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### Conference contribution :

Mason, L. (2015). *The impact of clickers on module evaluation questionnaire responses*. Newport, Wales: Society for Research into Higher Education Annual Research Conference.

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## The impact of clickers on module evaluation questionnaire responses

### **Introduction**

Enhancing student experience is a key initiative in higher education. Whilst this is achieved via a number of processes, academic experience is obtained via student module evaluation questionnaires. The reports generated enable action plans to be developed to improve teaching, learning and assessment, identify areas of good practice and areas for improvement. Therefore the information, if collected appropriately, is integral to enhancing student experience.

Module evaluation has typically involved the delivery of paper-based evaluation questionnaires which are completed in-class. More recently this process has moved to an online format. Online questionnaires are beneficial because of the speed of data entry, analysis and administration; however they suffer from reduced response rates (Nulty 2008). This can occur despite adopting additional approaches that are known to boost response rates (follow up emails, staff involvement etc). Low response rates can fundamentally constrain the use of any data collected via module evaluation questionnaires which hamper the ability to accurately guide programme reviews, the PDR process and most importantly enhance the student experience.

The use of clickers is associated with improved student engagement, quick collection of anonymous feedback (Patterson et al 2010). The administration of module evaluation using clickers would maintain some of the advantages of online assessment (cheap to administer, quick data processing, less vulnerable to professional influence) but may overcome the reduced response rates. Although delivered in-class, the clicker technology would potentially enable quick and efficient data capture that would potentially have minimal impact on current staff delivery. Given that academic staff have voiced concerns of using the online method of evaluation as it would enable responses from students who rarely attend lectures, this would also be overcome (Dommeyer et al 2004). The development of clicker administration of module evaluation questionnaires enables a potentially cost-effective, sustainable solution to be implemented.

The aim of this study is to determine the effect of clickers on module evaluation responses throughout an entire sport & exercise science degree program.

### **Method**

#### Participants

Clicker and online evaluations were completed by sport & exercise science students in 17 (68%) modules during 2014-15. These modules were spread throughout the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> years of the degree programme and typically had between 11 to 95 students enrolled per module.

#### Study Design

Module evaluation questionnaires were administered online as per University requirements. Students were asked to complete all module evaluation questionnaires (typically 2-4 per semester) during an 8-9 week period. Module evaluation questionnaires administered using clickers involved a designated member of staff familiar with the use of the audience response system (Turning Technologies, UK) to attend a lecture for each module during a 1-2 week period during each semester. A PowerPoint presentation was delivered at the start of each lecture that mirrored the exact content of the online questionnaires. Progression through the questionnaire was dictated by

a constantly updating response window or when no further responses were obtained despite providing students with sufficient prompts.

### Survey

The module evaluation questionnaire contained 10 module specific questions, 5 lecturer specific questions, 1 rooms and facilities question and 4 text responses. Depending on the number of staff per module, the total number of questions per module was between 20 and 30. Each question was scored from 1 (strongly disagree) to 5 (strongly agree).

### Statistical Analysis

Response rates were analysed using Pearson chi-square. Student ratings were assessed for normality by visual inspection of Q-Q plots and were reversed scored and log-transformed to allow parametric statistical analysis using SPSS (v22, SPSS inc, Chicago, IL).

## **Results**

### Response Rates

Student response rates were higher using clickers ( $38 \pm 18\%$ ) than online ( $20 \pm 8\%$ ;  $P < 0.05$ ) module evaluation questionnaires.

### Module Evaluation Ratings

There was no difference in student ratings of clarity of assessment requirements ( $P > 0.05$ ), feedback timing ( $P > 0.05$ ), or feedback usefulness ( $P > 0.05$ ) between evaluation methods. Student ratings of clarity of deadline and feedback schedules was higher using CLICKERS than ONLINE ( $P < 0.05$ ). There was no difference in student ratings of clarity of aims and learning outcomes ( $P > 0.05$ ), module organisation & communication ( $P > 0.05$ ), intellectually stimulating ( $P > 0.05$ ) or module satisfaction ( $P > 0.05$ ) between evaluation methods. There was no difference in student ratings of learning resources ( $P > 0.05$ ), blackboard resources ( $P > 0.05$ ), or rooms & facilities ( $P > 0.05$ ) between evaluation methods. There was no difference in student ratings of lecturer communication ( $P > 0.05$ ), enthusiasm ( $P > 0.05$ ) presentational aids ( $P > 0.05$ ), contactable ( $P > 0.05$ ) or lecturer satisfaction ( $P > 0.05$ ) between evaluation methods.

### Text Response Questions

Student engagement with text responses was higher in response to rooms and facilities ( $P < 0.05$ ), the best thing about the module ( $P < 0.05$ ), the one thing they would most like to change about the module ( $P < 0.05$ ) and any other comments about the module ( $P < 0.05$ ) when using CLICKERS. The number of words provided in response to all text question was similar between evaluation methods ( $P > 0.05$ ).

### Logistics

Student response times indicated  $12 \pm 7$  minutes were required per clicker module evaluation, although this does not take into account setup and delivery time to students.

## **Discussion**

The administration of module evaluation questionnaires improved student response rates, but these still remained in the lower range of what is deemed suitable (Nulty 2008). Preliminary findings indicate that the method of delivery of module evaluation questionnaires did not influence student ratings, but did influence the engagement with text responses. This may prove

beneficial for staff seeking to obtain specific feedback on key components of the module as text responses provide rich data that allow for module development. In addition the use of clickers may provide a suitable alternative to online or paper-based surveys due to long term cost benefits, sustainability implications and potential integration into other aspects of teaching. However, concerns over logistics (displacement of course content due to time to administer questionnaires in class) and anonymity may provide some barriers to implementation.

#### References

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