reflective thinking by allowing preservice teachers to reflect upon “not just *what* they did, but *why* and *how*” (Wright, 2010, p. 262). Regardless of the platform for reflection, prior research on the incorporation of reflection in teacher preparation programs has identified the challenge of balancing open-ended reflection with preservice teachers’ desire for concrete structures for their reflections, for example, specific prompts, and page limits (Shoffner, 2008).

Connecting to Other Teachers

Another important part of teacher education is the notion that learning is socially situated. In the seminal text, *Situated Learning: Legitimate Peripheral Participation*, Lave and Wenger (1991) advanced a notion of situated learning as learning that takes place by being engaged in a “community of practice.” Referring to one’s engagement in a social practice that results in learning as “legitimate peripheral participation” (p. 29), Lave and Wenger posited that learners participate in communities of practice and gradually transition from being a newcomer in that community to a full participant.

Participants in a community of practice have a common goal in regard to what the community of practice is about, how it functions, and what it is capable of producing (Wenger, 1998). This theory of learning “claims that learning, thinking, and knowing are relations among people in activity in, with, and arising from the socially and culturally structured world” (Lave & Wenger, 1991, p. 51).

Twitter affords its user an opportunity to participate in a community of practice—one that varies by scope (e.g., within group, across groups, and outside of groups)—and to become an integral member of a learning community. 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 (Dunlap & Lowenthal, 2009; Forte, Humphreys, & Park, 2012; Visser, Evering, & Barrett, 2014; Wright, 2010). By creating a Twitter handle, tweeting, and following key people and organizations in education, teachers begin to form a professional online social network that has the potential to enhance their daily teaching by staying up to date on innovations and engaging in conversations about teaching, learning, and educational reform (Forte et al., 2012).

Reflecting and Connecting Through Writing

A long-held belief in English education—especially with organizations such as the National Writing Project—holds that teachers of writing need to be writers themselves (Gillespie, 1991). Gillespie offered three reasons why teachers of writing should write: (a) to establish their own authority of their writing, (b) to experience the difficulties of writing which may, in turn, allow them to support their own students through those difficulties, and (c) to show professionalism through the opportunity for teachers to share their work with students and demonstrate that “we can do what we ask our students to do” (p. 40).

Swensen, Young, McGrail, Rozema, and Whitin (2006) argued that the concept of writers and writing have evolved, and that the act of writing can mean “the composition of an attempt at meaning, whether that composition is a print text, a digital slide show, a film, or a multi-media flash poem” (p. 358). Commenting on blogs, writing blogs, or participating in Twitter conversations such as #engchat are important ways for teachers to engage as writers with other professionals, gaining insight into what professionals are discussing (Hicks & Turner, 2013).

Writing should not be only about *what* teachers write, however, but also *for whom* teachers write. Writing instruction experts argue that writing for an authentic audience is important; Twitter and other forms of new media composition provide authentic audiences for teachers and students alike (Swensen et al., 2006). Such

audiences also provide opportunities for teachers to become advocates in education (Hicks & Turner, 2013).

For example, Peter Smagorinsky, a distinguished research professor of English Education at the University of Georgia, contributes to *The Atlanta Journal Constitution*, where he writes regularly about teaching, testing, and other educational issues in Georgia. *Teachers, Profs, Parents: Writers Who Care* is a blog that helps writers connect with schools locally and around the country to communicate “a shared desire that students everywhere learn to value writing, to understand its power, and to do it well” (Zuidema, Hochstetler, Letcher, & Turner, 2014, p. 83). In both examples, teacher educators use blogs as a means to reach a wider audience. Other forms of social media, such as Twitter, can provide similar opportunities for pre- and in-service teachers to engage as writers with audiences beyond the walls of their classrooms.

Twitter Drawbacks

Although previous research shows the benefits of using Twitter in professional ways (e.g., to reflect, connect, or write), educators may be turned off by Twitter for several reasons. For example, some may perceive Twitter as a place for posting personal status updates rather than engaging in stimulating conversation. Others may feel overwhelmed by the vast amount of information and users available on Twitter, finding it to be “one more distraction in a tech-saturated world” (Boss, 2013, para. 14).

Admittedly, we (Susanna and Megan) were unsure about using Twitter prior to our work together. We were skeptical for some of the same reasons, worrying that preservice teachers might see Twitter as a good opportunity for sharing about their personal lives, but not as a good place for talking about teaching in a deep, meaningful way. We also were not sure that we were expert enough users of Twitter to be able to use Twitter in our courses. However, we decided to put aside these hesitations to try and explore what possibilities Twitter held for fostering reflective thinking, building communities of practice, and writing for an authentic audience.

The Contexts

Teaching Contexts

Susanna teaches preservice teachers majoring in English education enrolled in a 4-year undergraduate program at a state university in the Midwest. She first introduced Twitter for reflection during the spring semester, when nine preservice teachers (mostly sophomores and juniors) were enrolled in her methods course, called Teaching Writing in Secondary Schools. Typically, this is the first methods course that the preservice teachers take in the English education program (often taken in the second semester of sophomore year or first semester of junior year). They later take another methods course with an emphasis on literature and a course about theories of reading. Near their last year of the program, the preservice teachers complete a practicum, that is, a semester-long guided experience in secondary schools, and a semester of student teaching.

The emphasis of the Teaching Writing course was on best practices in writing instruction. To this end, readings and activities emphasized designing writing assignments and assessments and planning instruction to support middle and high school students to complete the tasks. The preservice teachers also engaged in writing assignments as learners, so that Susanna could model good writing instruction and they could experience

the difference between assigned writing and instruction designed to support writing. To a lesser degree, the course also emphasized technology in secondary instruction.

The class met twice a week for 75 minutes each class session. During the time of this research, the English education program did not require the preservice teachers to be in a corresponding practicum experience; however, built into the course were opportunities to observe and coteach with ninth-grade English teachers in a nearby school.

Casey was a junior in Susanna's course, 1 full year away from heading into her student teaching. Casey had a personal Twitter account prior to the course and was, in some ways, a mentor to other preservice teachers in the course (e.g., when one preservice teacher tweeted to the class to question if she was using the course tag correctly, Casey replied to help her).

Over the course of the semester, Casey used Twitter primarily to comment on course readings but also to pose questions about teaching in hopes of beginning a conversation with other professionals in the field of English. After Susanna's course, Casey continued to use Twitter; for example, during her semester before student teaching, she created a Shakespeare unit that incorporated Twitter into regular class activities.

Megan teaches courses and is the advisor for preservice teachers enrolled in a 1-year postbaccalaureate English credential program at a state university located on the West Coast. During fall quarter, Megan taught the course, Teaching English in Secondary Schools, to a class of nine English preservice teachers, all of whom were enrolled in the first quarter of the English credential program. The course focused primarily on preparing the preservice teachers to be able to create a conceptual unit plan, grounded in best practices for the teaching of English.

The class met twice a week for 2 1/2 hours each class session, and during each class session assigned readings were discussed and the preservice teachers had an opportunity to participate in an application activity, applying what they learned from the readings. The preservice teachers were enrolled in three other education classes while taking the English methods course and were also tutoring and assisting in a local secondary classroom for 2 hours twice a week. These preservice teachers then began a two-quarter student teaching placement at the conclusion of their first quarter of coursework.

Witny, a preservice teacher in Megan's methods class, was an avid user of technology prior to beginning the Twitter assignment. Although Witny was not a Twitter user prior to this assignment, she had accounts on [Facebook](#) and [Pinterest](#) and, therefore, was familiar with social networking, although primarily for a personal purpose. Witny quickly became one of the more frequent tweeters in the class, tweeting helpful resources, pictures, and videos about teaching. Witny even continued to tweet at the conclusion of the course assignment when she began her student teaching at a local school district. See Table 1 for a summary of the similarities and differences in these teaching contexts.

Although we (Susanna and Megan) taught in two different contexts, we decided to reflect on the implementation of a Twitter assignment together. Our contexts differed in the populations of preservice teachers (undergraduate versus graduate) and lengths of programs (4-year undergraduate versus 1-year graduate). Additionally, Megan's preservice teachers were preparing for their student teaching, which took place after her course; Susanna's preservice teachers were at least a year—if not more—away from student teaching.

Table 1
Teaching Contexts

Susanna's Teaching Context	Megan's Teaching Context
<ul style="list-style-type: none"> • 4-year undergraduate program • Midwest university • Class met twice a week for 75 minutes each session • 1 of 2 methods courses in program: Focus on teaching writing • Not enrolled in a practicum while enrolled in the course (no field site experience) 	<ul style="list-style-type: none"> • 1-year postbaccalaureate program • West Coast university • Class met twice a week for 2 ½ hours each session • Only methods course in program • Enrolled in practicum and course simultaneously (experience at a field site observing, tutoring, & assisting)

Our situations were similar in important ways, however. First, we considered ourselves novice Twitter users and were eager to discuss the project with each other as it went along. Both of our courses heavily emphasized the intellectual planning that goes into teaching, either at the unit level (Megan's class) or the task/assessment level (Susanna's class). Finally, as teacher educators, we shared a goal of helping our preservice teachers become well-read and aware of important educational issues beyond the scope of their classroom. We saw Twitter as an opportunity for preservice teachers like Casey and Witny to think beyond the four walls of their own classrooms and interact with other educational professionals (as recommended by Dunlap & Lowenthal, 2009; Forte et al., 2012; Visser et al., 2014; Wright, 2010).

Reasons for Twitter Use in Each Context

Susanna wanted to find an opportunity for preservice teachers to discuss their readings and experiences in schools and make connections between things they learned in the course and things they had learned in different courses or classroom experiences. Previously, she had assigned the preservice teachers a partner and had them write dialog journals, or weekly reflections and replies to each other. The preservice teachers submitted these journals via the discussion board feature on Blackboard, a learning management system.

She often felt that the preservice teachers were not reflecting meaningfully, however, and that they hurried through their journals and replies. Additionally, she noticed that the preservice teachers never took the opportunity to read each others' replies (besides their partner's work), in part, because their journals could be lengthy. She also actively sought ways to model various uses of technology in class, as she felt she had not integrated technology throughout the course.

Looking for a change, Susanna decided to use Twitter as an opportunity for her preservice teachers to (a) reflect on readings and experiences in schools (in a way that might be more successful than dialog journals and other prior similar assignments), (b) engage in professional discourse about teaching with each other and others in the field beyond those at her institution, and (c) use technology in a more organic and recursive way.

Similar to Susanna, Megan was particularly interested in having her preservice teachers reflect weekly via Twitter and to share these reflective tweets with their classmates. However, Megan was also interested in connecting alumni from the credential program

who were now practicing teachers with her preservice teachers enrolled in her methods course, and she saw Twitter as a way to make this connection a possibility.

The Twitter Assignment: Similarities and Differences Across the Two Contexts

We (Susanna and Megan) required our preservice teachers to create professional accounts separate from their personal accounts. We both encouraged preservice teachers to tweet about similar topics (e.g., explore readings or experiences in classrooms, share teaching resources, and ask questions of others in their courses or in the professional community). We both also built opportunities for the preservice teachers to revisit their tweets, most notably at the conclusion of the course when we asked the preservice teachers to return to their work and reflect on their overall learning and reflections on Twitter.

However, our assignments differed in a few important ways. One such difference was in respect to privacy settings. Twitter users can decide to make their tweets public (tweets viewable and searchable by anyone, regardless of whether they have a Twitter account) or protected (Twitter users must approve whether someone can view their tweets). Susanna required her preservice teachers to create accounts that were public, though they were not required to use their first and last names. She wanted to help her preservice teachers to think about establishing a professional identity online. Although she recognized that many of her preservice teachers had online identities via different social networking sites, she knew that few worked toward creating professional identities. She also wanted to encourage engagement with multiple audiences beyond the preservice teachers in her class and believed that the public account would help support that goal.

