Reviewer’s report

Title: Using Peer Review to Distribute Group Work Marks Equitably Between Medical Students

Version: 0 Date: 07 Jan 2017

Reviewer: Boaz Shulruf

Reviewer's report:
Thank you for presenting this manuscript describing an original formula for peer assessment. Generally the manuscript reads well, the theoretical background is appropriate and the description of the methodology is detailed. I have however a few concerns which I believe may help the authors to strengthen their arguments.

1. The authors suggest that the 'old' method was less fair than the new one since students who were at the more extreme level of performance were under or over scored. This argument is only an assertion since no comparison was made between individual and peer based assessment on the same topic. It is plausible that in a weak group a mediocre student would be perceived as outstanding and vice versa for a strong group. Assessment is always made with some reference. Within the group the peer assessment is made with the reference to in-group performance. I suggest that the author revise their arguments to include such plausible explanation of the described phenomenon.

2. The authors employed Cronbach's alpha to measure the reliability of assessment criteria (quantity and quality). The authors did not provide any evidence or justification suggesting that the assessment criteria need to be related or underlie a single factor. For example it is not clear why it was assumed that clarity should be correlated with enthusiasm and responsibility. The results, however suggest that the correlation was high as well as the reliability. I would suspect that the high level of reliability means that assessment was related to an overall performance more than to any specific domain intended to be assessed.

3. Given point 1 above, I would be cautious to suggest that the new method was better than the old one. As far as I see it they are just different and the decision of which one to use is quite arbitrary.
Nonetheless, despite the comments above, I commend the authors for undertaking such an initiative. Development of an original assessment practice is rarely published and not for a good reason. Thus I would encourage the authors to improve the theoretical background and discussion.

I have also looked at the formulae and these are straightforward and readily useable.

I wish the authors all the best in their endeavour.

**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 am able to assess the statistics

**Quality of written English**

Please indicate the quality of language in the manuscript:

Acceptable

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