

Personal Response Systems

"Ooooooooooh yes! Somewhat easier to use and no problem with line of sight (or lack thereof)"

Radiofrequency Clicker Upgrade 2008/2009 - Staff Perception



"79% of staff found the new Radiofrequency clickers to be an improvement to the previously used Infrared clickers"

"The new technology proved extremely reliable and hassle-free for me. It is basically plug and play."



1. BACKGROUND 2. EVALUATION 3. RF UPGRADE 4. CHANGES IN TECHNICAL AND PEDAGOGICAL USE OF CLICKERS THROUGH RF TECHNOLOGY 5. CONCLUSIONS

Why Radiofrequency (RF) technology?

- Simple installation with a single USB wireless receiver
- Stronger signals
- No line of sight issues
- Confirmation for students on receipt of their votes

Procurement process

- Six months procurement process, involving academics, students and support staff
- Decision taken in July 2008
- Winner: Interwrite Crickets

Summer 2008:

- Swap out of Infrared (IR) with Radiofrequency (RF) clickers
- Installation of RF receivers in 90 lecture theatres
- Upgrading to new software (Interwrite Response)
- Development of College of Science and Engineering (CSE) RF clicker support website
- Various training sessions organised on technical aspects of RF technology and effective use of clickers in Teaching and Learning in collaboration with TLA.

First clicker study carried out in 2007/2008

- Topic: staff perception on current IR clickers and expectation for new RF technology in the CSE
- Results: positive perception of clicker technology (93% of staff found it useful)
- Highlighting benefits of clickers such as
 - o increased interaction between lecturers and students,
 - o improving feedback for both students and lecturers by revealing common misconceptions
 - o and giving students an understanding how they compare to their peers.
- However, staff reported technical issues, especially with the current software and problems with using managed desktop machines to run clicker sessions.
- Expectation: significant improvement through the RF upgrade in the set up and running of clicker sessions.

RF clicker study in 2008/2009

- Online questionnaire using Bristol Online Survey Tool emailed to all staff using clickers in the CSE.
- 24 responses from 73 lecturers who used clickers in 2008/2009 (response rate=33%).
- Good spread of responses over Schools, which used clickers this year.
- Most respondents (83%) have used clickers for more than two years, and therefore can compare old and new system.

This year's RF clicker upgrade seems to have been a success. The majority of lecturers perceive the RF clicker system as an improvement to the previous IR system.

Has the RF clicker technology been an improvement to the previous IR technology?

20% no 80% yes

Benefits

- "Less flaky, better response rates, easier to set up."
- "The new clicker technology is very easy to use"
- "It is particularly an improvement if using the clickers in a lab or other room that is not fitted with a [managed desktop computer and a] receiver."

Challenges

- Necessity to select a channel at start of session.
- Decreased battery life of the clickers.
- Decreased number of choices on a clicker handset.

Technical problems

- Slightly less than in previous years, but staff still experience technical problems (especially at the start of the semester).

Problem	2008/2009	2007/2008
No problems	35%	25%
With clicker software	30%	35%
With data projector	5%	5%
With Lecture PC	15%	20%
With receivers	15%	15%

The majority of lecturers now use their own laptops to run clicker sessions (previously not possible):

Which system do you use to run your clicker questions (most of the time):

33% PC 67% My laptop

More use of MS PowerPoint add-in to run clicker sessions (possibly linked to use of own laptops):

How did you mainly use clicker questions?

Method	2008/2009	2007/2008
Integrating clicker questions into MS PowerPoint using the PPT add-in:	65%	40%
Using the PRS standalone version, but with questions prepared beforehand:	20%	60%
A mix of the above:	15%	0%

Student's response rate has also slightly improved: nearly half of the staff (46%) report that 75% or more students vote on clicker questions.

"I think although only 30% of students actually vote, most students are participating in thinking about the questions and are formulating responses."

Lecturers have gained confidence in using clickers: they use them more regularly during the semester and ask more questions per lecture.

Did you use clickers?

Frequency	2008/2009	2007/2008
In all lectures you were teaching in this course:	50%	45%
In several lectures:	40%	45%
In one or two lectures only:	10%	10%

How many questions do you generally ask per lecture?

Questions	2008/2009	2007/2008
1-2:	35%	60%
3-5:	65%	40%

RF clicker upgrade has been a success.

- It is seen as improvement by the majority of lecturers, providing more flexibility and reliability.
- Through the years of experience lecturers have gained the confidence to use clickers more regularly and frequently in lectures, trying out innovative ways of engaging students and encouraging discussion and interaction, to a point where nearly half of all lecturers perceive clickers as an essential part of their teaching in first and second year.

Would you say clickers are an essential part of your lecture/practical/lab etc.?

55% no 45% yes