Reviewer's report

**Title:** Long-term follow up of factual knowledge after a single, randomised problem-based learning course

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**Reviewer:** Martin C. C Michel

**Level of interest:** A paper of considerable general medical or scientific interest

**Advice on publication:** Accept after discretionary revisions

A key hypothesis of PBL is that it may promote life-long learning to a greater extent than traditional forms of learning. The present manuscript is of great interest, because it is one of the very few studies looking into long-term knowledge retention in a randomized manner. The manuscript could be further improved by taking the following into consideration:

1. Knowledge from a previous general pharmacology class was tested in the context of a clinical pharmacology class. Since the two subjects exhibit considerable overlap, it is important to know whether the general pharmacology recall exam after 18 months was done at the beginning or the end of the clinical pharmacology class. The latter possibility would limit the interpretation of the data, since exam preparation for the clinical pharmacology class (taught with traditional methods) would also enable students to do better on the recall exam. Depending on whether the recall exam was done at the beginning or end of the clinical pharmacology class, this implication should be discussed.

2. The authors may want to discuss the issue that pharmacology is an integrative discipline. Hence, exposure from a variety of medical subspecialties may affect how students do on a recall pharmacology exam, and as I understand both groups received the same type of teaching in all other disciplines. Thus, a discipline with more isolated factual knowledge such as ophtalmics or urology may be more suitable to test long-term knowledge retention upon PBL.

**Competing interests:**

None declared.