Scenario

Dr. Jones is piloting an open-ended response system in her course “The Evolution of Social Justice in the Twentieth Century.” The system allows students to type in contributions to class discussion using their mobile phones, laptops, iPads, or a university-supplied iPod touch (for students who don’t have a mobile device). When the class discusses Prohibition, one anonymous student comment asserts, “It’s just like gay rights.” Through the response system, Jones asks, “In what way is Prohibition like gay rights?” and opens the poll for responses. She watches as students enter a flurry of replies and vote for the ones they find most interesting. In the class of 63 students, the top-ranked reply—with 52 votes—is, “Both Prohibition and gay rights were watershed topics that divided the nation into clear political camps.”

Like the clicker system Jones used last year, this new response system promotes student engagement. Because participants aren’t choosing responses from a menu, however, their comments reflect more independent thought and they ask more questions, especially about parallels between the past and present. A discussion of the labor movements of the Great Depression, for example, gains unexpected relevance when one student mentions the workers currently on strike at a local grocery chain. Several questions follow about how modern unions differ from those of the 1930s. In response, Jones invites the president of the local union into class to talk about collective bargaining. Long before the president can finish her presentation, the students have questions waiting in the queue and are voting for those that they find most interesting.

Jones uses one of the system utilities to compare current online participation with activity earlier in the semester, which shows a significant and sustained increase in student contributions. She also sees that carefully crafted responses appear more often, possibly because ideas that are more clearly expressed receive more votes. After each class, Jones skims the recorded conversation from the response system, to gauge student understanding. In her post-class review of a women’s-suffrage discussion, she notices that a student had asserted, “Women couldn’t vote anywhere in the world until New Zealand granted them the right in 1893.” She makes a note to correct the error in her next lecture by mentioning earlier instances of enfranchisement for women, while pointing out that the right was often contingent upon property ownership or marital status.

1. What is it?

An open-ended student response system is an electronic service or application that lets students enter text responses during a lecture or class discussion. Open-ended systems give faculty the option of collecting such free-form contributions from students, in addition to asking the true/false or multiple-choice questions that conventional clicker systems allow. In a typical scenario, students enter their comments on devices such as mobile phones, tablets, netbooks, or laptops that use a Wi-Fi or a mobile network connection that links to the response service. Those participating can track the electronic conversation on their individual device screens or watch live text of the emerging conversation on a display at the front of the class.

2. How does it work?

The instructor might begin a session by posing a question to students, either verbally or typed into the application, where it is visible to students on their input devices or on a screen in class. Students respond by typing questions, replies, or comments into text fields provided by the tool. In general, a student’s name or identifying information will appear next to a posting, but some systems allow anonymous responses. If anonymous entry is available, the system might permit the instructor to see the name of the poster. Many applications let participants vote for the responses they find most interesting or for questions they would like the instructor to address, and the votes are displayed on the posted list. Where tools allow students to add a reply to another student’s response, the reply may be seen only by the original poster or it may be viewable by the entire class. The controlling software for the system may be a web service, an application running on a local network server, or both.

3. Who’s doing it?

A number of companies provide open-ended student response systems, such as Google Moderator, Poll Everywhere, IdeaScale, and ResponseWare, some of which are available at no cost while others charge a fee. In addition, some colleges and universities have developed their own student response systems. Harvard University’s Live Question Tool, for example, is a free service that offers a simple format for backchannel discussion. At Purdue University, developers have created Hotseat, an application that engages students and instructors in real-time communication via Wi-Fi and mobile networks, with entries possible through Facebook and Twitter. Hotseat is currently available for use at other colleges and universities through the foliodirect.net educational software site. At MIT, a project called Classroom Learning Partner (CLP) extends the concept of the student response system by building on Classroom Presenter, a slide-delivery application for...
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3. Why is it significant?
These communication tools open a channel for the kind of individual, creative student responses that can alter the character of learning. During a class session, for example, instructors can respond to student questions by answering those that are most appropriate or that receive the most votes from class participants. After class, instructors might be able to review the text summary of the class content to pinpoint places where students were confused or identify elements of the discussion that piqued interest.

In larger classes, electronic communication tools might tempt shy students to enter the class discourse or reduce the impact of dominant voices that might otherwise monopolize a conversation. If students post their comments from social media sites, the discussion may extend beyond the institution. In virtual gathering places like Facebook, students can chat during and after class about what they have learned—talking not just with classmates but with anyone else in their virtual community.

4. What are the downsides?
Some of these systems require students to have a compatible mobile device of their own and bring it to class to participate in the electronic conversation. Moreover, if the system relies on Wi-Fi, an institution must supply enough wireless connections in the classroom to accommodate all of the students. The classroom might also need a dedicated display so the class can watch the discussion as it unfolds. Open-ended response systems allow students to say whatever they’d like. While this can lead to enlivening exchanges, it carries the risk of the class being distracted by off-topic commentary or confused when a student posts inaccurate information. Further, student comments submitted through social networking tools might be publicly accessible, a situation that can raise privacy concerns.

Not all open-ended student response services integrate with learning management systems. This can be a problem for instructors who are accustomed to using clicker systems for graded activities like attendance and class participation. So while open-ended systems are conceptually simple, instructors will need to identify the best ways to implement these systems to drive their class discussions.

5. Where is it going?
Today’s open-ended student response systems represent an evolution of backchannel tools (such as Twitter) and traditional clicker systems. Instructors who find value in these systems have taken the next step, making these interactions more visible, flexible, and dynamic. With open-ended response systems, these real-time discussions have risen to the surface and are intertwined with course content and traditional live discussion. The next step could be the inclusion of other media as part of the conversation. Google Moderator, for example, allows links that it can recognize as YouTube videos, and several open-ended response services accept input from Facebook, enabling students to post images and other multimedia. Submission of drawings via tablets and other touchscreen devices may soon emerge as a common occurrence in areas like architecture or engineering where a sketch might quickly clarify a question or suggest a solution. As student response services evolve, they may focus more intently on the mobile device market, creating apps that ensure more elegant and easier-to-use interfaces for new generations of smartphones, tablet computers, and other types of mobile devices.

6. What are the implications for teaching and learning?
The great strength of open-ended student response systems may be that they create another avenue for discussion, allowing students to join a virtual conversation at those times when speaking out in live discourse might seem inappropriate, intimidating, or difficult. In classes where some students attend face-to-face and others join remotely, these services may reduce the separation between the two groups by providing a unifying conversational thread. In addition, the free-form responses facilitated by these systems offer the potential for unexpected results that can lead the class into interesting and engaging discussions, particularly when anonymous entries are allowed. Finally, open-ended systems can increase student engagement, resulting in a stronger connection with the content and a feeling that they have a voice in the tone and direction of the class session.