Reviewer's report

Title: Differences in the Self-Assessment of Clinical and General Competencies Between Problem-based Learning and Conventional Curricula Among German Medical Graduates

Version: 2 Date: 22 July 2009

Reviewer: Diana H Dolmans

Reviewer's report:

This paper reports about differences in perceptions about acquired competences between students from conventional and PBL curricula in Germany. The students reports interesting data but needs major revisions before it can be published. Suggestions for improvement:

- The abstract is not fully clear. In the methods section it is not fully clear that students rated the importance and the extent to which they have acquired the competencies. The conclusion in the abstract does not logically follow from the results section in the abstract. The importance was rated equally with the exception of two competencies. PBL students were more positive about the acquisition of medical practical skills, psycho-social competencies, teamwork and problem-solving skills than graduates from conventional curricula and no differences were found with regard to medical knowledge. Furthermore, both conventional and PBL students were of the opinion that they did not acquire business competencies. These findings are fully in line with earlier reported findings (eg Schmidt and van der Molen, 2001). In other words, reword the results and conclusion section such that they are more in line with each other.

- The introduction section is very short and very context-specific. Mainly the German situation is described here. The German situation should however only be described in the methods section, because readers might think that this study is only relevant for German readers, whereas this is not true. What should be emphasized more in the introduction section is: Which studies have already been conducted dealing with differences in perceptions about acquired competencies between students from conventional and PBL curricula all over the world and what did these studies demonstrate. Make also more clear what the study reported here could add to the existing literature. Skip all the information about the German situation in the introduction section.

- At the end of the introduction section, the research questions should be formulated more precisely. So make clear that one question deals with differences in perceived importance and that the other question deals with differences in competencies acquired in the students’ perceptions.

- In the methods section it should be specified which actually questions addressed to the students, one dealing with importance and the other dealing with acquired competencies. How were they worded?
- Do not make a distinction between clinical and general competencies, since this distinction is not used in the Tables and is also not fully clear.

- It is unclear what is meant with the sentence of measurement precision on page 7. An alpha means that the scale is internally consistent, but how many items were included and was this calculated for the importance or perceived competence? So reformulate the sentence and mention that the items were internally consistent with each other.

- On page 7 it is said that subgroups could contain less than then 10 subjects, whereas it is reported earlier that only schools with 50 or more subjects were included. Explain this to the reader.

- The subheadings on page 10 should be changed towards 1) importance of competencies and 2) acquisition of competences.

- It is unclear whether the same results are reported in Figure 1 and on page 11. Are these data the same as presented in Table 3 or not? The text under Fig 1 and on page 11 under the subheading should either be presented under the subheading on page 10, or it should be made better clear what the differences are.

- The discussion is too long. A lot of literature is cited here that should have been introduced in the introduction section of the paper. It is not necessary to repeat the results section in the discussion section. Skip all the details about the results. Major conclusions should be drawn here and it should become clear whether the findings in general fit with findings from previous studies described in the introduction section and what this study adds to the literature. The argument that these studies were not yet conducted in Germany is not convincing. So skip also a lot of information about Germany in this section. The reader might think that this paper is only of relevance for a German audience, whereas this is not true. Do not repeat all the details about differences in characteristics between PBL and other graduates, since this is not a research question to be answered in this study. The main conclusion here should focus on the two research questions specified about. The main conclusion about the demographics is that the differences in demographics were very small, the cohorts were similar. The differences found are only relevant to discuss if the authors are of the opinion that they might have influenced the results/conclusion drawn from the two research questions or if they want to explain to the reader that the difference does probably not influence the results (such as age). But keep it short. Focus on the main conclusion here and that is that PBL graduates and conventional graduates find all competencies of equal importance with the exception of two. Explain these two. Furthermore, it should be concluded that this study demonstrates that PBL students were more positive about the acquisition of medical practical skills, psycho-social competencies, teamwork and problem-solving skills and that no differences were found with regard to medical knowledge. Explain whether these findings fit with earlier studies and what the importance is of these findings from a theoretical and practical perspective. Also explain why PBL graduates may find research of higher importance? Is this a curriculum-effect or not? Do not link it with starting a career at a university
hospital if this does not differ between the graduates from a PBL or conventional curriculum. And how is this result related with regard to the opposite finding on acquired competencies in research? Do PBL students rate themselves as less prepared because they learned more about research in a PBL curriculum? Anyway, this is a finding that triggers the reader and needs more explanation. Finally, make better clear what this study adds to the literature and do not mention the argument that this study was conducted in Germany. Did the other studies also focus on importance and acquired competence or did they only focus on acquired competence? What is the selling-point of this study?

- Skip the text on page 17 about MBA. This is far beyond the scope of this paper.
- Reformulate the limitations. What are the major limitations? In my opinion, the low response rate and the difference in response rate between PBL and conventional. Do not only mention this issue, but explain how it might have influenced the findings. Whether these results can be generalized or not and what the influence might be of the specific German context (a private school versus non-private schools, selection versus no selection) Also mention that this study is about self-perceptions, which might have limited value.

- First mention the limitations and thereafter the suggestions for further research. Reformulate the ideas about further research. Should they focus on costs? No, which studies are needed to obtain better insight in differences in competencies? The suggestions for further research should be in alignment with the limitations. Should we ask employees about their opinions? In other word suggest future studies that are more in alignment with the research questions formulated for this study and do not suggest studies in other domains.

- What are practical implications for education based on this study? Add one or two sentences. More emphasis on preparing graduates about business aspects of med ed?

In other words, the paper reports interesting data but from a scientific point of view, the reporting of the data needs much improvement.

**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 have no competing interests.