Reviewer's report

Title: Introducing global health competencies into the undergraduate medical school curriculum using an e-learning program: a mixed method pilot study

Version: 1 Date: 13 May 2015

Reviewer: Nadine Göb

Reviewer's report:

This pilot study addresses an important and current issue by combining two innovative aspects: e-learning and global health competencies of physicians. Mixed methods seem appropriate in order to explore the research question, which is dealing with the use of e-learning for improving conceptual knowledge of global health competencies. The data seems sound and unmanipulated. The power of the sample as well as confounding variables, e.g. previous knowledge and the treatment itself, are clearly stated as limitations. The authors draw interesting conclusions, which are well balanced with the results and the discussion. Finally, the manuscript mainly follows the standards for reporting and the writing is entirely understandable and transfers the ideas of the authors to the audience. This includes the title and the abstract, which convey the results of the pilot study.

The manuscript may be improved concerning the following aspects:

Discretionary Revisions I (Minor aspects):

1. L 61/ 90-92/ / 342/ 357: The pilot study itself deals with conceptual knowledge of global health competencies. “Social accountability learning” and service learning are mentioned but the relation with global health competencies as well as its meaning for this manuscript might be further elaborated and discussed. Therefore, the reader might be distracted from the main research question.

2. L 75: Mentioned/stated could be used instead of “identified”

3. L 70: How many focus groups with how many participants each?

4. L 90: Global health is defined. Refugee health may be also defined, if it is not subsumed under global health.

5. L. 100: “Outcomes” has a broad meaning. You may substitute it with “care”.

6. L 101: “Need to have” according to who?

7. L. 102-103: Even if the reader finds an additional file, the main ideas of the “Ontario Global Health Competencies Framework” might be shortly introduced.

8. L 104: E-learning modules or e-learning?

9. L. 106: As conceptual knowledge of global health is the main dependent variable, the meaning of basic concepts, especially in contrast to full global health competence, might be explained.

10. L 111-113: Focus group data is not necessarily be text data, if data is not
11. L 116: The benefit of mixed methods and especially focus groups might be explained, as different sequences or qualitative methods (e.g. (expert) interviews) could be possible.

Discretionary Revisions II

12. Research question (RQ):
   a. L 61/ l. 104/ l.108: The research questions could be clarified. On the one hand, it is unclear whether the pilot study is dealing with the effectiveness of e-learning or e-learning “versus” peer-reviewed articles. E-learning is stated as experimental treatment and the control treatment consisted of peer-reviewed articles, it might thus be assumed that e-learning is superior to peer-reviewed article. If so, this hypothesis might be stated, explored and discussed within the manuscript. Furthermore student experience is mentioned only in a subordinate sentence, but according to the results, it represents an important aspect of the research. To clarify the RQ, the major research question (“Does e-learning affect conceptual knowledge of global health competencies?”) might be divided in sub questions, which on the one hand focus on on the dependent variable (effects on conceptual knowledge) and on the other hand on the learning environment itself (overall student experience). The RQ might be formulated as questions and the methods, the results and the discussion might refer to each RQ, in order to further structure the manuscript according to the RQ.

13. Treatment:
   b. “E-Learning” as a technological approach of learning and “peer-reviewed articles” as learning material do not necessarily improve conceptual knowledge of global health competencies. Following the idea of constructive alignment, both treatments should be thus elaborated with regard to their benefit for conceptual learning. The terms “e-learning” and “peer-reviewed articles” might then be specified in order to clarify the cause – effect links.

14. Measures/ Method:
   c. L 138/ 139: It should be mentioned why this tool is appropriate to assess the awareness of global health concepts and why it was adapted. Furthermore, conceptual knowledge may be explained in advance in order to be linked to the awareness of global health competences in a better way.
   d. L 141: More information about the statistic quality criteria could be given.
   e. L 149: Which aspects were deemed significant or interesting?
   f. The choice of grounded theory should be explained, because regarding the procedure (development of the guide) it seems categories already existed before the coding phase, especially as the results refer to the guide categories.

15. Sample:
   g. L 70: Composition of focus groups remains unclear, especially whether participants of both treatments (control and experimental condition) participated. The choice of the focus group participants and the size of each group are not
transparent but might influence the results.

h. L 121/ l. 177-183: In addition to the participants of the study itself, the sample could be introduced before the results. The composition of the different groups (focus groups, RCT) could be mentioned in particular.

16. Results/ Discussion: Even if no significant differences were found, the manuscript itself might further elaborate the “versus”, e.g. by discussing the composition of the control-/ experimental group and differences in learning that might result due to (group) differences in socio-demographics.

i. The large standard deviation should be discussed or further explored.

j. L 184: The results could refer to the measures mentioned before to be clearly assigned.

L 221-224: “Designated allotted time” seems to be a possible facilitator. This might be mentioned in line 205 (possible facilitators).

L 267-273: This part does not fit in the curriculum delivery part, as it deals with features of e-learning.

L 275-279: Would be better placed in the background part, as it provides background information.

L 285-287: Satisfaction must not be connected to other effect levels. The conclusion that text book study is sufficient to improve conceptual knowledge might be drawn as well. Stronger arguments for e-learning should be thus presented.

L. 310: Self assessment could be mentioned as limitation.

Level of interest: An article whose findings are important to those with closely related research interests

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.