DURING SPRING SEMESTER 2010, a long-standing upper-division lecture course, Medieval Cities of Europe, 500-1500 CE, underwent a course transformation. Our goal was to address specific challenges with student engagement that we had experienced in the course in the past; our overarching strategy was to introduce technology into the course to allow students additional opportunities to engage with the material and get feedback. This course had been taught since the late 1970s to student audiences of between 40 and 60, but in the last decade, the course began to attract greater numbers of students, over 80 in some cases. The course format was the traditional lecture without discussion sections or small group exercises, taught with an instructor and a reader/grader. Because of the numbers of students and the increased enthusiasm for alternative learning opportunities through technology in the classroom, the instructor applied for a Course Transformation Grant sponsored by the Offices of Information Technology in the College of Liberal Arts and the Digital Media Center at the University of Minnesota. The instructor, along with a graduate student who would be the reader/grader, an undergraduate, and two educational technology consultants, worked as a team for nine months to produce a plan to transform the course. The course transformation included a small budget for technology support, but obviously precluded any major investment in software or “Hollywood-like” multimedia.
development. The course transformation team looked instead for simple, existing technologies to facilitate transformative learning experiences in the classroom.

The transformation was intended to create more opportunities for active learning, increasing student engagement in the course lectures and in the subject matter of medieval cities. A particular goal was to limit “lights out, heads down” disengagement and distraction during in-class films. One of our goals was to provide students with new ways to master the core course concepts, such as the reality of the negotiated topography of medieval spaces, and we were interested, to the degree possible, in increasing the efficiency of the course and reducing the administrative overhead.

We introduced four technology-enhanced activities to enrich the traditional lecture format: clickers; Twitter reflections on class films; a map exercise; and group presentations on medieval urban topics. The lectures were accompanied by PowerPoint images designed to encourage student questions and discussion. The course was supported by a Moodle website that served as a central repository for the knowledge assets of the course. The site featured PowerPoint formats and templates, links to other medieval Internet sites, video instructions for the Twitter exercises, as well as video instructions for the map exercise, and specific bibliography and guidance for each of the five in-class presentations. Below, we discuss in detail each of our four major interventions.

**Classroom Response: Clickers**

Clickers facilitated class discussion. A question related to the day’s material, along with several responses, opened the class. Sometimes, the multiple-choice responses reflected a right answer as well as erroneous responses; in other cases, there was not one correct answer, but rather a measure of interpretation required in the choice of response. The clicker responses were graphed immediately after the closing of the polling of student responses. The instructor then questioned the students about the reasons behind their choice of answer and used the variance in responses as a launching point for discussion. For example, we used the following clicker question, with three correct answers, to stimulate discussion of the differences in urban experiences across Europe under the early medieval successor kingdoms after the fall of Rome:

How did Merovingian attitudes towards towns differ from those of the Ostrogoths?

   1. Efforts at restoration of urban institutions
   2. Degree of urbanization
   3. Loyalty to Rome
Because all three responses were correct, the class discussion focused on
what students thought was most relevant in distinguishing the two peoples’
response to the urban legacy of Rome.

Students were encouraged to consider how the history of medieval cit-
ies is closely linked to economic history overall. To probe this issue, the
following question invited their reflection:

What factor do you view most important in medieval economic growth?

1. Population growth
2. Technological change
3. Emergence of entrepreneurial skills
4. Capital input

After the poll revealed student choices, the instructor asked for justifications
of a particular response in light of urban history. In this example, a
better case could be made for population growth and the emergence of
entrepreneurial skills as key in the expansion of business and the economy
overall in the Middle Ages. There was limited technological change after
the eleventh century in agriculture, though some technological innovation
such as fulling mills occurred in the cloth industry in the late twelfth and
thirteenth centuries. Capital infusion was not a significant factor in medieval
economic growth, though individual investment was important; the issue of
money supply, on the other hand, was critical. A useful discussion ensued,
tying factors in economic growth to the history of cities.

To pursue the links between urban history and economic history,
additional factors were considered. In the High Middle Ages, international
trade had a major impact on medieval cities. Students were invited to
consider the nature of the twelfth- and thirteenth-century Champagne trade
fairs as a stage of economic growth:

How would you characterize the economy represented by the Champagne
fairs?

1. Sophisticated and proto-capitalist
2. Relatively primitive
3. Intermediate state of development

Here, the third response was the most accurate. The discussion after the
polling ushered in a lecture on the development and organization of the
Champagne fairs.

