Reviewer's report

Title: Tutoring in problem-based learning curricula: the influence of tutor background and style on effectiveness

Version: 1 Date: 2 January 2005

Reviewer: Samy Azer

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General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Tutoring in problem-based learning curricula: the influence of tutor background and style on effectiveness.

Michele Groves, Patricia Rego and Peter O’Rourke

It is a pleasure to read this manuscript and it is a useful topic for those involved in PBL teaching and the readers of the journal. However, there are a number of important issues need to be addressed by the authors:

Major compulsory revision:

1. There are several paragraphs that I find difficult to understand. For example, page 2, results, “Clinically qualified tutors used their subject-matter knowledge significantly more than non-clinical tutors and were seen as being more empathetic with their students. Staff tutors placed more emphasis on assessment that student and casual tutors and were seen as having greater skill in establishing and maintaining an environment of cooperation within their PBL groups than non-staff tutors”. What does “student” mean in this sentence? Are these medical students? It took me a lot of time to understand that “student” means “postgraduate students who tutored in PBL” (stated on page 10, line 10) or they are “PhD candidates who tutored in PBL” American studies may use the latter term. I am still not sure if “non-staff tutors” are the “postgraduate student PBL tutors” or are part of them. The problem is that this point is not addressed under the “method” where it states “a total of 76 tutors” were included in the study. Data analysis compared clinical with non-clinical tutors and staff with non-staff tutors”. The term “casual” and the term “student” were not mentioned under method. This is also a problem on pages 5 and 6 under “subjects”. The definition of groups is not clear and very confusing. The authors need to clearly define their groups and use consistent terminology in the whole paper. I also noticed that the word “and” was repeated three times in a sentence - this needs to be adjusted. There are similar problems with several other paragraphs.

2. The lack of references in several places in the manuscript needs to be addressed by the authors. They should place the appropriate reference whenever they place a statement that can be debated. The readers will be interested to know where the author reached to particular conclusions in their introduction, for example, page 3, last paragraph “most of the studies that have looked at the characteristics of skilled PBL tutor have compared the effectiveness of ……” I am not sure about “skilled PBL tutors” in the statement. The authors need to provide the references of these studies.

3. Similar to item number 2, the statement on pages 3 and 4, “In medical curricula, the problems that
students address are presented as integrated clinical scenarios. Thus, content experts are seen as those having relevant subject matter knowledge. This refers not only to clinical skills such as history taking, and physical examination but also to knowledge of basic science, public health and ethico-medico-legal issues as required by the problem. Thus, although non-clinically qualified academic staff may be seen as having expertise in the teaching/facilitation process and/or particular aspects of the curriculum, when it comes to subject matter knowledge, it is clinicians who are not considered as experts. Findings from these studies are mixed.” The authors then places references “3-6”. It is not clear to the reader who “considered” a group of PBL as experts or non-expert or made them “seen as”. The authors need to place appropriate references after each statement and clarify that paragraph. The statement made of “mixed findings” is not at all clear and needs to be clarified.

4. The authors repeated the word “effective” and “overall effectiveness” and “effective tutors” over all the paper and also in the title. However, it is not clear to the reader what the definition of this term is. There should be common background or a specific definition that can be shared with the reader. For example, the word “effective PBL tutor” could mean:

- Communicates effectively with members in the group
- Understands the topics discussed and able to share his views in the discussion but not necessarily be effective in his/her communication
- Helps the group to focus on what is discussed
- Able to answer all our questions
- Adds to the information we know
- Is a role model
- Is organised and has good management strategies
- Listens to what we want to do
- Encourages us to learn
- Provides us with resources
- Controls the discussion for the good of the group
- And many other points.

I’m not sure, and the reader of this manuscript would be eager to know what the definition of “effective tutor” is. Do all these definitions apply or just a few? Also, did the authors mention when they used “effective PBL tutor” in the questionnaire provided to students place a clear definition for the word “effective”? Using this word in the questionnaire without a definition would be confusing and would affect the results because the reader’s perception of a tutor’s “effectiveness” will vary greatly. The six categories stated in the tables need to be clearly stated that they constitute part of this “effectiveness” and how from this, the “overall effectiveness” was calculated. This was not clearly explained in the method.

5. On page 4, the authors state “as far as we are aware, there have been no studies which have explored the relationships between student’s perception of overall effectiveness”. Again I would like them to address what I have stated under point four. The authors may need to provide the readers with answers to these two questions: 1) What is the basis behind their study? and 2) How will this study add to our understanding of the group perception about PBL tutors? The definition of “effective PBL tutors” may also be added here.