Megan, on the other hand, had her preservice teachers set up protected accounts. Because these preservice teachers lived in the local teaching community preparing for student teaching and the job search, Megan believed they needed additional guidance regarding the characteristics of a professional online identity. By having her preservice teachers protect their tweets during the methods course, Megan could scaffold the preservice teachers' understanding of how to represent themselves professionally online. Although Megan's preservice teachers protected their tweets, she invited alumni from her program to join in the Twitter assignment, opening up the audience beyond the preservice teachers in her methods course.

The other key difference was instructor expectations for tweeting. Susanna required preservice teachers to tweet a minimum of six times per week (five original tweets and one in conversation with a classmate), and Megan required her preservice teachers to tweet only one time per week. See Table 2 for a summary of the similarities and differences of the Twitter assignment in both contexts.

Method

Self-Study

We (Susanna and Megan) were interested in collaboratively examining the Twitter assignment and instruction in our respective teaching contexts. Seeking to reflect critically on this particular aspect of our practice, we aligned our approach with self-study research.

Table 2
Similarities and Differences of the Twitter Assignment in the Two Contexts

Susanna's Assignment	Similarities Across the Assignments	Megan's Assignment
<ul style="list-style-type: none"> • Public tweets • 6 tweets per week 	<ul style="list-style-type: none"> • Professional account separate from a personal Twitter account • Tweet about education-related topics, specifically exploring course readings, sharing resources, and asking questions • Summative reflection on Twitter experience at the conclusion of the course • Followed Twitter handles of classmates 	<ul style="list-style-type: none"> • Protected tweets • 1 tweet per week • Followed alumni of the program on Twitter

Self-study research has been cited as a useful means to improve teacher practice (Cochran-Smith & Lytle, 1990; Louie, Drevdahl, Purdy, & Stackman, 2003; Zeichner, 1993) and stems from “the desire of teacher educators to better align their teaching intents with their teaching actions” (Loughran, 2007, p. 12). Defined as “intentional and systematic inquiry into one’s own practice” (Dinkleman, 2003, p. 8), self-study is rooted in the relationship between scholarship and practice in teacher education and generates local knowledge that is usable in other contexts (Cochran-Smith, 2005), answering research questions about pedagogy beyond the individual (Louie et al., 2003).

For this self-study, we explored the following research questions:

- How can Twitter be used as a tool to support preservice teachers in their development as reflective practitioners?
- How can Twitter help preservice teachers to engage in professional learning communities?
- What are the benefits and drawbacks of the Twitter assignment as implemented? How could the assignment be improved to encourage preservice teachers to be reflective teachers and writers engaged in an online community?

Data Collected

Teacher Educator Reflections. As we (Susanna and Megan) implemented the Twitter assignment, we individually wrote reflective memos in which we reflected on what was working and what was not working. These reflective memos immediately influenced our practice and the support we provided while the preservice teachers were engaging with the Twitter assignment. For example, Megan noted that her preservice teachers were tweeting but were not engaging in conversation with each other. In the next

class session, Megan recommended that students continue the class discussions via Twitter and reply to the tweets of a peer. Megan also modeled this action by replying to the tweets of her preservice teachers.

Teacher Educator Meeting Notes. During the implementation of the assignment, we met via conference call to discuss how the assignment was progressing, what we were noticing, and what we would do differently in future iterations of the course. These conversations provided the opportunity for us to “step outside” ourselves (as recommended in Loughran & Northfield, 1998, p. 14) and think critically about our practice.

Preservice Teacher Tweets. As the preservice teachers were tweeting, we read, replied to, and provided feedback on these tweets. These tweets also influenced our reflective memos, meetings, and instruction. In addition, a careful examination of tweets occurred on Casey’s and Witny’s tweets (see data analysis section).

Preservice Teacher Reflective Writing. Recognizing the need to triangulate findings and “purposefully seeking out and listening to the voices of others” (Berry & Russell, 2014, p. 195), we asked Casey and Witny to reflect on their Twitter experience through writing to see if our self-study aligned or misaligned with Casey’s and Witny’s experiences. In addition, tweets from Casey and Witny were collected as illustrative examples in order to support our claims about the preservice teachers’ use of Twitter. By selecting a focal preservice teacher per teaching context, we felt that a depth of understanding of how these preservice teachers engaged in the Twitter assignment could be achieved, while simultaneously highlighting the analysis of the assignment and instruction.

Data Analysis

Data analysis for this self-study was recursive and iterative. Our personal reflections informed meetings and discussions of what was working and what was not working with the Twitter assignment and instruction in the moment of implementing the assignment. Future iterations of the assignment were influenced by these reflective conversations, an important feature of self-study research (as in Cochran-Smith & Lytle, 1990; Dinkelman, 2003; Zeichner, 1993).

In addition, we examined the tweets of Casey and Witny against the goals of the assignment (e.g., engagement in a community of practice, sharing of a resource, connection to a course reading, and reflection) and themes within each tweet (e.g., student engagement and teaching writing). Finally, we shared the analysis with Casey and Witny for the purpose of member checking (Lincoln & Guba, 1985).

Limitations of Approach

We recognize that involving preservice teachers in the writing of the article may have reduced the systematic nature of this self-study but made this decision for several reasons. First, self-study research emphasizes collaboration and the invitation of a “critical friend” (Berry & Russell, 2014; Dinkelman, 2003; Lighthall, 2004), and Casey and Witny filled this role. Additionally, with our goal of helping to support the development of reflective practitioners, we thought, “What better way to do this than by engaging in self-study *with* the preservice teachers?” Knowing that, as Dinkelman (2003) suggested, “Students learn reflection from watching their teachers reflect” (p. 11), we

thought that inviting Casey and Witny to write the manuscript could continue to encourage the development of their own reflective thinking.

