Reviewer’s report

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

Version: 1 Date: 8 June 2014

Reviewer: Juliette E. Hommes

Reviewer’s report:

Dear researchers and editor,

The use of seminars is an important aspect of modern day curricula in higher education. Surprisingly, little is known on teaching these seminars which emphasizes clearly the importance of this study. It is clear that the research team had clear aims and included a well structured methods, analysis and interpretation in the manuscript. I have made some suggestions in language use, and still have some questions for the methods and analysis section. In the introduction I missed the complexity of context on teacher performance facilitating group interaction. In the discussion I have some requests to include a wider body of literature on the various independent (fixed) variables in this study.

My main issue remains the inability to analyse the quality of the instrument as it is currently under review elsewhere. I would value the ability to read this manuscript before reviewing.

I hope these questions and suggestions helps to improve the manuscript. I’m looking forwards to seeing the adjusted manuscript soon.

Juliette Hommes

GUIDELINES

1. Is the question posed by the authors well defined?
   Yes.

2. Are the methods appropriate and well described?
   Major compulsory revision; inability to understand the quality of the instrument. I would assume that this needs to be judged before the paper can be accepted. Further minor details unanswered (see my detailed list of questions, suggestions below).

3. Are the data sound?
   Yes.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
Yes.

5. Are the discussion and conclusions well balanced and adequately supported by the data?
   Yes, with one fixed variable that still needs to be addressed (minor essential revision).

6. Are limitations of the work clearly stated?
   Yes.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
   Yes with the request to expand the literature they cite, see below (minor essential revision).

8. Do the title and abstract accurately convey what has been found?
   Yes.

9. Is the writing acceptable?
   Yes with some suggestions how it might be improved (discretionary revisions)

DETAILED FEEDBACK

Language use discretionary revisions:

Introduction: Content does not feel right when applied as a noun. I am not an English native, but I prefer ‘topic’ or ‘subject matter’.

Lines 78-79: …. may prompt students to adopt a deep learning approach. By using the words ‘may’ and ‘adopt’, it feels like students make an active decision to apply deep learning strategies, while it is not only the student that assures engagement. Sometimes, it’s only the format of the seminar or the teacher that prompts students to engage. Therefore, I would prefer the use of ‘facilitate a deep learning approach’ to ignore who or what makes students engage.

Line 96: ‘roles’: do teachers change their role in the seminar? Or do they need a variety of skills to ensure learning among the students? In the discussion you mention teachers’ skills (instead of roles?).

Line 101: ….to support the facilitation of the group. Isn’t this a tautologism?

Line 237-238: ‘in order to get a deeper understanding of seminars’ or seminar teaching?

Line 252: ….. different than our expectation. = ‘against our expectations’?

Line 278-279: We think active group learning methods, as seminars, are good methods for this to exercise…..

I would suggest “We believe that…. To approach the complexity of real-lif
problems….”

Line 280: ….conflicts about knowledge. What do you mean an assignment in conflict with the students’ cognitive knowledge web or an assignment testing the students knowledge or an assignment?

Line 280: These kind of assignments demands…. I would suggest: These assignments need to demand….

Introduction: Clear aims, relevant for practice.

Minor revision: Context on teaching performance is rather understudied. However, the context on group interaction is also understudied, as well as the relation between both context on group and teacher & influence of the teacher on the group. This has not included the variable time on all these contextual factors, members of the group and the teacher. Therefore, the representation is a little simplified in the paragraph starting at line 103. Can you add literature and complexity of group learning and the role of the teachers? A figure might help to also explain the need of multilevel analysis at all times.

Methods

Minor revision: Can you provide some information on the seminar allocation or prescription? For example, do students choose in which seminar they participate? Above all, which seminar teacher they want to go to? And does a student know which students are in the seminar? How is the participation of students in the seminars (% of students who participate and who leaves after participation in the initial session(s))? 

Major revision: USEME instrument Under review elsewhere, means that I cannot estimate the quality of the instrument and thus I do not have insights in the quality of the methods and results in this study. I would suggest to send a copy of the paper in review to be able to understand the instrument used in this manuscript.

Discretionary revision: Teaching performance is measured as ‘didactic performance’ and ‘content expertise’. This is in sharp contrast to the large ‘variation’ of teacher’ roles described in the introduction. Can you explain why teaching performance should only be measured by the applied scale?

Minor revision: Line 176-177: ‘The questionnaires were only analysed if the consent form was signed.’ How many questionnaires were excluded?

Minor revision: Can you enlighten what it a range of 1-5 means? For example, if 3 is neutral, is it correct that the mean number of students are just sufficiently prepared?

Results:

Minor revision: Can you show how many students have been involved in two or more seminars that were ‘selected’ to participate in this study?

Minor revision: Have you done any sub analysis between the year groups? There is a large body of literature that students change in their learning ‘strategies’ over time. So I would like to see sub analysis to see if students in year one value
different contextual factors important for teaching performance.

Minor revision: The teacher intercept is relatively strong compared to intra-student and intra-seminar group intercepts. Can you explain or enlighten this in the results section (and discussion)?

Discussion: All minor revisions

Second paragraph of the discussion – group interaction:

I would prefer emphasis on how these results align with the literature. A large body of literature shows how group interaction increases student learning. As seminars aim to increase student learning, group interaction is indeed the best way to reach this goal (largest effect).

The last sentence does not add to the point of discussion in the paragraph. Can you enlighten why it is relevant to emphasize the need to apply group dynamic skills to increase tutor performance?

Third paragraph – preparation

These results indeed show an ambiguous relation between preparation and repetition of the subject matter by teachers. Although it is not the aim of this study, it would add insights for teachers if you can add a suggestion how to deal with these differences in the seminars.

Paragraph starting at line 262 – group size

The effect size is rather small. This does not return in the discussion. Could you add this in the discussion?

The references in this paragraph do not include the variety of literature on group size. Can you include a wider variety of group size research to reflect the current knowledge on group size and student learning. This will also make your inferences stronger why groups need to be relatively small. In my opinion, the question remains unanswered ‘what is the critical group size for seminars’? Closer to 20 or closer to 30 students? Can your results help to understand the critical group size in seminars?

Line 276: I would exclude the brackets, as ‘questions’ are a good method to engage students, however, knowledge questions or questions only are not sufficient to facilitate deep learning.

Paragraph starting from line 270 Recommendations

I like these recommendations, but the sequence of all recommendations is quite long. Can you use some space in between the recommendations to ease the various subject areas in which the recommendations are given? And can you announce the recommendations in the paragraphs above so this paragraph is not a surprise.

In the discussion I miss the discussion on the medium effect of the topic of the seminar on teaching performance. Does this imply that the topic is independent from the method of the teacher? In other words, some topics will always be boring? Or are some topics difficult to make interesting than others?
Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare not to have financial or other competing interests, nor does my organization.

I do not receive any reimbursement to review this manuscript.

I have published with Prof. Scherpbier within the last five years.