6. The authors didn’t mention how many hours or tutorials were taught by each tutor. According to what the authors mentioned, there are about an overall of 47 basic scientists, 21 with medical backgrounds an 12 classified as others (with social and teaching background) – a total of 80. I have calculated these numbers from the diverse data provided. The authors need to arrange their data in a table and help the reader to understand. My question is, out of these 47 basic scientists, how many of them were absent and unable to do their groups because of illness, or conferences or other reasons during the 11 weeks of teaching? From my experience, with a large number of these groups, 76, there will be about five groups that will have three tutors in eleven weeks because of illness or travel of the tutor. This issue was not addressed at all in the paper. Did this happen in the study? And if the answer is yes, when the groups answered the questionnaire, which tutor did they
reflect on out of the different ones they had seen over the previous eleven weeks? This is a very important issue that needs to be expressed and explained by the authors.

7. Page 8: the authors state that, “Consequently, there was relatively little variation between PBL groups compared to the variation between students within each group.” I understand from previous statements that the authors considered age, gender, academic and cultural backgrounds in creating similar groups. However the problem here is the academic background of these students. I assume that the students enrolled in this program at Queensland University are all graduates and have prior university degrees. This could be a Bachelor, Master of PhD. Their prior university degree could be in nursing, physiotherapy, dentistry, speech pathology, etc. The authors ignored talking about this issue, despite its importance. The needs of students with a biomedical background and their views about what will make “an effective PBL tutor” will be different from students with a social studies degree. Accordingly, it will be more accurate if this study addressed the views of individual students rather than the whole group. So, I believe the design of the study in its current state is weak and to improve it, the study should be based on individual’s reflections not entire groups.

8. The discussion needs to be rewritten in an integrated way. At the current status, for example, the last two paragraphs, it looks like two separate pieces of information which each paragraph addressing a different issue. A good discussion should interpret the results well, compare the results with other results in the literature, provide convincing evidence and show good flow and progression of the discussion. The last paragraph of the summary is not clear at all. One of reasons for this is the lack of the definition of the groups. For example, are all clinicians non-staff? The authors did not mention the results about the “post-graduate student tutor” in their summary, although they mentioned them in the first line of their discussion. The other problem in the summary is the sudden shift to clinicians versus non clinicians to staff versus non-staff to subject matter versus facilitation. The conclusion in the abstract does not match with the results mentioned under the abstract. I think the authors need to be consistent in their approach and the terminology used throughout the manuscript.

9. Table number one is difficult to understand terms like “reliability”, “corrected model”, “grand mean” need to be explained under the table. The title of the table itself is not clear. Is this table about “a summary of the perception of the PBL group’s regarding the six categories of tutor behaviour.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Minor essential revisions

1. Page 5, first two lines: “All tutors are specifically trained in PBL before appointment” The authors need to expand a little about the PBL training. For example, state how long it is, is it interactive, are students involved in training to create a simulated tutorial and what other support is provided to tutors during their teaching, do they evaluate these workshops and the quality of their programs, etc.

2. Page five: under “Subjects”: According to the author’s statements, they have ten students in each PBL group and there are 76 PBL groups. The total number of students should be 760. There were 702 responses, this is a response rate of 92.4%. Could the authors explain why the response rate stated is only 86.7%?

3. The authors mentioned that the students who completed the questionnaire were first-year students and the number of students who completed the questionnaire was 702. How many
students are enrolled in the medical program at the University of Queensland each year? Did the authors run this questionnaire over two years? IF the answer is yes, this should be mentioned in the method.

4. Page 6, under “Instrument”: The authors state the questionnaire used “was developed and validated at Maastricht University [8].” The authors need to explain to the reader why they decided to use that particular questionnaire. What was unique about that questionnaire? I would recommend that the authors add the questionnaire in the appendix so the readers can read the 39 items.

5. There is obvious overlap between the three items under “Knowledge of Subject Matter” and the other three points under “Facilitation Skills.” For example, item number one, use of expertise is defined as “the degree to which the tutor uses his/her knowledge of relevant subject matter to help students.” This item could also be under facilitation skills. It’s not clear from the manuscript and the methodology how this issue was considered. I’m not happy with the item “authority” under “Facilitation Skills”. It is well known in PBL training from the literature and this should be an important part of PBL training that authority is not a word used in PBL programs. It might be more useful to use a phrase like “teacher-centered approach” instead.

6. Despite what I mentioned under the previous item, the authors use, on page nine and other places, the term “Student’s perception”. This term does not reflect what they have done. I believe they should use the term “group’s perception”. On page eleven, they say “student’s rating”, this also should be altered to “group’s rating”.

7. Page 8: “using Cronbach’s alpha coefficient of internal consistency”, this requires a reference.

8. Explanations of the table and methods used in the statistics should all be added under the table.

Discretionary Revisions (which the author can choose to ignore)

Discretionary Revisions

1. The title of table number two should be “Assessment of the six categories of PBL tutor effectiveness on the basis of gender, age, qualifications, and appointment”.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No

Declaration of competing interests:

My answer is No
I am a known Medical Educator in Australia and New Zealand. I know one of the authors of this paper but I have no direct or indirect interest that could interfere with this work.