Reviewer's report

Title: Investigating the impact of a research-based integrated curriculum on self-perceived research capabilities of medical students in rural and regional placements: a pre- and post-test analysis of three student cohorts

Version: 1 Date: 3 January 2014

Reviewer: Kaye Lasserre

Reviewer's report:

This research question is of importance to all given the implications to health care delivery of reports in the literature of medical students with inadequate research skills and insufficient numbers of doctors conducting research, especially in primary care in rural areas. It is most relevant to medical educators who need to design curricula which meet accrediting bodies' requirements which include the development of students' research skills and typically feature community placements. There are few studies which address this exact question.

Major Compulsory Revisions

1. While the aim of the research is clearly stated, clarification on the authors' definitions of 'capabilities' and 'experience' and how this was explained to the participants in the questionnaires is necessary. Experience does not equate to capability, so it may not be possible to reach the conclusions outlined in the manuscript based on the line of questioning - i.e. asking students to indicate their level of experience with a particular research area and describing these as capabilities.

2. While the establishment of the GSM of UoW provided an opportunity to develop a new curriculum and the authors touch on traditional approaches to instilling research skills, the manuscript would benefit from reference to literature on such approaches and how they have been evaluated. Why take a different approach? It's not strongly argued by the authors.

3. Page 7, line 7 – 'The students design their own research project around methodologies they wish to use…' – doesn't the research question determine the appropriate study design? It would be useful to explain this more clearly.

4. While the Background section concludes with the research question, the authors do not explicitly state what their study will contribute to the field. By providing more background about the successes/failures of existing approaches (as suggested above) the contribution could be more easily drawn.

5. It seems that the intervention consists of three components: the 'hands on' research project, the online learning materials and the academic supervisor (plus possibly a local clinician/mentor). More detail about the nature of the online materials and the role of the supervisor would be useful. Were students
assessed while undertaking the online materials (e.g. online quiz) and by their
supervisors? Additional, alternative data sources on research skills development
would strengthen the study.

Other comments:

6. I am not an expert statistician. While the statistics within the results are
relatively standard, it would be preferable if the other reviewer could provide an
expert assessment.

7. The Instructions to Authors suggest ethics statements appear in the Methods.

8. Abstract: Replace Introduction with Background and Conclusion with
Conclusions. It would be useful to provide more details about the intervention –
What were the students required to do for their research project? Describe the
online materials and the role of the supervisors and mentors.

9. The paper is well written. There’s a typographical error on p.13, line 13 ‘hep’
instead of ‘help’.

10. References: journal titles are not abbreviated according to Index
Medicus/Medline.

11. Reference 17: Is Harrison the author of the book or of the chapter? Who is
the publisher?

Thank you for the opportunity to review this manuscript which is on topic of
importance.

**Level of interest:** An article of importance in its field

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

**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