A SYSTEMATIC REVIEW OF THE LITERATURE FOCUSSING UPON THE USE OF CLICKER-TYPE TECHNOLOGIES FOR TEACHING AND LEARNING IN HIGHER EDUCATION

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Active learning involves shifting some control of the learning environment from the teacher to the learner. It requires active student participation within the classroom and experiential learning environments which have been carefully structured by teachers in order to facilitate student engagement, enhance relevance and improve recall. While there are numerous methods of implementing an active learning approach, they all share one important aspect: the learner must be actively engaged in the classroom learning and teaching processes.

Audience response systems, also referred to by a range of alternative terms such as voting systems or 'clickers' allow opportunity for all students in a large group setting to respond to questions presented by the tutor. Essentially, students may be presented with a question and a selection of possible responses; using a small handset or mobile phone, they make their selection which is then transmitted through and registered by the system. Data can be stored and viewed at a later date or presented to the students for discussion during the taught session. There may be variations in the approach described above, however, reasons given by tutors for employing the use of clicker-type technology often include student engagement and interaction.

Meta-analytical studies and systematic reviews focussing on the use of clicker-type technologies in higher education have, so far, examined educational outcomes (Grzeskowiak et al. 2015); learning outcomes (Chien et al., 2016;), cognitive outcomes (Hunsu et al, 2016); exam results and student achievement (Castillo-Manzano et al. 2016), or the conditions of use (Fies & Marshall, 2006). All but the last of these studies have concentrated on quantitative research designs involving statistical analysis to examine whether the use of clicker-type technology has had any effect on measureable outcomes such as students' exam grades.

This systematic review of the literature aims to critically examine research evidence on the use of interactive technologies designed to support teaching and learning in higher education. Specifically, the review will focus upon research which examines how clicker-type technology is experienced within large group taught sessions undertaken on campus in face-to-face contexts in higher education settings. The objectives of this systematic review can therefore be summarized as follows:

• To identify the range and variety of clicker-type technologies that may be used to support large group teaching in higher education.

• To synthesize and critically analyse research which examines the subjectivities of using clicker-type technologies as part of large groups face-to-face teaching and learning sessions in higher education settings.

• To examine how such technologies support teaching and learning

• To identify any gaps in the evidence, and to suggest a future agenda for research.

In order to locate relevant papers which provide opportunity to draw from a broad disciplinary context, a systematic search was conducted on the following electronic databases: British Educational Index (BEI); Education Research Complete; Education Resource Information Centre (ERIC), The Cumulative Index to Nursing and Allied Health Literature (CINAHL); Web of Science; Psychinfo; Medline and Research into Higher Education. Where available, filters were applied to focus upon peer-reviewed journals published between January 2006 and November 2018 and which were written in the English language. After completing the screening of full papers, hand searching and reference checking was also employed in order to locate any articles which may be relevant, yet not retrieved, through the search of the databases. Undertaken in four stages, the systematic review screening process adhered to the recommendations from the Preferred Reporting Items for Systematic Reviews and Meta-Analyses, (PRISMA).

This conference presentation will provide a summary of the research design and report on the findings which focus upon the situated experiences of students and tutors in higher education settings involved in taught sessions where clicker-type technology has been employed.

References

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