FoHPE reviewer comments

MS 310 Reviewer A: REPORT FOR AUTHOR

Bottom of Form

This was an interesting read and makes some very good points, it is a relevant topic to HPE and is on the whole well-written. However, there are some modifications that could be made to the methodology and presentation of results which would strengthen the paper.

* Thank you for your review and interest in our paper

The abstract was well written and clear. It would be useful to include the number of trainees in the design section.

* The number of trainees has been included in the abstract

The Introduction was well written and covered relevant literature. However, after having read the whole paper I wondered if it might not be useful to include a little more theory in relation to motivation as you could then reflect back on this in the discussion. It would also be useful to read more about the TDF in this section.

* Thank you. We agree with the suggestion for more information and have added to the introduction (on pages 4-5)

In explaining the training program (line 113, page 5), it would be useful to know how many participants failed to complete logbooks. It may also be useful to cite some literature in relation to the poor uptake of logbooks when you discuss this in the discussion. In some respects, it is well known that logbooks have poor adherence and so it may be worthwhile to talk more about why this avenue was chosen and what steps, if any, were taken to improve adherence in this way.

* Information has been added to the methodology to outline the participants who failed to complete the logbooks. We have added reference to another study of laparoscopic smulators that found poor compliance with logbooks. Unfortunately, the style of logbook used in this study was not described. Our study used spreadsheet templates, but participants felt it unworthy to log short durations of training. Reinforcement activities through informing them about the benefit of even short durations of training and changing the style to move the focus away from the duration of training have been suggested in response to our findings.

Participants section (page 5): although it is stated that all trainees in 2016 were invited by email to participate, it would be good to know if they all agreed/consented? Did anyone refuse? Were the junior unaccredited specialist trainees included in this original n = 16? If not, then it would be worthwhile stating how many there were and why they were included in addition. Line 121 mentions data saturation – how many interviews were conducted before this point was reached? More detail is needed about the demographics of the participants as well – how many at what level of training were included? M/F? Family commitments? Ages? Etc.

* Extra information has been added to the discussion around the participants. The number of participants was small, though represented a majority of the original participants. The six participants from the program who did not participate in the interview did not respond to the email invitation and were not further pursued as a saturation of data was noted on analysis of the ten interviews.
* Additional demographic details have been added.

Data collection and analysis: Line 125 – the interviews were very short. It would be useful to include examples of the types of questions asked – with such short interviews it seems like the questions were quite directive and structured. Or were the interviews short because the interviewees reported not having done much simulation practice. Was any software used to assist with the data analysis? How many interview transcripts were coded altogether?

* A copy of the interview guide has been provided for supplementary content. We agree with your analysis that potentially the lack of engagement with the program contributed to the short length of the interviews. No software was used for the analysis of the (ten) transcripts. As outlined, 2 researchers independently coded two transcripts to agree on a framework before continuing to code the transcripts independently prior to further classification and synthesis.

Table 1 as first referred to, line 137, page 6, could really be a figure that just mentions the 12 domains, as it is distracting for the reader to jump from the description of the TDF to the Table and see so much other information presented at that point which is not relevant or pertinent to the information in the text.

* Thank you for this suggestion. We have changed the table as suggested to separately list the domains as a figure

This section, including the application of the TDF section, would benefit from specifying the qualitative data analysis in more detail using more descriptive terms such as ‘deductive coding’ or ‘iterative categorisation’. Other common analysis techniques include: constant comparison, analytical induction, content analysis, conversational analysis, discourse analysis, interpretative phenomenological analysis and narrative analysis. Try and provide a more polished account of the process used here.

* Along with adding extra information about the TDF (particularly moving detail to the introduction), we have clarified the application of the TDF in the methods section

Results: Information in the first sentence here, line 155, page 7, should be presented earlier, i.e. that 10 trainees were interviewed. Does this number also include the unaccredited juniors? The four major themes mentioned seems incongruent with the earlier description of the qualitative coding described previously. If you did engage in thematic analysis overall, and then some sort of iterative categorisation to apply the TDF then this should have been spelled out in the data analysis section. Perhaps even consider using a flowchart.

