Reviewer's report

Title: Electronic Voting to Encourage Interactive Lectures: A Randomised Trial

Version: 2 Date: 2 May 2007

Reviewer: Geoff Wong

Reviewer's report:

General

I want to thank the authors for taking the time and effort to revise this paper and in particular for adding additional data on the power of this study and the reliability data for the instruments used. They have definitively shown that the students who did attend the lectures were the same at baseline.

Overall, I still feel that there are a few issues that significantly undermine this study. These are:

1) In this re-written paper, the authors have stripped out data on the differences in lecture styles provided by the volunteer lecturers. This is important contextual information as it was this data that had initially suggested to me that the lectures were so different in style that comparing them would be like comparing apples to pears. Following on from this, I wonder if the authors would be able to clarify their exact research question for me? The authors state that the aim of the study is:

"The aim of this study was to examine the effect an electronic voting system (EVS) when used as an integral part of a lecture, in terms of cognitive outcomes, interaction and lecturer and student satisfaction".

If this is the question, then in order to execute the study in order to show the effects of EVS, all differences between the 'control' and 'EVS' arms should be eliminated but for the EVS (i.e. the EVS should be the only 'variable'). If the lectures the students were exposed to were so different, then there were other variables too, namely the lectures. This would therefore affect the finding that the EVS made no difference to student performance.

If however, the research question was more along the lines of "Does EVS make a difference to X,Y,Z regardless of lecture style and lecturer experience?", then the difference in lectures is less important as the study is much more pragmatic.

2) The study was underpowered by the authors' own admission. Thus the lack of difference between the EVS and control group in terms of knowledge gains might just be because the sample size was too small.

3) The MCQ test was not very reliable, hence thus the lack of difference between the EVS and control group in terms of knowledge gains might just be because of the imprecision of the instrument used.

These 3 issues go on to make the findings of this study less secure. Thus my decision is still unchanged.

-----------------------------------------------------------------------------------------------

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

-----------------------------------------------------------------------------------------------

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

-----------------------------------------------------------------------------------------------

Discretionary Revisions (which the author can choose to ignore)

-----------------------------------------------------------------------------------------------

What next?: Reject because scientifically unsound
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests and I am not an EVS enthusiast.