Additionally, Casey and Witny were selected because they were highly motivated, engaged preservice teachers, who seemed eager to engage in continued reflection of their teaching outside of the methods course. This selection of participants limits the generalization of the following findings, as the participants may not be representative of the overall student population.

Twitter as a Tool to Reflect, Connect, and Write

Using Twitter to Promote Critical Reflection

When we (Susanna and Megan) first embarked on the Twitter assignment in our teacher education contexts, we hoped this assignment would encourage preservice teachers to reflect critically on educational issues on a frequent basis, whether reflecting on course readings, teaching resources, or educational topics that they came across. By nature of a teacher education program, preservice teachers are constantly exposed to new ideas and ways of thinking, as they transition from being a student who has experienced school to being a teacher who is responsible for crafting a cohesive and engaging learning environment.

During this transition, preservice teachers are posing questions and identifying problems as they experience this new terrain—an experience that is ripe for reflective thinking. Dewey's (1933) articulation of reflective thinking as “an act of searching, hunting, inquiring to find material that will resolve the doubt” (p. 12) is particularly fitting for the Twitter assignment. Through the use of this online collaborative network, the preservice teachers were able to quickly explore online materials and resources that could potentially result in solutions to the teaching challenges they faced or envisioned and discover answers to their questions.

The Twitter assignment also helped the preservice teachers see critical reflection not as an individual enterprise but as something that occurs in interactions with others (as also in Rogers, 2002). Susanna's requirement to have her preservice teachers tweet multiple times per week allowed for frequent and short bursts of reflection, stressing the importance of reflecting throughout their learning, not only on days that they met for class. Although this requirement may have focused student attention on quantity over content, a danger of integrating technology in classrooms (Hicks & Turner, 2013), it also conveyed to the preservice teachers that the instructor had concrete expectations for their reflections (as also in Shoffner, 2008).

In Casey's and Witny's views, the Twitter assignment lent itself well to promoting critical reflection. Casey thought the assignment challenged her to think and rethink about concepts she was learning in the methods course, allowing her learning to be recursive rather than linear. It allowed her to revisit and rethink her learning over the course of a semester. The following tweet presents an example of how Casey began to rethink things.

Plan.draft.revise.edit. As a frequent writer, I struggle with the revising part. My linear brain blocks my ability to re-work :/

Casey said that her “linear brain” made it hard for her to revise—to resee, rework, and reshape what she has written. In the weeks that followed, Casey was drawn to places in

the course readings and discussions that emphasized revision, as evidenced by the following tweet:

“Rewriting is, after all, what writing is all about.” This is simply not emphasized enough.

As the course went on, Casey practiced strategies in Susanna’s class that helped her experience revision—both in her work in Susanna’s class and in other classes:

I just used the “sticky note” process to revise one of my papers in American Lit. I AM SO AMAZED AT THE DIFFERENCE IT MADE!!!!!!!!!!!!

This tweet occurred a month after the first tweet and provides an example of how Casey was starting to become more open to revision and was working on using revision strategies in her own writing life. The tweet refers to the “sticky note” process, a strategy Susanna used when writing personal narratives that asked students to write the big events of the narrative on individual self-stick notes and then experiment with different ways to order the events to see the effect of different organizational strategies on the reader. Together, these tweets provide a concrete example of how Twitter was helpful for Casey to track her thinking over the course of the semester, so that she could see how her thinking about revision was shifting and changing. Like other preservice teachers using Twitter, this use helped Casey reconsider her choices and the way she was writing (as also in Wright, 2010).

Importantly, Casey was reflecting on writing *through* writing. After the course had concluded, she noted in her reflective writing that using Twitter highlighted for her the ways she uses the writing process daily. She explained that it was hard to condense her thoughts into a single tweet of 140 characters when she felt she had so much to say. The constraints of Twitter made her think carefully about her message and “forced” her to revise her message in the most concise, yet powerful way.

Casey’s reflection suggests that not only did she engage in reflection, but she also thought about herself as a writer and engaged in authentic examinations of her message, mode, and audience. The constraints of Twitter provided Casey with a challenge, allowing her to experience difficulties that writers face, which is important for teachers of writing so they can support their students who face similar difficulties (Gillespie, 1991).

In contrast to Casey, Witny’s tweets were less recursive in nature and focused on a variety of course topics rather than revisiting a tweet and exploring how her thinking had changed or how she had gained a greater depth of understanding. In addition, Witny’s tweets appeared more declarative in nature, describing an arrival at understanding rather than reflecting to “resolve the doubt” (Dewey, 1933, p. 12) or engaging in “exploratory speech” (Barnes, 1992).

Witny’s tweets reveal what she thought but not the thinking itself. Witny often reflected in relation to a course reading or an experience that she had at her school site. The following tweets represent examples of the ways Witny reflected on various topics, including tweeting about her thoughts on text selection and different types of writing (e.g., compare and contrast essays and journals).

Texts, especially canonical texts, need to be relevant to students so they can make connections—an important reading strategy.

Teach compare/contrast essays by focusing on content first. Form can come later. Use students' interests for first compare/contrast essay.

Students love to write about themselves. A teacher I observe uses informal, personal writing to get to know her students. I want to do this.

Journals—reading check, warm-up to topics, access background information, get to know students, etc. Great informal writing.

Although Witny was reflecting on different aspects of teaching, one common theme throughout these four example tweets was student engagement and making content relevant to students. For example, Witny identified the importance of making canonical texts relevant to students, an idea that had been expressed in Chapter 9 of *Teaching Literature to Adolescents* (Beach, Appleman, Hynds, & Wilhelm, 2006).

When tweeting about teaching writing, Witny also identified the importance of making the content relevant to students and allowing students to include personal experiences in their writing (i.e., prompts that ask students to write about themselves). Whether reflecting on a course reading (in the case of the first two tweets) or reflecting on what she was experiencing at her school site (in the case of the latter two tweets), Witny's reflections revealed the importance she placed on knowing her students.