* We have updated several sections of the paper in response to your suggestions, including clarifying the numbers of participants (and earlier in the paper), the trainee levels, the coding process and analysis

The presentation of results by themes and the inclusion of quotes to support this was easy to read and well written. It may have been useful to include a statement about supervisor perspectives as well though – were they considered but outside of the scope of the study? Not considered at all? The subject of further research etc? Perhaps it could be listed as a limitation? Most of the quotes and themes extracted speak to elements of various motivation theories which needs to be incorporated within the paper to really strengthen the whole rationale and discussion. The disconnect between intentions and reality, participant expectations etc – all go toward supporting various literature with regard to motivation theories. Lack of relevance and perceived authenticity is a common de-motivator across all areas of education

* We did not in this instance interview the supervisors as we were interested in trainee motivations as the program design was intentionally trainee-centered and designed to encourage independent learning. We do agree that future research focusing on the experiences of the supervising trainers would be of interest and could guide further program refinement
* We have added to the discussion to provide more clarification around the decision to undertake this research using the lens of the TDF rather than an individual motivation theory. We have also provided more account of the underlying theories of motivation and the key constructs supported by our analysis.

Discussion: Well written – maybe in relation to logbooks, page 15, consider the use of badges, or gamification of learning ideas. There is also an error on line 357 with the referencing in superscript.

* This error has been corrected

In Future Directions, perhaps the need for institutions to enhance the authenticity and curricula design process is also needed?

* A mention of the importance of considering curricula design has been added to future direcetions

Table 1: I’m not sure this is very useful in its current form. Perhaps consider either representing the information in text, or constructing smaller tables out of this larger one. The number of blank cells in the table is distracting and also suggests that the Table could be better structured.

* Table one has been restructured as you have suggested

Table 2 provides useful information but should be explicitly referred to earlier on in the paper. Did these interventions form part of the structure for the interview? It is still unclear what trainees were actually asked about in the interview.

* The method section has been updated to explicitly refer to this information earlier in the paper. These interventions were not part of the interview, but were identified through the process outlined in the methods, where the COM-B/BCW was used to identify strategy based on relevant behaviour change techniques.

Reviewer B

* The stated aim of the paper, was to devise targeted interventions, but the study design does not appear to directly address this. There appear to be multiple aims. (including devising interventions). Although the main aim seems to be to describe the barriers (as per the title).
	+ The study design is unclear. Although stated “qualitative descriptive study” there appears to have been a failed quantitative element which is only partly mentioned and there are multiple arms (“Half the trainees were allocated to receive additional supervision”). These are not mentioned in results, although numbers are too small to support this approach.
	+ The paper has been changed throughout in response to this feedback, as well as that from Reviewer A to clarify the study design and methodology.
	+ We agree that the small numbers did not support the approach of stratifying the participants by their allocation to supervisors (or not) and therefore the interview discussed the role (or potential role) of supervision in general. The interview questions have been added as supplementary content to allow readers to understand the interview style
* On lines 113-115 in the methods section, results are presented (ie in the wrong section)
	+ This section refers to findings of the original program (not the study presented here) to provide background and context to the methodology. We would be happy to remove these lines if felt appropriate, however the other reviewer suggested additional detail in this section (rather than removal).
* The paper states that "Participants were interviewed until data saturation was reached. " the meaning of this is unclear. Usually this would only be apparent after coding.
	+ We agree that through coding saturation can be explored and this is how we made this assessment. If data saturation had not been reached in this analysis, a second attempt at recruitment could have been explored or poor agreement on attitudes would have been reported in the results
* Table 1 outlines a framework but does not seem to connect this very strongly with data from the study and jumps to the proposed interventions, further detailed in table 2. Overall the barriers and enablers identified from study data have not been presented clearly in table 1.
	+ Thank you for this feedback. We have made significant changes to the tables in response to your suggestions and those of Reviewer A
* The barriers are presented very superficially in discussion and have not been explored, before jumping to the proposed intervention.
	+ We aimed to balance an exploration of the barriers with the desire to also explore the other aspects of program evaluation and the presentation of evidence-based strategies for improving such an educational intervention
	+ We have provided more reflection on the underlying motivation theories and their interaction with the TDF and our analysis.