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ECONOMIC INSTRUCTION

Tweeting Your Way to Improved #Writing, #Reflection, and #Community

Alice Louise Kassens

Economics appears to be lagging behind other fields in the adoption of Web 2.0 technologies in the classroom. Twitter is an online microblogging utility, permitting posts of up to 140 characters called tweets. The utility is rapidly making its way into secondary and post-secondary classrooms as a complement to traditional instruction and an active learning tool. In this article, the author describes how Twitter was employed as a complement to traditional lecture in a small macroeconomics principles course (the instrument is applicable to courses at any level). The brevity of the tweets forces students to express their thoughts concisely and is believed to develop reflection and writing skills while expanding the class community.

Keywords *reflection, technology, Twitter, writing*

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The principles of economics course is the first place students are asked to write and think like economists. A variety of technologies are available to complement traditional lecture, including blogging, online quizzes, computer games and simulations, and electronic discussions. Becker and Watts (1996) noted that economists were lagging behind other fields in the adoption of active learning techniques available at the time. Based on the literature, it appears that economists are now lagging behind other fields, and even secondary education, in the incorporation of Web 2.0 in the curriculum. In this article, I describe how to use Twitter, a microblogging technology, in a small economics course to reflect on lecture, improve writing skills, and expand the classroom community.

TWITTER AND THE CLASSROOM

Twitter is an online microblogging utility, permitting registered users (Twitterers) to post (tweet) and read messages limited to 140 characters and "follow" anyone. Founded and launched in 2006,

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Alice Louise Kassens (e-mail: kassens@roanoke.edu) is an associate professor of economics at Roanoke College.

there are an estimated 200 million active users generating over 400 million tweets per day (Wickre 2013). The social networking service is free and can be accessed through a variety of portals, including the Web site and cell phone and tablet applications. Tweets can include images and videos and are sent primarily through cell phones (Moore 2013). A user's Twitter page displays user tweets in reverse chronological order and can be personalized using a variety of templates.

Twitter's uses include the dissemination of breaking news and communication, and the utility has increasingly found its way into the classroom. The current literature reviews the impact of Twitter on engagement, participation, success, writing and communication skills, community, learning, and memory. A considerable literature has evolved describing how Twitter is used to increase classroom engagement and success (Ebner et al. 2010; Elavsky, Mislan, and Elavsky 2011; Junco, Elavsky, and Heiberger 2012; Junco, Heiberger, and Loken 2011; Rankin 2009). These studies suggest that Twitter activities throughout the semester improved student mood, engagement, and success, particularly if the assignment was a considerable share of the course grade and faculty participation was strong. The utility is particularly helpful in promoting discussion in large classes and among students reluctant to speak in class. One study found no significant effect of Twitter on engagement, but the assignments were low stakes (Welch and Bonnan-White 2012). Frequent tweets of course concepts by either students or faculty can also improve student learning and thus success (Blessing, Blessing, and Fleck 2012; Wang 2013).

A common use of Twitter in the literature is to increase student participation in daily lecture (Rankin 2009; Novak and Cowling 2011; Young 2009). In each case, students tweeted questions and comments regarding the current lecture through individual Twitter accounts to the class account, which was streaming at the front of the room (backchanneling). Student tweets were frequent, and professors could address questions immediately and adjust the lecture to address misunderstandings. Some noted that there was the potential for students to miss important material while typing or reading tweets or be distracted by the Twitter feed (Young 2009; Handler 2012). A solution has been to limit the time Twitter is used and projected to short periods (Handler 2012).

The 140-character limit forces tweets to be succinct. Journalists have referred to Twitter as an "electronic editor" (Tenore 2012). The brevity of tweets can also be a powerful tool for teaching and practicing writing and other communication skills (Helvie-Mason 2011). Several decades ago, economists spoke of integrating the writing across the curriculum approach to improve undergraduate writing, thinking, and arguing skills and link course material (Cohen and Spencer 1993; Siegfried et al. 1991). Writing about economics is a vital test of student understanding of course material, but it is a challenge in an introductory course where student writing skills are often poor. One of the keys to good writing is developing an argument. A Twitter assignment pushes students to edit and develop concise arguments, and it does so in a manner that is easier and faster for the instructor to evaluate than a longer writing assignment.

Finally, Twitter expands the classroom beyond its physical walls. A community can be developed in a normally isolated educational experience, such as a student-teaching practicum (Wright 2010). Guest experts can join the classroom conversation from anywhere in the world, and students can initiate communication with experts and watch conversations unfold among experts in real time.

Of the literature reviewed and discussed, not one manuscript is authored by an economist or discusses the use of the utility in the classroom. This is unfortunate, as Twitter is a simple technology which can be easily integrated in a course and, if done so correctly, pushes students to be active participants in the learning process. Web 2.0 has great potential for "teaching economics in the 21st century" (Becker 2000).

