Reviewer’s report

Title: How the Study of Online Collaborative Learning Can Guide Teachers and Predict Students' Performance in A Medical Course

Version: 1 Date: 07 Jun 2017

Reviewer: Robert A. Hanneman

Reviewer's report:

The authors have done a fine job in their revision of the article, and have carefully responded to almost all points of the extensive reviews of the earlier submission. The clarification of the focus toward instructional applications, with extensive discussion has greatly clarified and improved the article; it should now be both an interesting research result, and of practical utility to readers.

The analysis and reporting of results, both visually and statistically, are basically sound. Additional analyses of the dynamics and use of multiple outcomes go a long way toward resolving issues of endogeneity, dynamics, and the like.

There is an important remaining statistical issue. Network analysis is not based in independent random samples of observations. The standard errors and significance tests routinely computed by statistical packages assume such independence. The (usually) position network autocorrelation of cases in network samples usually results in the standard errors computed under independence understating variance, and hence over-stating statistical significance. For non-independent samples, it is best to use random permutation of the data to construct sample-based standard errors. Other alternatives, not as good, include standard re-sampling estimators.

It would be a good bit of work for the authors to re-do all of the significance testing using permutation methods. It would probably be adequate to add a short discussion of this statistical issue to the paper, urging caution and a conservative approach to interpreting the current significance tests. UCINET might contain a permutation test for the significance of the tau measures - this could be used to assess whether there is a problem (usually, in my experience, there isn't) with the computed standard errors.

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

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

Yes

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

Yes

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
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