Interaction in Lectures with Mobile Devices

In preparation, use your mobile phone

- visit [www.rwpoll.com](http://www.rwpoll.com)
- Session ID: *dee2013* (lower/upper case)
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Or collect a ‘clicker’ from the front
Today’s talk

- Background/Project
- Live Demonstration
- Other Uses of Voting Systems
- Technical Demonstration
- Student Survey Evidence
- Conclusion
What do we mean by: Interaction Technology?

Technology that allows communication between student and lecturer `in class’. – Classroom Voting Systems.

Specifically technology that allows ‘over web’ answering of multiple choice style question during lectures.
Lecture Interaction

Project: `Interaction in Lectures with Mobile Devices’: 2010-13

Success of classroom voting systems is well known but how can this technology be used to overcome the problems of teaching in large cohorts?

Aim to test feasibility of using mobile phones/devices instead of traditional handsets.

To further understanding of classroom voting systems to enhance learning in large cohort sessions.

To innovate in the use of voting systems to find other benefits that can increase student satisfaction.
The problem of large cohorts and traditional handsets

Imagine the problem of distributing this many handsets to 500+ students

A web based solution can reduce the requirement to this....
Voting technology in at Manchester since 2010

ECON10042 – 1st Year UG
Macroeconomic Principles – approx 600 students

ECON20401 – 2nd Year UG
Macroeconomics IIA – approx 510 students

• Students now have a tool to test themselves as they learn
• Lecturers can identify areas of weakness as they teach
• Students can feedback to the lecturer – real time recorded
• Increases interest/alertness during longer lectures
• Facilitates other pedagogical enhancements to learning, some of which we have found surprising!
In the next slide we will be actually voting:

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Feel free to leave ‘feedback’ via your mobile device during any part of this presentation
Have you used clickers before?

1. I have never used them
2. I have only heard of them
3. Yes, as a participant like this
4. Yes, I’ve even taught with them
Which use of this technology do you see as being of most value?

1. To break up lecture content.
2. Enable students to monitor their own progress.
3. To gain feedback from your teaching/explanation.
4. To collect data for your teaching/research.
5. Provision of other benefits to students.
Not just a pretty quiz tool!

Other ways we have used this classroom voting system.

1. To gauge opinion on the taught material; a barometer.

2. To allow students to provide anonymous feedback during each lecture.

3. Peer interaction: Students revisit question after discussion with peers.
1. Student Difficulty Perception

Course: Macroeconomic Principles (400)

Q: What do you think about the level of difficulty on this course?

- Far too difficult: 8.5%
- Quite difficult: 27.9%
- Just right: 51.2%
- Quite easy: 7.8%
- Far too easy: 4.6%
2. Real time feedback

Turning Says (2:12:12 PM): Slide 4 Displayed

GUEST_5367 Says (2:12:13 PM): We need a midterm test

GUEST_5440 Says (2:13:37 PM): no idea middle ditch

GUEST_5337 Says (2:16:17 PM): Can u explain more about mpw pls? I'm a bit confused

GUEST_5375 Says (2:16:17 PM): Could you sing the Countdown Theme tune instead of just counting to three? That would be lovely.

Turning Says (2:17:35 PM): Slide 5 Displayed

GUEST_5349 Says (2:18:39 PM): Get well soon

GUEST_5293 Says (2:21:23 PM): So happy you are feeling better xoxox

Francesco Wang Says (2:21:42 PM): I love this!

GUEST_5340 Says (2:23:16 PM): Hey
In the loanable funds market, how would we represent austerity measures in the UK?

1. The investment line would shift inwards.
2. The investment line would shift outwards.
3. The savings line would shift inwards.
4. The savings line would shift outwards.

51% - 13% - 11% - 25%
TurningPoint ResponseWare

- Ease of use through PowerPoint (WYSIWYG)
- Works on any web enabled device (website or app)
- Works in tandem with TurningPoint ‘clickers’ for an inclusive option
- Allows live anonymous feedback from students
- Results exportable into Excel files for data gathering

Next slide...
Introduce yourself to a neighbouring delegate using the following as an ice breaker:

1. Have a brief chat about ideas for the use of voting technology within teaching
2. Think up a single question that you would ask students first lecture

End
Technical demonstration

- Now I will put your question into an interactive slide in less than 30 seconds
Which qual do you have?

1. Alevel ec
2. Alevel maths
3. Alevels both
4. neither

[Bar chart showing the percentage for each option:]

- Alevel ec: 29%
- Alevel maths: 14%
- Alevels both: 21%
- neither: 36%
Which use of this technology do you see being of most value?

1. To break up lecture content. 14%
2. Enable students to monitor their own progress. 29%
3. To gain feedback from your teaching/explanation. 43%
4. To collect data for your teaching/research. 7%
5. Provision of other benefits to students. 7%
Which use of this technology do you see being of most value?

- To break up lecture content: 33% (First Slide), 14% (Second Slide)
- Enable students to monitor their own progress: 27% (First Slide), 29% (Second Slide)
- To gain feedback from your teaching/explanation: 33% (First Slide), 43% (Second Slide)
- To collect data for your teaching/research: 7% (First Slide), 7% (Second Slide)
- Provision of other benefits to students: 0% (First Slide), 7% (Second Slide)
What do the students think?

‘The interaction kept us alert during the whole two hours. It was fun, and a nice opportunity to meet new people through the discussion part.’

It's rare to have interactive lectures and I felt I was learning & also enjoying it. Arguably most enjoyable ECON10042 lecture to date. Great idea and should be used more.

Brilliant idea. We often turn to our phones when we lose concentration - interest or when the lecture becomes incomprehensible so I think including our devices will keep us alert and participating, as well as checking if our understanding is correct.

‘Not only does it enable students to INTERACT during the lecture, but the method of letting students vote twice gives students an idea of what the TYPICAL ERRORS/COMMON MISTAKES are and how these questions need to be tackled in practice.’
Survey Evidence I
(collected from ECON10042 2011/12 (62/263))

Describe how you feel about using a voting system in class.

How strongly (1-10) do you believe use of TP enhanced your satisfaction of the course?

Happy 90%

Indifferent 8%

4 to 7 29%

8 to 10 69%
How much do you agree with the statement: “The voting system has enhanced my level of satisfaction with the programme”

2012/13: “The voting system has enhanced my level of satisfaction with the programme.” (Agree/Disagree): ECON10042 (83% : 4%) ECON20401 (93% : 2%)
Survey Evidence III – focus on devices

Which type of device did you use to participate?

ECON10042  2011/12

- Laptop: 35%
- Smartphone: 39%
- Tablet: 11%
- Clickers: 15%

ECON10042  2012/13

- Laptop: 12%
- Smartphone: 62%
- Tablet: 23%
- Clickers: 2%
Best Practice....

- Survey your students to find out what devices they use.
- Encourage students to `partner’ in the innovation.
- Use questions that stretch students or split opinion.
- Don’t ask questions you don’t want the answer to!

Finally, you can watch a video we produced with clicker practitioners at UoM:

What’s the Use of Clickers?

http://goo.gl/GgqM1
Next steps

Find out what services are available in your institution’s eLearning technology services.

Feel free to contact me or Will if you are interested in adopting this technology into your teaching.

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