Reviewer’s report

Title: Integrated online formative assessments in the biomedical sciences for medical students: effects on learning

Version: 1 Date: 4 September 2008

Reviewer: James Ware

Reviewer’s report:

This was an interesting study with the declared aim to determine whether participation and performance in integrated online formative assessments in the biomedical sciences has measurable effects on learning by junior medical students.

1. The question asked by the authors was to the point and important, considering the time and effort of the investment to prepare, deliver and analyse the results obtained.

2. The methodology used did not allow more than qualitative statements about the success resulting from the voluntary participation by students, this weakness was fully acknowledged by the authors. However, this should not detract from the value of the data obtained. The delivery of the case scenarios with their attendant assessment items, feedback and scoring seemed completely sound. It was an omission not to have been informed about how the EOC marks were derived – multiple-choice questions, MEQs or other? And did the final mark also include a practical element. It is always disappointing to be informed in methods that more data, such as item difficulty, discrimination (presumably item discrimination and biserial coefficients) did not receive further consideration in the results section or discussion. The online evaluation seems sound and gave valuable information. Although not central to the research design it would have been interesting to know how much time the students took studying each scenario as this is often a reason that online formative assessments are rejected by students in favour of more efficient resources for study.

It would have made the paper more interesting if the authors had been able to include some diagnostic information; did those who fared badly in the formative assessments also show weak performances in the EOC? This maybe being addressed elsewhere with some follow-up information.

3. Bearing in mind the issues about research design the data were interesting, although the correlation between formative and summative assessment outcomes were low, and it was not stated whether this was based on the first or last attempt or how many cases the formative results may have been based on, one per course?

4. The paper was balanced, well reasoned and referenced

5. The discussion starts cautiously by asserting that the data presented
demonstrated that online formative assessment in their medical programme has been effective in promoting learning by students. The problem, which they acknowledge, is that the design flaw does not allow one to say promoting effective learning. Notwithstanding this, the discussion and conclusions are indeed balanced and thoughtfully presented. There is no mention about what difference that might have been obtained and then could be described as significant in terms of an educational intervention, albeit voluntary.

6. The limitations of the work were clearly stated

7. The paper is clearly and appropriately referenced from a number of widely divergent sources

8. The paper is well written with only a very few typos, such a slipping a finger from the “r” to “f” on the keyboard turning or into of. The title and abstract are entirely reasonable.

9. See above.

Revisions – minor essential

Address the missing information in methods (see above)

Discretionary Revisions

Either remove statements about extra data not presented or find a way of presenting them.