Reviewer’s report

Title: Five years' experience of an annual course on implementation science: an evaluation among course participants

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Reviewer: Ana Baumann

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Review of ms IMPS-D-17-00187

This is a good article providing data of a five years' experience of an annual doctoral level course on implementation science. The manuscript responds to the call from editors of the Implementation Science Journal for more data on evaluation of implementation science courses and it could potentially be a good fit for the journal. However, I suggest some edits below.

First, the authors mention IRI, the National Institutes of Health and Veteran Health Administration in the United States, Trinity College in Ireland, and Radboud University in Nijmegen, Netherlands as examples of training in universities. The IRI is a NIH and VA funded training but not for graduate students (see Proctor et al., 2013 and Luke et al., 2016). The IRI as well as TIDIRH (and MT-DIRC) are programs for faculty-level fellows, which is not the same target population as the participants described in this study. If the authors compare their program to IRI, TIDIRH and MT-DIRC, it would be nice to have a couple of sentence justifying for the training at the graduate level instead of the faculty level as it is done with these three institutes.

I am unsure about the Trinity Collegue and the Radbound University, but it would be nice to have citation to those programs, if available. The evaluation of another program for master and doctoral students has just been published in Implementation Science, and it may be cited (Ullrich et al., 2017).

In terms of the introduction, it would have been nice to have more details about the Kikpatrick and Kickpatrick evaluation model for a reader that is unfamiliar with it. The authors describe it on page 6 but maybe the description could be beneficial to the reader if done earlier?

In terms of the methods section: it would be nice if there is citation regarding the PBL method and its evidence for the approach for other people that may want to replicate the methodology. A citation is given at the endo of the paper, on page 13. It would be useful to have it at the beginning.

Data analysis: can the authors describe some more what they mean by "inspired by Graneheim and Lundman"?
Results: Do the authors have descriptive data of the students?

As for the Discussion: I am unsure if implementation science is a new field more so than it is an evolving field. It may also be that it is challenging because scientists training in IS are probably located in "hubs", making it difficult to reach doctoral students from universities that do not have infrastructure supporting IS work.

In the discussion, the authors mention the Self-Determination Theory and some of its components to explain the results. As it is written right now, it seems as an after-thought: is the Self-Determination theory used in the preparation of the course? If not, how could the authors capitalize on the findings and on the theory to plan future courses?

Some of the descriptions of the course, provided in the discussion, could be useful for the reader if given at the beginning of the paper.

For discussion: what are the next plans? Is this an ongoing course? Could the authors correlate their findings with other outcomes (as they mention) such as papers (if applicable)?

In summary, I do think that this is a good paper for the IS journal, but it would benefit from some editing and more information about the program.

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