Reviewer's report

Title: Application of a three-session-procedure based on experiential learning in a tooth brushing course for Chinese dental students

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Reviewer: Wendy Hartford

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Application of three-session-procedure based on experimental learning in the tooth brushing course for Chinese dental students

1. Grammar use

There are numerous grammatical errors throughout the manuscript which detract from the content of the manuscript. This interferes with reader understanding. Use of language and gaps in information also detract from reader understanding. I would recommend the authors have the manuscript edited by a professional proof reader and editor.

2. Abstract

The problem and gap are not well defined. Why is this study important? Why is it important that dental students improve their learning and tooth brushing evaluation? Background

Page 2. Line 18: Please identify whether you are referring to Chinese dentists or dentists globally.

Page 2. Line 20: What is meant by "oral health education may not be enough"? Why isn't it enough? Can you expand on this problem?

Page 2. Line 27/29. It is not clear what learning efficiency you are referring to. Learning to use a tooth brush efficiently or learning how to evaluate tooth brushing, or both?

Conclusion

What are the implications for practical application of the results of the study?

Page. 3. Line 29. Prelimilarily may not be the correct word. Check use throughout manuscript. See note on grammar use (1)
Page 3. Line 30/32: "TSP preliminarily cultured the students’ ability to evaluate tooth brushing method for the others": who are the others? Be more specific.

3. Background

The problems and gap are not well defined? How did you determine that the traditional undergraduate program was insufficient? Is the evidence for ineffectiveness of the traditional program anecdotal or scientifically evaluated?

Are there other similar programs in other schools of dentistry? Is so how is this different?

Page 4. Line 51: Our department…what is the relevance?

Page 5. Line 4-32. This paragraph needs to be rephrased to more clearly state the inadequacies of the Bass technique in relation to training dental students in tooth cleaning and evaluation. What is it about the technique that dental students cannot learn to do, evaluate, and/or formulate recommendations? Do you have supporting references for these statements? What are the potential risks of different toothbrushes? What do you mean by "long-term implication"?

Page 5: Line 44/46: Please explain why EL is suitable for your education purpose.

Page 5. Line 46. Did you trial and analyze the TSP procedure or only analyze the procedure?

Page. Line 50. What are the broader implications of improving the learning competence of tooth brushing and tooth brushing evaluation of dental students?

4. Methods

Design: Why was a quasi-experimental approach used for this study, why is it suitable for this study? Explain why in the manuscript.

Intervention:

Page 7. Session 2: Did the students need to prepare in any way for the practical tooth brushing experiment?

Page 7: Lines 31-37: In the second and third 45 minutes…..the description of how the students were divided into groups needs to be clarified. What is the significance of the groups of 4 students?

Page 7: Line 56/57: Please clarify what you mean by the manual versus electric methods for right side …is 60 vs 116.
Please provide an explanation of why you decided to divide the mouth into R and L side tests for manual and electric tooth brush? What are the benefits from a learning perspective?

Instruments

How did you address potential limitations of the group administered survey/test? For example lack of privacy and vocal influences by students or teachers.

15 item survey:

Your response to a reviewer suggests that electric tooth brushing was not surveyed. If this was the case a statement indicating this, and why it was not included would be appropriate.

5. Data collection and analysis

Please provide details about the assuring internal and external validity of the questionnaire. Who were the 6 experts and how did they assess validity?

6. Results

Page 10. Line 15: Questionnaire content validity

The survey questionnaire was conducted 2 weeks after the test, did this affect the accuracy of student responses? Was the delay factored into your results?

Page. 11. Line 47. How were improper habits corrected in class? How were they evaluated? Please explain.

Statistical assessment: I was not able to fully review the statistical analysis.

7. Discussion

Page 14. Line 29. What is meant by "individual experience and evaluation were reasonable"?

Page 14. Line 31. In this context…..

Are you referring to your knowledge prior to the experiment or after? If the results confirm your original idea that a new course was needed then the sentence needs to be changed.

Page 15. Line 49. The fourth stage of ELT, although encouraged, was not completely examined and evaluated. It may be preferable to indicate this earlier in the study. For instance, by taking a
ELT approach and following stages 1, 2, and 3. The fourth stage should be presented as a limitation with reasons stated. Page 16. Line 21. "All the steps…” Given that the fourth stage was not completed or evaluated with the same rigour as the first three stages, this last sentence should be changed to reflect this difference.

8. Limitations

Do you have future plans to evaluate the fourth ELT stage with these students?

Were there any other limitations? For instance: Why wasn't the method for electric toothbrush cleaning surveyed? The use of a quasi-experimental design rather than a design using a control group?

Are there any limitations to the general (global) application of this course design for similar dental students?

9. Conclusion

Page 17. Line 1. Please specify who "others" are. This sentence doesn't quite reflect that the 4th ELT stage was not evaluated. Prelimarily (meaning beforehand, previous, formerly) may not be the correct word. Do you mean "preliminary" (meaning exploratory, preparatory, basic)? Check use throughout manuscript.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review
Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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