Witny did not revisit tweets or notice the recurring theme throughout her tweets, because Megan's assignment did not ask preservice teachers to revisit tweets. Witny believed that the requirement to tweet only once a week encouraged an exploration of a variety of topics rather than connected topics. Furthermore, the 140 characters did not provide much room to wander, and Megan did not model to her preservice teachers the option to tweet several related tweets—making use of ellipses or the conventions “1 out of 2” and “2 out of 2.” Finally, due to the authentic audience aspect of Twitter, Witny believed that her ideas had to be more final-draft speech rather than exploratory speech (as defined by Barnes, 1992).

Using Twitter to Build Communities of Practice

Another highlight of the Twitter assignment were the opportunities that the assignment provided for preservice teachers to participate in a larger teaching community, sharing their own ideas and learning from the resources provided by other teachers. Although these preservice teachers were already part of a teaching community in the sense that they had strong ties to their credential cohort and were immersed in a local school site for their practicum experience (in the case of Megan's preservice teachers), Megan found it exciting to expose these preservice teachers to a larger, global community (as defined by Cohen, 2009) that could be a source of inspiration and support throughout their teaching career. Twitter provided Casey and Witny with the opportunity to connect with other educators in several ways.

One way that preservice teachers were able to engage in a larger global community was by following other teacher educators or literacy experts on Twitter (e.g., [@hickstro](#) and [@KellyGToGo](#)). Following others in the field provided an opportunity for preservice teachers to find value in their course readings and explore their own ideas about the teaching of English beyond the methods classroom. For example, Witny often retweeted tweets from other key teacher educators when these educators recommended useful educational texts or resources. By following these authors, preservice teachers were exposed to other recommendations about professional texts and teaching practices that

aligned with texts and pedagogy that the preservice teachers had already been exposed to in their credential coursework and in their practicum placements.

We (Susanna and Megan) found it helpful to have other professional educators recommending similar resources to the ones that we used in our classes. This practice helped the preservice teachers see that a larger *field* of English education exists and helped connect university students to both near and distant communities beyond the classroom (as also in Swensen et al., 2006).

Twitter also made it easy for the preservice teachers in our courses to interact with authors of course texts directly. For instance, Witny, after reading a chapter from *Teaching Adolescent Writers* by Kelly Gallagher (2006), decided to tweet [@KellyGToGo](#) in order to share her thanks for his inspiring words about the challenges of teaching writing effectively:

“I am not Superman, I am not Superman.” I need to keep this in mind. A good attitude and trying is very important. Thanks [@KellyGToGo](#)

As a beginning teacher, Witny appreciated Gallagher’s remarks on the challenges of achieving effective writing instruction and that “how to teach writing is a process itself,” recognizing that teaching is “ridiculously *hard*” (Gallagher, 2006, p. 153). She was able to communicate this appreciation directly with him, rather than talking about it with her peers. Similarly, Casey sent the following tweet to [@KellyGToGo](#), who had written one of her course texts, too:

“Students must see the process to understand the process” [@KellyGToGo](#) I can only be Wonder Woman if I model how to write!

This example shows how Casey shared her understanding of the text with the author and, like Witny, began to realize that she was a part of a larger professional conversation. Although not every tweet received a response, often authors would reply.

One unexpected discovery that occurred when Megan implemented the Twitter assignment a second time was the potential to expand the Twitter community to future class sections of methods. This expansion happened by chance because Witny, a member of the fall cohort of methods preservice teachers, chose to continue to tweet during her student teaching placement, which occurred the quarter after her methods course ended.

Since Megan was following Witny on Twitter, when she introduced the Twitter assignment to her new methods class the preservice teachers enrolled chose to follow everyone Megan was following and ended up forming an online professional relationship with preservice teachers who were student teaching and about to finish the program. Witny actively positioned herself through her tweets as a mentor, providing guidance to her fellow preservice teachers and those in a future cohort of the program. An example of this mentoring can be seen in the following tweets by Witny:

credential students have to figure out how to make co-teaching work. These are some good tips to help. tinyurl.com/dya66jo

Passing periods and lunch should be spent talking to students about their lives and interests. Get to know students and show you care.

If you are bored during your lesson then students are. Be enthusiastic and plan engaging lessons. Visuals, group work, interesting questions.

The most beneficial aspect of this online relationship was that the soon-to-be-graduated preservice teachers took on a mentoring role to the just-beginning-the-program preservice teachers. This form of mentoring via an online social network looked different from the traditional notion of mentoring—which is typically conceived of as a more experienced/veteran teacher supporting a beginning teacher through face-to-face mentoring opportunities (Orland, 2001)—and included a reconceptualization of mentoring that focuses on university involvement and virtual mentoring (Barnes-Ryan, 2010; Coffey, 2012; Feiman-Nemser, 2001; Guise, 2013).

Although Witny was not significantly more experienced than the preservice teachers who were one quarter behind her, she provided advice by tweeting about topics of concern, such as implementing coteaching (an approach to student teaching implemented by Witny's credential program), building a rapport with students, and creating engaging lessons. Witny was beginning to transition from being a newcomer in a community to a full participant (Lave & Wenger, 1991).

Finally, connections formed between participating in communities of practice and reflection. Twitter allowed preservice teachers' reflection to take place socially, helping them to find new places for learning beyond the scope of the classroom alone (as also in Rogers, 2002). For example, in reflecting upon her experience using Twitter, Witny noted that examining others' tweets helped her to understand how professionals reflected upon their teaching. Similarly, Casey noticed that teachers and teacher educators would often share articles and then tweet a reaction to the articles. She realized that she was doing the same thing in her methods course.

Casey felt that the Twitter assignment asked her to consistently read, analyze, synthesize, and reflect, and realized that others in the larger field of English education were also doing the same things in their professional lives. By participating in larger communities of practice, Casey better understood that reflection is a part of being a lifelong learner and teacher, not only an assignment for a methods course in college. Not only did engaging with others on Twitter allow preservice teachers to stay up to date on educational issues and engage in conversation about these issues with other professional educators (as in Forte et al., 2012), but it also provided an opportunity for preservice teachers to see how reflection truly is a critical part of high-quality instruction (as defined by Amboi, 2006), and how other educators engage in reflection as a part of their lives as teachers.

Considerations for Teacher Educators

Scaffolding Reflective Thinking and Tweeting

Casey's and Witny's tweets demonstrate that they used the Twitter assignment to engage in reflection, albeit in different ways. Although the assignment and the platform of Twitter itself naturally promoted frequent, ongoing, and collaborative inquiry, Susanna and Megan agree that they could have done a better job of modeling what constitutes reflective thinking and how Twitter could be used to achieve this goal. The Twitter assignment description mentioned the word *reflection*; however, we realized that we never explicitly defined this term, examined examples of critical reflection, or overtly modeled how to engage in this type of thinking.

Casey drew much of her understanding of reflecting from observing the tweets of other professionals. Although it seemed positive that Casey picked this up on her own, Susanna and Megan recognized that many preservice teachers needed more support than was provided in this assignment.

Witny's tweets seemed somewhat less grounded in Dewey's (1933) notion of reflective thinking; instead of using Twitter as an act of searching or hunting for answers, she seemed to use Twitter to provide conclusions at which she had arrived. Twitter, then, was more a medium to communicate the results of her thinking but not the thinking itself.

Teacher educators have long used writing as a means for reflection (Yost, Sentner, & Forlenza-Bailey, 2000), but have also noted that preservice teachers need support and scaffolding in developing reflective thinking skills (Shoffner, 2008), especially when using an online and potentially unfamiliar platform like Twitter. Therefore, teacher educators must carve out time in class sessions for exploring and unpacking the notion of reflective thinking. Based on the first iteration of this assignment, Susanna and Megan have made revisions to subsequent versions of the assignment to better support preservice teacher reflection.

One way to scaffold reflective thinking is for preservice teachers to be more transparent about their purposes for using Twitter and create more experiences for their preservice teachers to see the advantages of Twitter as a reflective tool in comparison to other tools for reflection. For example, providing a teacher think-aloud where teacher educators model how they compose a tweet and how it allows them to engage in more authentic reflection than, perhaps, creating an electronic slideshow, writing a philosophy of teaching, maintaining a daily journal, and so forth, could help preservice teachers to see the benefits to Twitter. Preservice teachers might also write a more typical reflection first (e.g., a journal entry) and then distill their journal thinking down to the essential, using the 140-character limit of Twitter to help give them a framework for this summary.

Witny also pointed out that guiding reflective questions (e.g., "What did you find valuable in your observations this week?") provided by teacher educators might be useful as a scaffold for learning to reflect critically, especially in the beginning of the process. This suggestion aligns well with the literature on supporting preservice teacher reflection (Shoffner, 2008). In subsequent iterations of this assignment, Susanna has provided a list of eight topics/questions (e.g., "Note an important shift in your thinking and learning this week. What 'ah-ha!' moments have you had?" or "Re-tweet a resource that relates to a concept we have discussed in class. What is the connection here?"). Although preservice teachers are not limited to these questions, nor are they required to answer a certain number of them, they can provide helpful scaffolds for when preservice teachers struggle with coming up with content for their tweets.

Another way to scaffold better reflection is for teacher educators to provide other opportunities alongside regular tweeting for preservice teachers truly to "turn a subject over in their mind" (Dewey, 1933, p. 3). Susanna has added an extra component to her use of Twitter, which she calls "Twitter Reflections." She asks preservice teachers to review their tweets at multiple times throughout the semester, and then the preservice teachers select five tweets that they think tell an important story about their learning. They take screenshots of the tweets, embed all five tweets into a document, and then describe what is significant about these tweets, discussing their current thinking relative to these tweets.

This assignment could also be completed using an online platform (such as [Storify](#)). With this additional step, Susanna also hoped to clarify that the focus of this assignment truly

was about reflection, rather than using Twitter only as a “cool tool” (Hicks & Turner, 2013, p. 59). We (Susanna and Megan) also recognized that sometimes providing specific requirements, such as Susanna’s requirement of six tweets weekly, may run counter to recommendations for integrating technology. Hicks and Turner suggested that teachers try not to quantify technological use.

Although she requires a certain number of tweets per week, Susanna does not grade the preservice teachers based on their number of tweets and hopes that the new Twitter Reflections assignment helps to emphasize reflective thinking over quantity of tweets. As we continue to modify this assignment, we try to be mindful of making connections between the digital tool and the critical thinking that the tool allows.

Enhancing Opportunities to Write for Authentic Audiences in a Community of Practice

Twitter provided preservice teachers a chance to write for authentic audiences, and allowed them to interact with their peers and with other professionals. Casey and Witny clearly engaged with professionals and with other classmates through this Twitter assignment and clearly benefited from their participation in this larger community of practice. However, there are also ways to improve upon the assignment.

One simple way is for teacher educators to tweet actively throughout the course. Susanna and Megan noticed that after the course there was a sharp decline (if not a complete stop) in the preservice teachers’ activity on their professional Twitter accounts. In order for Twitter to become a sustained endeavor, teacher educators must model long-term participation in communities of practice by maintaining an active Twitter account. We noticed that when we tweeted more frequently or communicated with preservice teachers via Twitter by tagging and sharing resources, the preservice teachers, in turn, became more active users of Twitter. In a similar way, in subsequent classes, Megan noticed that when her preservice teachers engaged with an audience outside of her classroom (e.g., authors of texts read in class), they were more likely to tweet more often.