USING TWITTER IN PRINCIPLES

A semester-long social media project was incorporated in a section of a principles of macroeconomics course at a small liberal arts college in Virginia in the spring and summer semesters of 2013. The classes included 30 and 21 students, respectively, who were largely economics and business majors. The Twitter component, weighted 15 percent of the overall course grade, required students to tweet several times over the course of the semester. Some assignments were completed during the class period, while others were finished outside of class. The setting was a 32-seat computer classroom with a screen at the front of the room projecting the class's Twitter feed. A common rubric, designed by the class prior to the start of the project, was used to grade each assigned tweet. The rubric is shown in figure 1.

Preparation

Many students did not enter the semester with Twitter experience, necessitating an introduction. The project was discussed briefly on the first day of the semester, and students were told to search for an answer to the question, "What is Twitter?" before the next class. Most students utilized twitter.com/about, which we also accessed as a class the following class period. Next, each student set up a Twitter account to use for course-related activities (students were encouraged to keep personal activities on a separate account). Students were given 10 to 15 minutes to personalize their page, follow each other, the course account, and potential economics resources, and make some initial tweets. Lastly, the students and professor took 10 to 15 minutes drafting the grading rubric shown in figure 1. This activity was prompted with the question "What makes a good tweet?" Given the student input, the professor developed a final rubric and posted it on the online course management page.

Allowing an entire class period for an "Introduction to Twitter" is likely plenty, but students should be encouraged to experiment with their account and any related application outside of class. Dedicating an entire class period for this purpose is a valuable investment. It will likely reduce student questions and issues pertaining to setting up and using Twitter and ties students to

CATEGORY	3	2	1	0
Content	Content is specific to the topic and clearly typed	Content is mostly specific to the topic, but not completely clear	Content is not specific to the topic and is not clear	No Twitter entry
Requirements	All directions were followed, including appropriate hashtag	Most directions were followed and appropriate hashtag included	Directions were not followed OR appropriate hashtag not included	No Twitter entry

FIGURE 1 Twitter Assignment Grading Rubric.

the project by getting their input for the scoring rubric. The initial tweets during the introduction can be linked to an early economics lesson to avoid falling behind on the course material. For example, our trial assignment on the first day included reading a blog post about the opportunity cost of attending college. Students were asked to tweet at least two comments or questions about the reading. Their tweets were reviewed as a class and suggestions for improvement were made. Students had the opportunity to see how their trial tweets would be scored using the class rubric.

Graded Assignments

Ten Twitter assignments were graded over the course of the semester, three of which are discussed below. Table 1 provides a complete list of assignments, sample tweets, and share of students earning a three, the highest score, by assignment. Each assignment followed a related lecture and required a concise, reflective tweet. The tweets were streamed at the front of the classroom through twitter.com and filtered by the course hashtag. Class was held in a computer lab, and students submitted their tweets from their desktop. Students had online access to the grading rubric at all times. For assignments completed outside of class, students used either a cell phone application or a computer to tweet; tweets were broadcasted and discussed the following class period.

An early assignment involved the 2013 State of the Union Address. Students were required to watch the address either live or online within 24 hours of the televised event and tweet several comments, questions, or responses throughout it. There were several purposes for this assignment, including raising student awareness of current issues and conversations of national importance, applying course material to these current issues and conversations, and doing so in a thoughtful and concise manner. An economics professor from a university in New York saw tweets reminding students of this assignment and encouraged his students to join our conversation, which deliberately expanded our class community and discussion. It was reported that over 1.3 million tweets were sent worldwide between the start of the address and the end of Senator Marco Rubio's response, including 637 by members of Congress (Weiner 2013); all of these tweets were available to my students, creating an unintended class over a million strong.

Another Twitter assignment involved questions tweeted to our class by two prominent economists. A traditional GDP lecture, including the indicator's definition, uses, historical and current values, international comparisons, and shortcomings, was concluded with a discussion of the relationship between GDP and happiness. Students reviewed the empirical relationship between GDP and happiness with the aid of an online series (Wolfers 2008a–2008f). The authors of a recent journal article on the topic and the online series that the students were assigned to view each tweeted a question for the class to address concerning the relationship between GDP and happiness: (1) "OK, there's a strong relationship between GDP & happiness. Does that mean govt's should aim to maximize GDP?" (Wolfers 2013); and (2) "People in rich countries are happier than those in poor. Does that mean buying things makes us happier?" (Stevenson 2013). Students tweeted answers to at least one of the two questions. Answering questions from experts on a topic in this manner increased engagement as our discussion was not confined to the classroom walls, and a "face" could be associated with the experts. These experts joined our community for that lecture. An expansion of this exercise would be to have an expert or guest

