Reviewer's report

Title: Integrated Problem-Based Learning in the Neuroscience Curriculum- The SUNY Downstate Experience

Version: Date: 3, 17 June 2006

Reviewer: Mark Albanese

Reviewer's report:

General The really nice thing about this article is the insiders view of the change to PBL. It has a richness of being there that is very compelling.

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

1. The approach used has relatively large small groups, even for the smallest groups (n=10). The larger group format with 25 would not typically be considered a small group. Some discussion of what might be the implications of group size on the development of self-directed learning would be helpful.

2. It would be very helpful to give more details about what students were told was their role in the PBL sessions. One does not get a real good sense for what actually occurred in the PBL sessions for either of the two formats. More detail would be useful.

3. It is not clear exactly how the chi-square test was conducted. It appears that the same students rated both the PBL and neuroscience as a whole. The main issue is whether the data were analyzed as repeated measures or as though they were independent. I suspect the latter, which would most likely be less powerful than using a repeated measures approach.

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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)

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Discretionary Revisions (which the author can choose to ignore)

It would probably be good for the author to go back to Barrow's original book on implementing PBL in the curriculum (Barrows, 1985 "How to Design a Problem-based Curriculum for the Preclinical Years") and see what he proposes as the core elements of PBL. For example, Barrows has set problems and objectives for students. I do not know how common it is for PBL to have students bring their own problems as stated in the article, particularly in the early stages of PBL. Barrows strongly urges little scheduled time in the curriculum so students can find resources, including faculty consults. The authors should comment on how that would relate to the type of curriculum they implemented.

The issue of expert vs. non-expert facilitators is relatively complex. It is hard to be an expert in all the cases that would be used in a neurosciences course or any course. The question really is what level and type of expertise do facilitators need to be able to be facile with the material. Facilitators who are learning the material at the same time as the students are do not make for credible resources. However, Barrows would probably argue that the floundering around the students did was good, they were learning to be self-directed learners. The authors might comment on whether this floundering might be a good thing. Right now they leave it to students negative comments to suggest it is not.

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: Acceptable

Statistical review: Yes

Declaration of competing interests:

I declare that I have no competing interests