Adapting Lectures on the Fly with Real-Time Questioning

The challenge: eliciting students' misconceptions in a large class

One of the biggest challenges faced by lecturers is gauging the effectiveness of their lectures and gathering students' feelings about the content and difficulty. Professor Sophocles Mavroeidis of University College, a lecturer in Econometrics, wanted to encourage his third-year undergraduates, to give him feedback on their progress during his lectures so that he could adapt the pace accordingly. He was particularly keen for students to identify and alert him of weakness that needed further attention. The class consisted of more than 50 students, and Sophocles felt they were largely unresponsive to his questions. He surmised that this might be because they felt uncomfortable asking or answering questions in front of such a big class. To tackle this challenge, he turned to Socrative, a real-time questioning tool. This offered the potential to elicit responses from the students anonymously and thus to obtain, in real time, a sense of their overall understanding of the material.

Integrating questions into lectures

Setting up the questions was easy, since Socrative only requires students to have access to smartphone, tablet or laptop connected to the internet. No special hardware, such as clickers, is needed.

Although Socrative can be downloaded as an app onto iOS and Android devices, Sophocles used the website. The site has a 'teacher' section, for which he had to create an account. He then set up questions in advance, both as quizzes and for eliciting responses to questions posed in real time.

Students used the 'student' log-in section on the website, which does not require them to create an account or give any personal information. Instead, they simply needed to type in a 'room number' assigned to the virtual classroom by Socrative, which gave them instant access to the questions posted on the projector screen.

Sophocles started the lecture series with a five-minute quiz that contained revision questions based on material from a pre-requisite course in Quantitative Economics. This also provided a very easy way to introduce Socrative for subsequent use. The results were available instantly and helped the students to focus by exposing weaknesses in their background knowledge. Then, during each lecture he injected True/False and multiple-choice questions at regular intervals (roughly every ten minutes), testing the material just covered. The response time was generally very fast; Sophocles received their responses to the questions in a matter of moments. He could also share the results on the projector screen with the entire class, so not only did students get instant feedback on how they did, but they could also compare their answers with the answers from the rest of the class. The ability to collect students' responses almost instantaneously helped Sophocles to identify those points that had not been well understood and needed further explanation. In his final lecture, which was a revision class, he gave the students a final quiz consisting of a selection of the various questions that he had asked during the course. Once again, the students received instant feedback, and Sophocles was able to focus the revision on the topics that were more problematic for them.

A stamp of approval from students

Sophocles asked his students whether they found the use of Socrative in class helpful; all those who responded said that they did. Analytics from Socrative showed that 70-80% of students responded to the questions – a figure which would have been even higher if the remaining students had had an internet-connected device with them. However, even those students benefited from the use of Socrative, since they could find out the correct answers to questions from the projector screen and also compare their answers with those of their peers.

Words of wisdom

Sopohocles writes:

I strongly recommend this app to any instructor who is teaching medium to large-sized classes and wishes to give and/or receive instant feedback to and/or from the students as their course progresses. It is extremely easy to use and can be set up within minutes.

The app has more options than the ones that I used and described above, including some fun activities that may enhance student engagement (e.g. 'space race'). I didn't find that I needed to use those in my class, because it was an elective course and students choosing it were sufficiently motivated, but these other features may prove useful when teaching compulsory or core modules.

However, he suggests that using Socrates in very large classes might be problematic, as it could take longer for students' responses to be recorded, thereby holding up progress.

Further information

- Read other case studies on the use of digital tools for real-time questioning in this collection.
- Read more about polling tools on the Centre for Teaching and Learning website.
- Visit the Socrative website.

This case study has been adapted from Sophocles Mavroeidis' entry for the OxTALENT 2015 competition.