TABLE 1
Twitter Assignments Summary

Title	Description	Sample tweets	Content	Requirements
Heilbroner	Students read a section of the first chapter of *The Making of Economic Society* and tweet reflective comments/questions.	In Egypt it was sacrilege for a son to not follow the occupation of his father. Kind of messed up #kassensecon122	0.24	0.62
Hayek	Students read selections from *The Road to Serfdom* and tweet reflective comments/questions.	How can the central direction of economic activity balance the combination of individualism and socialism? #lhayek #kassenseconl22	0.29	0.48
State of the Union Address	Students tweet reflective comments/questions relating to course material during the SOTU address.	"Restore the basic bargain that built this country." What does #Obama mean "basic bargain"? #kassensecon122	0.81	0.90
GDP and happiness	Compare international GDP data; read blog posts in "The Economics of Happiness" series on *Freakonomics* Web page; tweet answer to one of two security questions tweeted to class by guest economists.	Material items may not create happiness, but I think the peace of mind that comes with education, etc. does #kassensecon122	0.43	0.57
Keynes and the Great Depression	Examine GDP, unemployment data during the Great Depression; read O'Driscoll Jr. 2010 and tweet a reflective comment/question; watch "Fear the Boom and the Bust" by *EconStories* and tweet a reflective comment/question.	Very true Zach but What if FDR did not have WWII to help speed up the recovery? Would it have still worked out as well? #kassenspatel	0.43	0.81
Money and the money market	Use a variety of online resources on the history of money and money demand and tweet several reflective questions/comments.	Fiat money would be considered worthless without a guarantee from the government #kassensecon122	0.71	0.76
The Fed and monetary policy	Read online resources from the Federal Reserve Bank's Web page and tweet several reflective comments/questions; play the "Fed Chairman Game" and tweet the outcome and reason.	How does the Federal Reserve control the amount of money in circulation? #kassensecon122	0.52	0.76

(Continued on next page)

TABLE 1
Twitter Assignments Summary *(Continued)*

Title	Description	Sample tweets	Content	Requirements
Unemployment and GDP	Read online paper from Kansas City Federal Reserve Bank on Okun's Law and tweet reflective comments/questions on each major section of the paper.	Is there a flaw in Okun's Law because it doesn't really consider the amount of technology that is replacing labor? #kassensecon122	0.81	0.90
Unemployment and inflation	Read online article from *The Economist* on the Phillips Curve and tweet a reflective comment/question.	#kassensecon122 "wages seem to be rising more slowly than prices generally." Discouraging knowing your income can't catch rising inflation	0.57	0.81
U.S. debt	After reviewing U.S. debt and deficit data available online from FRED, read online article from *The Economist* on deficits and tweet a reflective comment/question.	why do we have trillions of $ as a margin of error for long term projections about the economy or government revenues? #kassensecon122	0.86	0.95

Sources: Heilbroner 1980; Hayek 1994; Wolfers 2008a–2008f; O'Driscoll Jr. 2010; Papola and Roberts 2010; Federal Reserve Bank of San Francisco n.d.; Knotek 2007; Avent 2012; Stevenson 2011.

interact live with the class rather than simply tweeting a single question; the guest could answer student questions or pose questions as a conversation evolves.

A third assignment involved a video from Econstories.com. The Web site features several free videos pertaining to economic issues and schools of thought. Students in the macroeconomics principles class were required to watch “Fear the Boom and the Bust,” a rap video pitting Hayek versus Keynes in a debate over business cycles, and tweet several comments or questions. A principles class from a university in Tennessee also participated in the assignment, expanding the conversation beyond our small group. This assignment was completed at home since headphones were not available in the computer lab. An alteration of this assignment would be to play the video on the screen at the front of the room and have students tweet throughout it, although students would not be able to replay sections that they did not understand as they can when viewing on individual computers.

Twitter assignments, including the ones described above, have the potential to improve reflection and writing skills. Mentioning these purposes, posting the grading rubric for students to review, and providing feedback in class on those issues are important for the success of the assignment. The last two columns of table 1 show the share of tweets earning the highest rubric score in the spring of 2013. There is a general upward trend in student performance, particularly for content. Students seemed to enjoy the alternative method of interaction, particularly those who are reluctant to speak in class. At the end of the course, students were asked, “Did using Twitter in class help clarify course material?” via an online poll. Seventy-six percent of respondents ($N = 25$) voted “yes.”

Suggestions

Suggestions for teachers considering using Twitter in the classroom are as follows:

(1) Hold class sessions in a computer lab. Questions about setting up an account and so forth can be handled more productively when students open accounts with the professor present. Additionally, Twitter is more easily incorporated in the classroom when it can be used during lecture on a regular basis.
(2) Establish ground rules for all students to follow. Our ground rules included (a) be respectful and (b) only use the Twitter account for class-related assignments.
(3) Allow students to practice tweets and give feedback based upon intended learning outcomes before any graded assignments are given.
(4) Select a unique hashtag for all class posts.
(5) Grade student tweets by going to students’ individual Twitter pages rather than relying on programs to collect tweets based on a hashtag. These programs are, for now, unreliable.
(6) Follow each of the students in your course to facilitate grading.
(7) Assign a significant portion of the course grade to the assignment.

Benefits and Drawback

Benefits of using Twitter in the classroom include (1) expanding the classroom and becoming part of a larger community, (2) refining reflection skills without requiring large writing assignments, (3) refining writing skills without requiring large writing assignments, (4) increasing student engagement, and (5) showing students how to use social media responsibly. Improved rubric scores and poll results lend support for the pedagogical benefits of the assignment. One drawback to the use of Twitter as described in this article is that it is likely not suitable or manageable for large classes. Managing 10 or more assignments for large classes would be potentially time-cost prohibitive, unless a student assistant is available.

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