ideas

march 2011

cit.nus.edu.sg/ideas/

CENTRE FOR INSTRUCTIONAL TECHNOLOGY'S
EDUCATIONAL TECHNOLOGY UPDATE

In this issue…

The Centre for Instructional Technology (CIT) launched **questionSMS** in January 2010. We look at how three faculty members have been using the SMS-based audience response system.
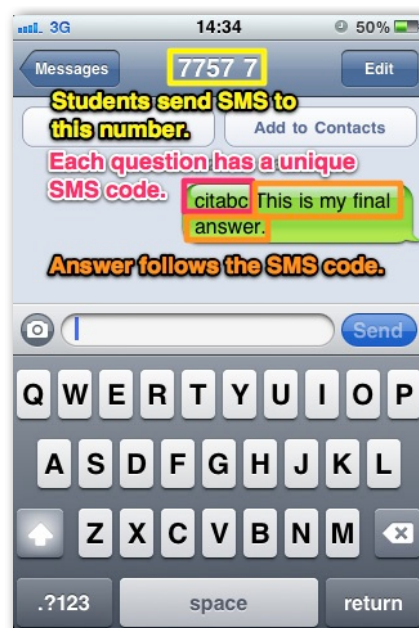
questionSMS

In the past year, a number of faculty members have been using questionSMS. This service, run by the Centre for Instructional Technology, is an SMS-based audience response system. Lecturers can use the system to ask MCQs or short answer questions, usually in the lecture theatre. Students respond via SMS, prefacing the answer with a unique code for each question. The lecturer can see the individual and collated responses online, almost as quickly as they would receive a normal SMS.

Why questionSMS?

Asst Prof Norbert Lehming from the Department of Microbiology uses MCQs in class as it helps students stay awake. Previously, he used the IVLE online assessment tool for this purpose. This meant that some of his students had to bring a laptop. On the other hand, he notes, all of his students have mobile phones.

"QuestionSMS allows me to ask questions during my lectures and tutorials," Asst Prof Lehming explains, "I get instant feedback on the level of understanding of the students, which allows me to spend more time explaining the solution for a question that most students were unable to answer [correctly]."

Dr Seow Teck Keong from the Department of Biological Sciences started using questionSMS for a slightly different reason. He reveals, "For many years, I have wanted to capture the responses of my students to MCQs that I pose during my lecture, but I was hampered by the limited

number of available clickers compared to the large classes I teach." Besides this, clickers - traditional audience response devices - also need to be distributed and collected. "So, when the questionSMS tool was introduced, it was a welcome alternative."

> "I get instant feedback on the level of understanding of the students, which allows me to spend more time explaining the solution for a question that most students were unable to answer [correctly]."
>
> Assistant Professor Norbert Lehming

Lecturer's view on questionSMS website

Similarly, Asst Prof Michael Mah from the Department of Preventive Dentistry started using questionSMS to overcome a limitation of an audience response system. The system he used to employ is internet-based, allowing students to answer questions online via laptops or smartphones. "I decided to use questionSMS [instead] as many undergrads may not own a smartphone or bring a laptop to class," he reasoned, "However, I am pretty sure everyone has a phone plan that allows for [effectively] unlimited SMS."

Using questionSMS

> "Since I ask MCQs with five options, questionSMS is a good tool to poll the class. I can see how many responded to the questions and how many chose each option."
>
> Dr Seow Teck Keong

Asst Prof Mah, who uses questionSMS with MCQs that have visual options illustrates, "I put up pictures and radiographs of various craniofacial morphology (face and head structure) and polled my undergrads on the identification of the various types and stages of maturation. This enabled my students to visualize and understand the topic better."

Dr Seow intersperses his lectures with activities and questions. "Since I ask MCQs with five options, questionSMS is a good tool to poll the class. I can see how many responded to the questions and how many chose each option," he discloses. This gives

Dr Seow insight into what students have difficulty grasping during the lecture. He can then take remedial action if the majority of students choose the wrong answer.

On the other hand, Asst Prof Lehming uses questionSMS in both lectures and tutorials asks MCQ and short answer questions. Another difference - he gets students into groups and gets them to send one answer per group. Noted for his challenging "case-solving style" MCQs, Asst Prof Lehming gives his students 5 to 10 minutes to discuss each question before coming to a consensus and sending the group's answer.

Reactions

All three faculty members are mostly happy with questionSMS. Asst Prof Mah also notices that his undergraduates are more attentive and that there is a fun element in seeing the poll results.

Besides being happy with questionSMS, Asst Prof Lehming has received positive feedback from students and peer-reviewers. When he used questionSMS, two of his lectures were subject to peer review, and his fellow faculty commented positively: "The SMS approach [was] adopted and used effectively during lecture. This allow[ed] instant feedback and an assessment of the students' understanding." Another peer-reviewer observed that the students participated enthusiastically.

Improvements

While questionSMS fulfills its purpose, there is room for improvement. Dr Seow, an early adopter, found that the early version

of questionSMS required extraneous SMS code. Also, the system would also become unresponsive at times.

> *Assistant Professor Mah also notices that his undergraduates are more attentive and that there is a fun element in seeing the poll results.*

Since then, CIT has shortened the SMS code so that students need not key in a long string of text to answer a question. Also, the reliability of questionSMS has greatly improved since the early days. With these improvements, questionSMS is becoming the audience response system of choice among faculty.