Second, requiring Twitter to be used in additional coursework by different (or the same) teacher educators could potentially help preservice teachers to use Twitter beyond their credential program. For example, Casey initially continued to use her professional Twitter account after the course, but eventually returned to tweeting more often from her personal account and letting her professional account fall by the wayside. Witny noticed that many of her fellow preservice teachers stopped using Twitter when it no longer was a course assignment, suggesting that the community of practice was created but not maintained. If the Twitter assignment was implemented throughout the yearlong credential program, it may more likely become a habit and lead to sustained involvement.

For an undergraduate credential program (like the program in which Susanna teaches) or a postbaccalaureate credential program (like the program in which Megan teaches) to adopt Twitter as a common thread that runs throughout all education or English education coursework, preservice teachers could gain more experience using this reflective tool and could also see different ways that teachers can participate in a larger community of practice.

As Susanna has continued to revise the assignment, she has tried to connect with her department’s social media channels and accounts and encourages preservice teachers in her methods class to use departmental hashtags. Her department encourages preservice teachers to tweet about what they are learning or doing within the department or

university, then selects preservice teachers to win Tweet of the Week. Several of Susanna's preservice teachers have won Tweet of the Week with a tweet they composed in their methods course.

In addition, Susanna and Megan see the importance of involving individuals in the teaching field (e.g., administrators, cooperating teachers, and university supervisors) in tweeting reflections and sharing resources. Often preservice teachers struggle to make connections between their teacher education coursework and their field site experiences (Alsup, 2006; Darling-Hammond, 2006; Zeichner, 2010). If Twitter was a platform that allowed teacher education programs, preservice teachers, field site administrators, cooperating teachers, and university supervisors to communicate and reflect and share resources, perhaps more connections between theory and practice could occur.

As Megan has continued to revise the Twitter assignment, preservice teachers enrolled in her methods course have attended a local chapter of [Computer Using Educators](#), participating in workshops on Twitter use in education and following local teachers and cooperating teachers who have an active presence on Twitter.

Finally, teacher educators should be aware of opportunities to model participation in communities of practice. Susanna found that one way to do this was to send tweets to other professionals during class. During a subsequent implementation of the Twitter assignment, Susanna was afforded the opportunity to teach in a classroom space that was technology saturated, a classroom that included multiple projectors for the display of the instructor's or preservice teachers' laptops. Susanna chose to have her Twitter feed up during class and encouraged her preservice teachers to tweet while in class, showing their immediate reactions and reflections, allowing for participation in a different mode. Projecting the Twitter feed during class allowed for interaction with an outside audience during the class session.

For example, when discussing an article by Troy Hicks, Susanna decided to tweet about a blog post he had written (Hicks, 2013), and mentioned him in the tweet; before the class ended, she received a response from [@hickstro](#). Not only did Susanna model what it looked like to engage in a community of practice, but her preservice teachers perhaps saw the benefits of participating in an extended community of practice. Throughout the semester, several other preservice teachers tweeted to authors during class and received replies during class. Using Twitter as a backchannel in this way seemed to promote preservice teacher engagement, and at the end of the course, several preservice teachers commented that they would follow future cohorts of methods students on Twitter.

Twitter may not be for everyone; some preservice teachers might choose not to continue using or reflecting with Twitter after their course is over, despite our best attempts to encourage their participation. Even if they choose to abandon Twitter, we hope that our preservice teachers continue to reflect on their teaching and engage in dialog with others about their teaching.

Closing Thoughts

Twitter provided unique opportunities for preservice teachers to engage with communities of practice and, depending on the structure of the assignment, to engage in reflection. It also provided Susanna and Megan with the opportunity to examine their use of Twitter in methods courses in order to determine how the assignment can best be designed to support learning and reflecting. As Susanna and Megan have continued to refine the assignment, we realize the importance of tweeting regularly, returning to

tweets to examine learning throughout the course, and modeling tweets and interactions with other professionals outside of the classroom. In 140 characters or less, Twitter presented teacher educators and preservice teachers with the opportunity to be #alwayslearning.

References

- Alsup, J. (2006). *Teacher identity discourse: Negotiating personal and professional spaces*. Mahway, NJ: Lawrence Erlbaum Associates, Inc.
- Amboi, F. A. (2006, Spring). Beyond the call: Preserving reflection in the preparation of "highly qualified teachers." *Teacher Education Quarterly*, 23-35.
- Barnes, D.R. (1992). *From communication to curriculum*. Portsmouth, NH: Heinemann.
- Barnes-Ryan, S.G. (2010). The first two years of teaching. *English Journal*, 99(3), 84-86.
- Beach, R., Appleman, D., Hynds, S., & Wilhelm, J. (2010). *Teaching literature to adolescents*. New York, NY: Routledge.
- Berry, M., & Russell, T. (2014). Critical friends, collaborators and community in self-study. *Studying Teacher Education*, 10(3), 195-196.
- Boss, S. (2013, August 13). Twittering, not frittering: Professional development in 140 characters. *Edutopia*. Retrieved from <http://www.edutopia.org/twitter-professional-development-technology-microblogging>.
- Bull, G., Bull, G., & Kajder, S. B. (2003). Writing with weblogs: Reinventing student journals. *Learning & Leading with Technology*, 31(1), 32-35.
- Coffey, H. (2012). Rethinking mentoring relationships. *English Journal*, 101(4), 94-96.
- Cochran-Smith, M. (2005). Teacher educators as researchers: Multiple perspectives. *Teaching and Teacher Education*, 21, 219-225.
- Cochran-Smith, M., & Lytle, S.L. (1990). Research on teaching and teacher research: The issues that divide. *Educational Research*, 19(2), 2-11.
- Cohen, J. (2009). Teachers take to Twitter. *Education Week Teacher Professional Development Sourcebook*, 3(1) 6-7.
- Collier, S. T. (1999). Characteristics of reflective thought during the student teaching experience. *Journal of Teacher Education*, 50(3), 173-181.
- Darling-Hammond, L. (2006). *Powerful teacher education: Lessons from exemplary programs*. San Francisco, CA: Jossey-Bass.
- Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. Chicago, IL: D.C. Health.