Overall, clicker exercises served to get discussion going among the
students as they volunteered to describe the reasoning behind their
particular response. The anonymity of the voting seemed to put the students
at ease, and there was consistently interesting discussion of responses that
provided a good segue into the lecture. The instructor then delved into
the specific content of the day’s lecture topic.
Twitter: Expanding Classroom Response

The use of Twitter commentary on class films was the most experimental of our teaching innovations. Five films were shown in class. To set the scene for the revival of cities in Europe by the eleventh century, we showed a film on the heavy plow that laid the groundwork for the increase in agricultural productivity necessary as a precondition for urban growth. A second film, *Tools in Medieval Life*, focused on the technological developments central to the expansion of urban sites. Films on London and Siena followed in subsequent weeks, and a final film addressed the medieval cathedral.

Simultaneous tweeting during the showing of in-class films had as its purpose to enhance the engagement of students in the films. A poll of the student body indicated that only about 20% of the group had used Twitter before the course. A further poll determined that most students had Twitter-ready devices in the form of smart phones or laptops with Internet connections. Some additional laptops were supplied for students who did not have a personal device to connect to the Internet in class. A short instructional video on Twitter was posted on the course Moodle site. The films were considered as secondary sources for the course content, meant to be handled in much the same way as other course materials. For the first two films, “hash tags” (labels suitable for sorting) were created under which students could submit tweets—one for the thesis of the film, one for source analysis, and one for other issues including aesthetic criticism, sound, iconography, knowledge production, art, etc.

Students were encouraged to employ a “Harvard accent on Twitter,” that is, to use an academic language as opposed to the more common informal “speak” that characterizes Twitter posts in general. They were also encouraged to experiment with abbreviations for academic terms and were reminded that medieval scribes frequently abbreviated words in their manuscript production. The total character count possible, including “hash tags,” was 140 characters. Not wanting to require students to sign up for a Twitter account in order to participate in a required class assignment, we initially created a single Twitter account for the entire course. The number of tweets—several hundred—for the first two films overwhelmed the system and required us to create ten total accounts for the students to sign onto in order to use the system for the required assignments. We set the accounts to “private” and then had the ten accounts “follow” one another’s so that students could see each other’s posts, from no matter where they were tweeting.

Twitter commentary accompanying films was guided by prompts. For example, for David Macaulay’s film *Cathedral* the following guidance was provided:
In addition to thinking about the already established criteria for responding to the films (thesis, sources, other), please consider the following discussion questions:

- Why would a medieval city invest the kind of financial resources, labor power, and political capital that it took to build a cathedral when there were so many other needs?
- The film employs both a traditional documentary style and an animated fictional story. What are the advantages and disadvantages of these methods? How does the animation in particular affect your reception of the film as a teaching tool?

For the London film, these prompts were used to guide the students’ Twitter commentary:

In screening the London film, consider what the main functions of a town/city are.

- Or, put another way, what are the fundamental characteristics of a city?
- What milestones does the film highlight in London’s development?
- What are the challenges of doing archeology in a continuously inhabited urban environment?

Clicker questions were also used to invite comparison in the class films. As a prompt for the Twitter regarding the films London and Siena, students were asked to think of the differences between London (via the film and lecture) and Siena, followed by a clicker question:

Which of the following differences impressed you as most significant when considering London and Siena?

1. Layout
2. Religious orientation
3. Political autonomy
4. Competition with surrounding towns

Students were able to see each other’s tweets in the feed, causing some intercommunication that was not as much on target as hoped. As the film ran, the reader/ grader had access to a continuous view of the feeds and was able to sort the tweets into categories that permitted the instructor to question specific lines of commentary at the end of the film. While class discussion ensued at the end of the film, the technology consultant created a word cloud (sometimes called a tag cloud) of most frequently used words in the tweets, permitting another level of analysis of the student commentary. A word cloud, created for the film London, illustrates the process that was used in each of the five films shown in class. (See Figure 1)

The word cloud permitted the instructors to hone in on the most commonly used terms/words in the Twitter commentary. Students were
particularly struck by the plague experience in London, despite the fact that the epidemiological disasters covered only a few of the approximately five hundred years featured in the film.

To impress upon students the need for a certain level of agricultural productivity before the growth of cities was possible, the instructor showed a film on the heavy plow. This somewhat unexpected choice of film occasioned a very interesting discussion of the terms frequently used in the tweets and identifiable through the word cloud. (See Figure 2) The recurring use of the term “community” inspired one student, a young woman who had grown up on a farm in South Dakota, to share insights on her upbringing and to comment on the striking parallels between her experience and what was discussed in the film.

As anticipated, there was a learning curve in the use of Twitter. Students gained greater facility with Twitter commentary on films shown later in the semester. A trial group of graduate students, introduced to Twitter before the beginning of classes, had questioned whether the head-bobbing between laptop and film would be distracting and whether the need to comment would detract from student appreciation of the film. The instructors discussed the possibility of having students take notes first and then tweet afterward, but for this first experimental offering of the course, we stayed
with the simultaneous approach. Student evaluation of the technology at the end of the semester reflected some of these concerns, but there were a number of students who endorsed the simultaneous Twitter.

