Choose your own adventure
Using live feedback to place learning back into the hands of students

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› Open m.socrative.com on your web-enabled device (or scan this barcode)
  - Then, enter room 7528
› Answer this question:
  - The student response system I have used most is:
    - A. TurningPoint clickers
    - B. VotApedia from CSIRO
    - C. Other electronic student response system
    - D. Low-tech student response system (e.g. cards)
    - E. I have not used a student response system before in my classes
A RECIPE FOR DISENGAGEMENT

› First-year units teaching cell biology and molecular biology
  - Content-heavy with abstract concepts
› Large lecture classes
  - Up to 500 students in a room
  - Diverse student backgrounds
› How to engage students?

…the use of socrative was VERY beneficial. It makes us feel as though we are actually engaging in class discussion. And it sort of forces you to pay attention, and not to drift off, as most of us did early on into the course, it is a very content-heavy course…
Student response systems evolved from audience response systems
- Interact with and get immediate feedback from the audience
- Enables emotional and intellectual investment

Instructor initiates interaction

Students respond on their own devices

Results are displayed and discussed
Keeping students engaged

I think it is a great way to take breaks and get students involved and thinking.

I was very impressed with aspects of the lectures like the inclusion of some multi choice questions during the lecture to break up the flow of content delivery and help people to reflect critically on what they know.

Enabling live just-in-time-teaching

The socrative feedback throughout the lectures helps so that anything we are getting wrong gets noticed before we've finished the lecture. Really helpful and despite the pace, really easy to understand for what it is!
COMPELLING REASONS

› Active learning and self-reflection for students

“The online multiple choice [system gave] us a chance to actually think about it and give answers rather than just sit there waiting for you to give the answers. Also showed you really cared about our level of understanding.

I especially liked answering questions on socrative during the class. It’s not intimidated if you get anything wrong as no one knows it was you, but if you are right and others are wrong it really feels good.

› Active learning and self-reflection for the lecturer

I think greater example and analogies would help me in understanding and learning the content.
96% of surveyed students report that using the student response system helped their learning.
USAGE EXAMPLES

- Post-lecture survey
- Icebreaker or open revision
- Apply & explore
- Diagnose & apply understanding
Some background information followed by a lecture demonstration

Test your understanding

- Chlorophyll which has been ‘extracted’ using acetone fluoresces under a blacklight, but chlorophyll which is still associated with photosystems does not. Why not?

A. The photosystem masks the emitted light.
B. The photosystem blocks the incoming light from reaching the chlorophyll.
C. The photosystem sucks.
D. It’s actually the acetone that is fluorescing.
E. I don’t know.

Students build upon and connect existing knowledge

More interesting if majority don’t select the best response
Effective questioning needs careful design
- Apply recent material to deeper conceptual understanding
- Make options plausible and target misconceptions to provoke discussion

Content coverage may need to be reduced
- Allow time for student interpretation, discussion, and response
- Be prepared to jump around the lecture content as necessary

Paradigm shift
- Even a large lecture becomes dynamic and student-driven

Test your understanding

- The plasmid below is transformed into E. coli. Which of the features are essential to allow the transformed cells to grow into a colony on media supplemented with the antibiotic tetracycline?
  A. tetR
  B. oriV, tetR
  C. lacZ, oriV, tetR
  D. MCS, lacZ, oriV, tetR
  E. I don’t know

The questions allowed for banter between students which facilitated further learning and comprehension of the content.
Timely feedback from students for lecturer self-reflection and improvement
WHY SOCRATIVE?

› Free and web-based
  - No software or hardware to fight with
  - No dongles or response cards to lose
  - Leverage the fact that students will invariably be distracted by their mobile devices

› Quick and modern user experience
  - Runs in browser so is device-agnostic

› Flexible inputs
  - Multiple-choice, true/false
  - Short answers
  - Prepared question sets
Socrative is great, more lectures should use it
Log in and answer this question:

- Identify one benefit or drawback you can see coming out of using a student response system in your classes.

Please open:
http://m.socrative.com
Room 7528
› Socrative student response system
  - More information and hands-on demo: http://www.socrative.com

› Useful review

› Overview of other web-based student response systems

› More information
  - Paper extending this talk: http://goo.gl/HYVFQT

› QR code generator
  - http://zxing.appspot.com/generator