Dinkelman, T. (2003). Self-study in teacher education: A means and ends tool for promoting reflective teaching. *Journal of Teacher Education, 54*(1), 6-18.

DuFour, R. (2004). What is a professional learning community? *Educational Leadership, 61*(8).

Dunlap, J.C., & Lowenthal, P.R. (2009). Tweeting the night away: Using Twitter to enhance social presence. *Journal of Information Systems Education, 20*(2), 129-135.

Feiman-Nemser, S. (2001). From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record, 103*(6), 1013-1055.

Forte, A., Humphreys, M., & Park, T. (2012). Grassroots professional development: How teachers use Twitter. *Proceedings of the sixth International AAAI Conference on Weblogs and Social Media*. Palo Alto, CA: AAAI Press.

Gallagher, K. (2006). *Teaching adolescent writers*. Portland, ME: Stenhouse Publishers.

Gillespie, T. (1991). Joining the debate: *Shouldn't writing teachers write?* *The Quarterly, 37*-41.

Guise, M. (2013). Forming university and teacher partnerships in an effort to reframe and rethink mentoring programs. *English Journal, 102* (3) 65-70.

Hicks, T. (2013, Nov 4). *Teaching writing, tablet style* [Web log post]. Retrieved from <https://writerswhocare.wordpress.com/2013/11/04/teaching-writing-tablet-style/>

Hicks, T., & Turner, K. H. (2013). No longer a luxury: Digital literacy can't wait. *English Journal, 102*(3), 58-65.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.

Lighthall, F.F. (2004). Fundamental features and approaches of the s-step enterprise. In J.J. Loughran, M.L. Hamilton, V.K. LaBoskey, & T. Russell (Eds.), *International handbook of self-study of teaching and teacher education practices* (pp. 193-246). Dordrecht, NL: Kluwer.

Lincoln, Y.S., & Guba, E.G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.

Loughran, J. (2007). Researching teacher education practices: Responding to the challenges, demands, and expectations of self-study. *Journal of Teacher Education, 58*(1), 12-20.

Loughran, J., & Northfield, J. (1998). A framework for the development of self-study practice. In M.L. Hamilton, S. Pinnegar, T. Russell, J. Loughran, & V. LaBoskey (Eds.), *Reconceptualizing teaching practice: Self-study in teacher education* (pp. 7-18). London, UK: Falmer Press.

Louie, B.Y., Drevdahl, D.J., Purdy, J.M., & Stackman, R.W. (2003). Advancing the scholarship of teaching through collaborative self-study. *The Journal of Higher Education, 74*(2), 150-171.

National Writing Project and Nagin, C. (2006). *Because writing matters: Improving student writing in our schools*. San Francisco, CA: Jossey-Bass.

Orland, L. (2001). Reading a mentoring situation: One aspect of learning to mentor. *Teaching and Teacher Education, 17*, 75-88.

Rogers, C. (2002). Defining reflection: Another look at John Dewey and reflective thinking. *Teachers College Record, 104*(4), 842-866.

Shoffner, M. (2008). Informal reflection in pre-service teacher reflection. *Reflective Practice, 9*(2), 123-134.

Swenson, J., Young, C. A., McGrail, E., Rozema, R., & Whitin, P. (2006). Extending the conversation: New technologies, new literacies and English education. *English Education, 38*(4), 351-369.

Visser, R.D., Evering, L.C., & Barrett, D.E. (2014). #TwitterforTeachers: The implications of Twitter as a self-directed professional development tool for K-12 teachers. *Journal of Research on Technology in Education, 46*(4), 396-413.

Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. Cambridge, UK: Cambridge University Press.

Whitney, A. (2006). Writing by the book: The emergence of the journaling self-help book. *Issues in Writing, 15*(2), 188-214.

Wright, N. (2010). Twitter in teacher education: Reflecting on practicum experiences. *Open Learning: The Journal of Open, Distance and e-Learning, 25*(3), 259-265.

Yost, D.S., Sentner, S.M., & Forlenza-Bailey, A. (2000). An examination of the construct of critical reflection: Implications for teacher education programming in the 21st century. *Journal of Teacher Education, 51*(1), 39-47.

Zeichner, K.M. (1993). Action research: Personal renewal and social reconstruction. *Educational Action Research, 1*(2), 199-219.

Zuidema, L. A., Hochstetler, S., Letcher, M., & Turner, K., H. (2014). Writers who care: Advocacy blogging as teachers, professors, parents. *Teaching/Writing, 3*(1), 81-89.

Resources

The Atlanta Journal Constitution –
<http://getschooled.blog.ajc.com/?s=peter+smagorinsky>

bit.ly - <https://bitly.com/>

Computer Using Educators – <http://www.cue.org>

Facebook - <http://facebook.com/>

goo.gl - <http://goo.gl/>

Pinterest - <https://www.pinterest.com/>

Storify - <https://storify.com/>

Teachers, Profs, Parents: Writers Who Care - <https://writerswhocare.wordpress.com/>

tinyurl - <http://tinyurl.com/>

Tweetcaster - <https://tweetcaster.com/>

TweetDeck - <https://tweetdeck.twitter.com/>

Twitter - <https://twitter.com/>

Author Notes

Susanna L. Benko
Ball State University
Email: slbenko@bsu.edu

Megan Guise
California Polytechnic State University, San Luis Obispo
meguise@calpoly.edu

Casey E. Earl
Navasota Junior High School
Email: earlc@navasotaisd.org

Witny Gill
Ernest Righetti High School
Email: wgill@smjuhsd.org

Contemporary Issues in Technology and Teacher Education is an online journal. All text, tables, and figures in the print version of this article are exact representations of the original. However, the original article may also include video and audio files, which can be accessed online at <http://www.citejournal.org>