

[W1] Rousing the dead: a hands-on guide to interactive engagement strategies in lectures

Simon Bates

School of Physics, University of Edinburgh, Edinburgh EH9 3JZ
s.p.bates@ed.ac.uk

Lectures are still the mainstay of University science teaching to large classes, yet they have evolved little in terms of structure and function. They are still predominantly vehicles for the one-way transmission of information from lecturer to students, along some pre-defined trajectory that maps out the A-Z coverage of the syllabus. With the quantity (and sometimes quality) of digital information accessible to students (within and external to their course) it is little surprise that some students vote with their feet, believing they gain little from listening to a series of PowerPoint slides being read out.

In Edinburgh over the last couple of years, we have taken a path trodden by many others within the UK (see Draper (2007) for a comprehensive list of practitioners) in utilising electronic voting handsets ('clickers') in lectures on some courses. These have effected a radical transformation on our first year lectures in Physics, changing a fundamentally transmissive activity into a two-way conversation, mediated by the technology. This workshop is designed to share our experiences, and to illustrate and demonstrate the strategies involved in using interactive engagement techniques in lectures (see also Bates *et al* (2007)).

I will present a snapshot of current activity across the UK, survey the technology options and give examples of different methodologies of integrating questions within a lecture format. The workshop will provide hands-on experience using real clickers (but you will have to return them at the end!), allowing workshop participants the opportunity to see the technology in action (and how straightforward it is to use). I will also address the key issue for academic pressed for time ('Where can I find good questions?') making reference to various collections of questions and repositories that are available for different disciplines. The issues that the use of such questions will raise in regard to coverage of content will also be discussed.

The second half of the workshop will involve small groups of participants devising their own questions suitable for use in these situations, drawing on their own experience as teachers. The groups will then report back and the whole workshop will have opportunity to answer the questions, again using the clickers provided.

The intended structure is as follows, with indicative timings:

1. Presentation, including hands-on demonstration and use of the Interwrite PRS hardware and software. (40mins) This will cover such aspects of cost, logistics and pedagogy (including what makes a good question and several different use scenarios in which this type of exercise can be deployed).
2. Q&A from presentation (10mins)

3. Break out to small groups (~4 people). Each group is tasked with devising 4 MCQ / partial knowledge MCQ questions suitable for use in these situations, drawing on the experience gained from the courses that they themselves teach. (30 mins)
4. Re-group. Each group will briefly present their questions, and the audience will vote on these and assess their usefulness. (30 mins)

References

Bates, Simon P., Howie, Karen and Murphy, Alexander St. J. /Electronic voting systems; from one way transmission to two-way conversation *New Directions: the Journal of the Higher Education Academy Physical Sciences Centre* (ISSN 1740-9888) - Issue 2 Dec 2006.

Draper, S. (2007) Interactive Lecture Interest Group.

<http://www.psy.gla.ac.uk/~steve/ilig> (accessed 10th February 2007)