Chalk, Talk, Digital Pens and Audience Response Systems

Combining tradition and technology to improve maths learning

Alessandro Narduzzo, Department of Physics, University of Bath, A.Narduzzo@bath.ac.uk
Nitin Parmar, Learning & Teaching Enhancement Office, University of Bath, N.R.Parmar@bath.ac.uk

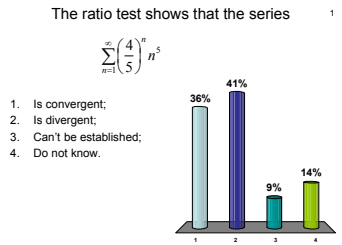
I. Aim

To enhance maths learning by facilitating student interaction and peer instruction in problem classes using Turning Point™ audience response systems -"clickers"- and Paper▪Show™ digital -"optical"- pen(#).

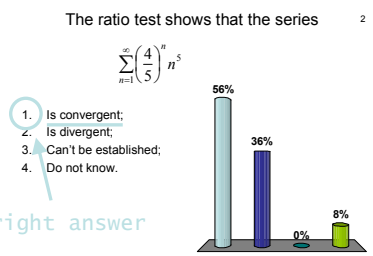
II. Interactive problem classes: combined Mazur/Dufresne sequences involving peer instruction

(1) Set question + 5 min.s of individual work
(2) Click answer
(3) Discuss answer with other students
(4) Re-click answer
(5) Paper-show and chalk and talk right answer

III. Click (2) answer,

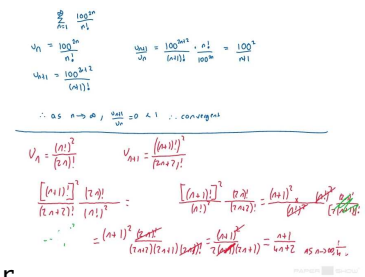


IV. re-click (4) answer,

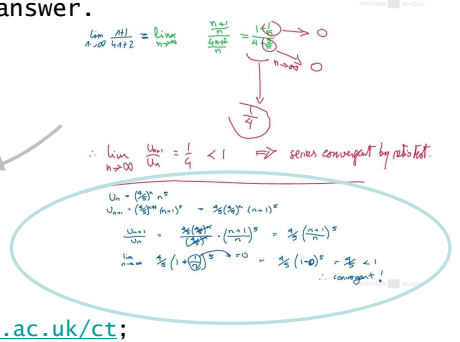


right answer

V. paper▪show (5) and…



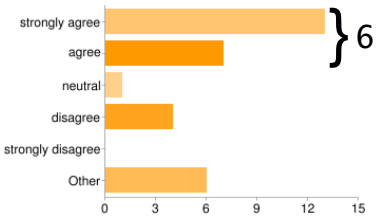
VI. …Chalk and talk (5) correct answer.



(я)

VII. Student feedback

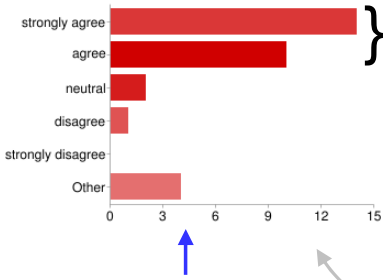
Questionnaire(ъ) results (31 responses from approx. 40 students attending problem classes)



«I think clickers are a useful tool for interactive learning and their use improved my learning experience.»

VIII. Word cloud(☼) from students' written feedback

«I think the optical pen is a useful tool for interactive learning and its use improved my learning experience.»



(#) More information on these and other Classroom Technologies can be found at the blog http://go.bath.ac.uk/ct;
(я) Image captured using Panopto™;
(ъ) Questionnaire designed, delivered and analysed via Google™ Forms;
(☼) Word cloud produced via www.wordle.net: the word size within the cloud is proportional to its frequency within the processed text.

Poster produced for the Innovations in Learning and Teaching Day at the University of Bath, 12th May 2011.