Class Scenario Presentations

The presentation exercises were spread throughout the semester and involved five large groups, with fifteen or more students in each. The assignment of each group was to address one of the following themes: the Pirenne thesis as it applied to urban history, a medieval town council, a medieval guildhall, a medieval marketplace, and a medieval urban ceremony. Students were assigned their scenarios at the beginning of the semester and were allotted a whole class period for their presentations. They could use techniques employed in the class, including PowerPoint and clicker questions, to animate their presentations, which were videotaped by the undergraduate assistant to create an archive for the course. Presentations were staggered across the fifteen-week semester.

While in previous iterations of the course, students were asked to act out an urban ceremony, guildhall meeting, etc., this time, they were directed to a set of secondary source readings in order to familiarize themselves with
the history and historiography of their topic. They were then encouraged to organize their presentation around a central question, for which they were given prompts. The medieval guildhall group, for example, was given readings that dealt with the question of whether or not guilds were an impediment to economic growth, while the urban ceremony group was prompted to consider whether the benefits of lavish urban ceremonies were worth the cost. As is inevitable in such large groups, not all students in a group rose equally to the challenge, some offering hastily prepared book-report-style presentations. Strong presentations included a carefully scripted review of gender issues in ale and beer brewing guilds, complete with free root beer, a thoughtful discussion of medievalism, and a hilarious pre-recorded song in the spirit of a medieval ceremony. The scenarios formed part of students’ course participation grade. For those students who excelled, there was extra credit reward. For the few who fell short, there was a penalty attached to the participation grade.
The map exercise was developed from an initial desire to get students to build their own medieval city. We originally wondered whether something similar to SimCity might be employed; however, for a variety of reasons, ranging from the lack of time and expertise to design an appropriate game to the expense of using a commercial application, we turned to more accessible tools to address our instructional goals. Using PowerPoint, students were provided with a “scrubbed” map of the physical landscape of Bruges, with none of the built landscape. (See Figure 3) We then asked students to place icons representing major components of the medieval city (the cathedral, the city walls, the mendicant houses, the gallows, etc.) on the scrubbed map in a way they felt the medieval city would have developed, given the topography and other evidence from course readings and lectures. There were two PowerPoint slides on the Moodle site, one with the map template, one with the icons. (See Figure 4)
An instructional video on the site outlined the way students should proceed. They were each required to produce an individual map and then participate in a five-person team, drawn from their presentation groups, to produce a final map that was the fruit of collective effort and debate about the topographical organization of the town they were designing. Students were asked to justify their layout decisions in a two- to three-page narrative that accompanied the submission of the final collective map.

Though the instructor and reader/ grader had been somewhat skeptical that such a simple mapping concept could produce useful results, the final maps were stunning in their aesthetic power and in the sophistication of the layout choices. Figures 5 and 6 are examples illustrative of the final maps produced by students. A selection of final maps was combined into a slide show posted on the Moodle site. We offered extra credit to the group that first identified the town from which the scrubbed map was derived. One group successfully identified Bruges as the source of the scrubbed map.

Figure 5: Map 1, Created by Students
After students had turned in their final maps, the project was the center of discussion during class. The slide show looped again and again as the instructors discussed the student product. They then explored the layout of Bruges, showing specific PowerPoint images of the medieval layout and subsisting medieval buildings, basing their discussion on James M. Murray’s study of medieval Bruges.

**Student Reactions to Technology in the Classroom**

Student reactions to the use of technology in this course were mixed. Jude Higdon analyzed the online evaluations. The instructors surveyed the students in class, orally, and in written course evaluations. Comments ran the gamut from positive to highly negative. The standard written course evaluations contained no specific technology question and, as a result, provided few comments on the array of technology to which students had been exposed.
Of the four exercises utilized—clickers, Twitter, the PowerPoint map exercise, and the group scenarios—the last two were appreciated, particularly the scenarios. Examples from the most developed student comments illustrate student response:

“The integration of real life scenarios was the most helpful in the learning process.”

“Group projects outside of class helped to better establish concepts from lecture; in particular the ‘scenario’ presentations allowed students to take a more active role in learning.”

“The technology route they decided to take was innovative and interesting.”

“I think the scenarios were worthwhile. They add texture to the course.”

“The group activities and projects were the most stimulating part of the semester.”

The voiced reactions in class were mixed. A number of students took issue with Twitter as a pedagogical tool, finding it distracting. Some embraced it. This range also appeared in the written course evaluations.

“Discussions were good and assignments were very worthwhile and engaging.”

“I did not like the clickers and/or tweeting.”

“The clickers were ok but Twitter was pointless.”

