Reviewer’s report

Title: Context dependent memory in two learning environments: the tutorial room and the operating theatre.

Version: 2 Date: 19 February 2013

Reviewer: Gabrielle Finn

Reviewer’s report:

This is an interesting paper which is clearly presented. However, I don't feel that it adds to the literature base on contextual learning and recall at this stage as the experimental design is flawed and the limitations of the study design were overlooked.

I would advise you to use this as a pilot study, refine your design and collect further data. Godden & Baddley has been repeated a number of times - you need a new angle and to be challenging educational theory on a larger scale.

Overall - my major concern is that I don't think you can state that context has no impact on recall ability given the study design. You would need about 100 people to confidently argue this. You should have completed a power calculation in advance of commencing this study.

There are a few fundamental errors:

1- the sample size is clearly underpowered. In an education experiment you would not expect to get an effect with 14 participants, even if you end up with 56 sets of data as in this case.

2- the participants had no emotional investment in the learning activity therefore were unlikely to ever perform well - the lists of words had no bearing on the context and were non-sensicle. I know Godden & Baddley did this but other studies have shown that some relevance is needed. Words associated with medicine or the environment would have been better. Recall & learning needs emotional investment - this was missing from your study design.

3- The participants closed their eyes in many cases thus negating the impact of the context

4- The context was not accurate - 8-10pm at night is not a typical learning experience thus it will have impacted upon the results

5- Loss of impact - 4 repetitions per participant is too many. I understand your argument for innate recall ability but you could have used more participants and done a pre-test to assess for recall ability. Any statistically significant differences could then have been corrected for during data analysis.

6- The discussion fails to describe your results within the literature. You have opposing findings to Godden & Baddley and Finn et al yet this is not discussed sufficiently. Your statements with regards to teaching environments and the GMC are too wide sweeping. Theories such as sitatuated learning and experiential
learning would be relevant to your discussion. I think the points about short and long term memory need revising - surely long-term memory is very important in clinical practice?

Minor issues
1- check your tenses, the intro states something was expected to double in 2012 - it is now 2013.
2- what were the participants told was the purpose of the study? I presume the design was deceptive to a certain degree?
3- Figure 2 adds nothing to paper - remove this and replace with a line on normality within the data analysis or results section

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests