Reviewer's report

Title: Effect of Online Formative Assessment on Summative Performance in Integrated Musculoskeletal System Module

Version: 3 Date: 28 September 2014

Reviewer: Ana Da Silva

Reviewer's report:

Quazi-randomization was well done, and also the statistical analysis was adequate.

Discretionary revisions

Minor Essential revisions

Title should be reviewed to reflect the fact that the authors are comparing online vs in person feedback, this is a more specific comparison than the current title implies.

Headings within material and methods should be revised to increase clarity. My suggestion is to have add a subheading explaining Face-to-face Formative Assessments similar to the Online Formative Assessments. Current format makes it difficult to understand the details of the 'control' and that information is crucial.

Major compulsory revisions

Clarify

line 178 “The appearance of the students in the formative tests was on voluntary basis.” was this for both intervention and control?

line 180 the work cohort should mean all the students in one particular year of study, therefore the expression ‘some cohort’ should be revised.

184 “the feedback process did not become similar in two groups by students’ own interaction.” needs re-phasing.

221 to 228 please clarify writing is not clear.

The authors need to acknowledge the points below and discuss its implications for analysis:

1. The mode of delivery of feedback is not isolated as a variable, because the online formative assessment did not mirror the person assessment. Therefore the difference between the intervention and control is not only the mode of delivery of the feedback but also its frequency, the starting date (4th week for in person, for number of questions included.

Furthermore while online feedback was taken by students at there now time, those in the face-to-face group had a timetabled sessions and were under
supervision.

2. Delay between intervention and summative assessment performance: Also need to be careful with the conclusions drawn as their performance was not measured immediately after the MSK teaching and feedback, there was a delay period of 6 weeks (6 weeks of Nervous system) between the formative assessments and the summative ones.

3. Differences found between the bands maybe an interesting result, which could be discussed further. Would it be possible to say that band I students benefited more from the online/repeated formative assessment? If so could that be because the more able in the sample were also more able to self-direct and self-regulate their learning, hence thriving with the online formative assessment because this exposes ten to a higher number of questions? and more immediate feedback?

Would the authors recommend that different student groups would receive different modes/types of feedback based upon their initial band? This could potentially be an interesting point to explore further.

I don’t feel the results are sufficient to support the authors conclusions of “Computer-based formative assessment should be used as an adjunct to paper-based formative test with face-to-face feedback in the integrated system based modules.” This is purely a speculation based upon the authors views, because the combined paper and online feedback was not tested in this study and the results are not enough to recommend online feedback as having a positive impact on students overall performance.

This is an interesting study, but there are several pitfalls in the design, that need addressed in the limitations.

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

Nothing to declare.