“Using Twitter was just plain ridiculous. Social networking has no place in the classroom and was a waste of time. The city-design projects were fun but we hadn’t learned anything about city layouts before we did the project.”

“The Twitter and clickers work, but there were unnecessary for this course. The clickers had no use outside taking attendance and what Twitter was used for could have been achieved with discussion after the class and without the hassle.”

In light of the mixed response to Twitter, it is interesting to reflect on the in-class participation. The tweets recorded per film ranged from 157 to 207 or 2.7 to 3.4 tweets per student per film, depending on the number of students in class that day as well as the student response. Clearly, student engagement was there. However, student response revealed need for caution in embracing this new classroom response system.

The online survey, conducted on the Moodle site by the Course Transformation technical staff including the undergraduate attached to the project, produced 29 responses from the 75 students enrolled in the course or a response of about 40%. Thirteen students (45%) felt that the Twitter
technology increased their attention. The remainder (55%) disagreed with the statement that their attention was increased. Moreover, only 6 students (21%) of those responding felt they worked harder because of the use of Twitter. Again, in terms of learning, 12 of 29 students (41%) felt that the use of Twitter enhanced their learning experience while almost 60% did not. Eleven students (38%) judged that the Twitter exercise increased interaction between teacher and student. Finally, 11 respondents (38%) felt the Twitter exercise caused them to think more about the course material than they otherwise would have done. These results are clearly mixed and more often negative than positive, yet the Twitter experiment produced a form of interesting classroom engagement.17

Revisions Planned for Future Course Offerings

Keeping in mind that we would expect a range of responses and some resistance from students to this kind of innovation, we find enough positive feedback to motivate our continued work with the technology projects. We plan to make significant changes in the next offering of the course.

On balance, clickers were useful as a tool in introducing lecture themes. We will work to refine the questions to stimulate student discussion further. Questions will be interspersed throughout the lectures in some cases. The instructors felt that clickers created more opportunity for student-teacher interaction and for student questions as well as a means to address misapprehensions among the students about the urban Middle Ages.

Students liked to work in smaller groups, as they did in groups of fifteen for the scenarios and five for the map layouts. We may have each group of fifteen take their turn at tweeting to a film, with the other students simply screening the film and taking notes. We will provide greater explanation of what we envision as the academic use of Twitter, pointing out emphatically that the chat room format is not what we seek, but rather a mechanism for simultaneous commentary by students as they watch a film. Students will be asked to direct all tweets to a central theme, and academic language will be encouraged. We will make it clear to students that networking and back channel conversations are to be avoided, and tweets should be directed to the instructors, not to other students. We will allow for a learning curve, with a practice session for the class on a relatively light film offering.

The collaborative exercises of scenarios and map layouts were successful educational endeavors. Students enjoyed the small group work, a welcome diversion from the large lecture format, and many of them excelled in their oral presentations, having done considerable outside reading and online investigation. We will maintain the scenario presentations, offering more guidance in terms of the timing of the presentations. The instruc-
tors were very pleased with the maps and the explanatory narratives. In response to student comments on the map layout exercise, we will assign the reading on city layout in advance of the assignment. Lectures will address issues of urban layout and topography before the mapping exercise is due. We wish to retain the creative dimensions of the exercise while providing sufficient background material.

Though we had to make adjustments in the amount of course content delivered, perhaps a reduction of 20-30% of lecture material to accommodate the four types of exercises, we felt the results in terms of student engagement in the material and with the instructors fully justified the omissions. In the next offering of the course we will fine-tune the exercises but intend to include all of them. We look forward to another offering of Medieval Cities of Europe, with technology in the classroom.

Notes

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2. Clicker responses were tabulated using Turning Point Anywhere software. Turning Technologies, LLC., 2002-2010. For a discussion of the use of this technology, see Stephanie Cole with Gregory Kosc, “Quit Surfing and Start “Clicking”: One Professor’s Effort to Combat the Problems of Teaching the U.S. Survey in a Large Lecture Hall,” The History Teacher 43, no. 3 (May 2010): 397-410.


7. A hash tag is a nonsense non-English esoteric word that a group uses conven-
tionally to cluster tweets. One would not expect to find the hash tag in use outside of the group.


10. The scrubbed PowerPoint slides were produced by Jude Higdon, August 2009.


12. Map 1 by History 3611 students.

13. Map 2 by History 3611 students who also correctly identified the map as that of Bruges, Belgium.


Based on our experience of using Twitter in the classroom, CLA-OiT has designed an alternative response system called ChimeIn, discussed in “Twitter, Wordle, and ChimeIn.”

16. We hope as collaborators to write an article analyzing the tweets in greater detail.


18. For example, Keith D. Lilley, *Urban Life in the Middle Ages 1000-1500* (New York: Palgrave, 2002).
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