PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (http://bmjopen.bmj.com/site/about/resources/checklist.pdf) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

<table>
<thead>
<tr>
<th>TITLE (PROVISIONAL)</th>
<th>Evaluating TESLA-G, a gamified, Telegram-delivered, quizzing platform for surgical education in medical students: protocol for a pilot randomised controlled trial</th>
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<tr>
<td>AUTHORS</td>
<td>Ng, Matthew Song Peng; Jabir, Ahmad Ishqi; Ng, Tony De Rong; Ang, Yi-lan; Chia, Jeng Long; Tan, Darren Ngiap Hao; Lee, James; Mahendran, Dinesh Carl Junis; Tudor Car, Lorainne; Chia, Clement Luck Khng</td>
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VERSION 1 – REVIEW

| REVIEWER            | Doberne, Julie  
Duke University Medical Center |
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<td>REVIEW RETURNED</td>
<td>30-Jan-2023</td>
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| GENERAL COMMENTS    | How will the qualitative feedback be evaluated (using what approach-grounded, ethnography, phenomenology)?  
How will retention of participants be quantified?  
What are the proportions of questions (according to Blooms Taxonomy) that will be used, and is there any evidence to validate these proportions?  
Does participation in this study require a smart phone that is compatible with Telegram? Does the user have to incur the cost of cellular data related to the study? Could this be a deterrent to students enrolling in the study, a source of potential selection bias? |

| REVIEWER            | Gönüllü, Erdem  
Üsküdar University Medical School |
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<td>REVIEW RETURNED</td>
<td>21-Feb-2023</td>
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| GENERAL COMMENTS    | In abstract, please add some details about study method. Please clearly describe reliability and validity assessment process of questionnaire. |

VERSION 1 – AUTHOR RESPONSE

6. How will the qualitative feedback be evaluated (using what approach-grounded, ethnography, phenomenology)?
We will analyse the data thematically using the six steps approach outlined by Braun and Clarke (2006). The transcribed interviews will be coded to identify emerging themes which will be iteratively reviewed by the project team to come out with a set of themes to describe the dataset. Changes have been reflected in the "(iv) Qualitative feedback" section of "Methods and analysis". (Page 23, Lines 8-9 and Page 34, Line 14)

7. How will retention of participants be quantified?

Retention of participants will be quantified by the number of participants who complete both the pre-intervention knowledge test and the post-intervention knowledge test. (Page 21, Lines 3-4)

8. What are the proportions of questions (according to Blooms Taxonomy) that will be used, and is there any evidence to validate these proportions?

Thank you for the comment. We chose to make the questions to be of increasing difficulty based on the feedback from our previous study (cite Marcus paper) and we found the Blooms Taxonomy to be a suitable framework for us to do so. We aim to create 56 blocks of 5 questions, totalling 280 questions. Each question in the 5-question block will correspond to each level of the Bloom’s Taxonomy (level 1 to level 5). Hence, there will be an equal number of questions per level of Blooms Taxonomy. Changes have been reflected in the “The intervention” section of “Methods and analysis”. (Page 11, Lines 14-16)

9. Does participation in this study require a smart phone that is compatible with Telegram? Does the user have to incur the cost of cellular data related to the study? Could this be a deterrent to students enrolling in the study, a source of potential selection bias?

Yes, participation in this study requires a smartphone compatible with Telegram. However, Telegram can be used on all three major smartphone platforms, namely iOS, Android and Windows Phone. This would make Telegram compatible with virtually any smartphone. Additionally, all students in the medical school we are recruiting from already have smartphones compatible with the Telegram application. Many students already use telegram for personal communication. However, the cost of cellular data for this study will likely be minimal, as wifi is available within school premises. (No changes made)

10. In abstract, please add some details about study methods.

Thank you for your comment. We have provided more specific details regarding the outcome measures in the abstract. Changes have been reflected in the ““Methods and analysis” section of the abstract. (Page 2, Line 23-25 and Page 3, Lines 1-6)

11. Please clearly describe reliability and validity assessment process of the questionnaire.

Thank you for the comment. Our questionnaire consists of questions adapted from the System Usability Survey (SUS) and the Student Evaluation of Educational Quality (SEEQ) Questionnaire [1]. The SUS is one of the most widely used questionnaires to compare the usability of interactive systems [2], and it has been validated in measuring the usability of learning management systems for university students [3,4]. The original SEEQ Questionnaire has been extensively validated, most notably in a population of 1297 university students from 9 institutions in the United Kingdom [5], and in a population of 1264 university students from 41 different courses of 14 departments in Greece [6]. While the questionnaires have been adapted for the study, we will be conducting reliability analysis and triangulating user’s scores with their input from the qualitative interview to determine
the reliability and validity of the questionnaire respectively. (Page 22, Lines 11-14)

Once again, the manuscript has been read and approved by all authors. The authors declare that they have no actual or potential competing financial interests. All authors contributed significantly to the preparation of this manuscript. The contents of this manuscript are our original work that have not been published in whole, in part, or submitted for publication elsewhere. All authors agree to the submission and publication of this manuscript. In the event that this manuscript is accepted for publication, we agree to pay the Article Processing Charge.

Thank you very much for considering our manuscript for publication. Please do not hesitate to contact us should there be any questions regarding the manuscript. We wish you an enjoyable reading of our submission.

Yours sincerely,

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References