Reviewer’s report

Title: Explaining teaching performance in seminars; a questionnaire study with a multi-level approach.

Version: 1 Date: 23 May 2014

Reviewer: Patrício Costa

Reviewer’s report:

General comments
The paper provides an interesting approach to explore how teaching performance in seminars is explained by students’ extent of preparation, seminar group size, group interaction, and content. However, there are some relevant aspects that should be better explained and explored. It is also an issue that we have not enough information about the latent variables used as independent variables. The results presentations should also be improved.

Major Compulsory Revisions

Educational context
1. Since “Attending the seminar groups is optional”, this might be a very relevant bias in the results. How did the authors control this?

Variables
2. In line 183, authors mention that “multiple responses from the same students who participated in different seminars…”. I’m concerned with this topic because if the exploratory factor analysis (EFA) was performed assuming that there are students “duplication” this will cause some bias in the analysis.
3. We have no relevant information about the statistical procedures used to perform the EFA (extraction method, rotation, number of factors extracted criteria, etc.).
4. It is relevant to provide communalities scores.

Subjects and procedure
1. Please provide response rate. Is it \(\frac{988}{1582}=62\%\)? But this might not be true, because there are multiple responses from same students…
2. Based on table 1, can we assume that the regression model was based on 751 students?

Analysis
1. Shouldn’t authors consider year 1, 2 and 3 as a relevant variable in the analysis?
2. Please provide the cut-off p values to consider results significant.
3. The authors don’t provide any information about the statistical procedure assumptions.
Results
1. Authors present on table 1 descriptive statistics for the four scales and group size. I detect some problems regarding normality. There are some skewed distribution and with problematic values for kurtosis. This might be related with the sensitivity of some of the scale items (not possible for me to analyses; I would need descriptive results for all the used items).

2. Variables in a multilevel model are most frequently grand-mean centered. I think that this transformation would have been a better option.

3. Based on the previous point, I don’t understand the authors’ sentence: “Table 1 indicates that no variables displayed extreme skewness or average scores that were very close to one of the limits of the theoretical range (i.e., 1-5).”

4. There are some information that should come on analysis section and not on results (from line 209 to line 217).

5. Authors don’t provide relevant information about the model fit.

Minor Essential Revisions
1. Please replace “eigen values” for eigenvalues, line 158 and Appendix 1.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests