

# A Response to “Comparison Between Problem-Based Learning and Lecture-Based Learning: Effect on Nursing Students’ Immediate Knowledge Retention” [Letter]

This article was published in the following Dove Press journal:  
*Advances in Medical Education and Practice*

Rahul Penumaka

Imperial College London School of  
Medicine, Imperial College London,  
London, UK

## Dear editor

I read, with great interest, the article by Solomon which compared problem-based learning and lecture-based learning methodologies amongst nursing students.<sup>1</sup> The study found that lecture-based learning was better at increasing immediate knowledge retention and preferred by students compared to problem-based learning. As a medical student, I believe these findings are deeply relevant. Medical schools around the world have integrated problem-based learning into their curriculums and reduced the amount of lecture-based teaching.<sup>2</sup> However, there are a few points regarding the study’s methodology and outcome measures which require further discussion.

Within this study, students were divided into two groups and either had a lecture or problem-based learning session. Students were provided with pre/post-session tests and questionnaires to gauge their knowledge retention and preferred teaching method. Notably, each group was exposed to only one teaching intervention which makes it difficult to compare student preferences. Preference may have been influenced by previous teaching experiences or a lack of familiarity with problem-based learning. Furthermore, different teachers were employed for each teaching session and thus, individual teaching style and ability could have influenced student’s perceptions of each method.<sup>3</sup> The teaching materials used in the study are also not available within the text. Inclusion of teaching materials would help with assessing whether both teaching sessions were of a similar standard, especially as the effectiveness of problem-based teaching is linked to the quality of the clinical case used.<sup>1</sup>

The outcome measures of this study were immediate knowledge retention and student preference. While immediate retention is important, it is perhaps not the most relevant measure for nursing students. Instead, long-term knowledge retention and the ability to apply information may be more pertinent.<sup>4</sup> This may not have been evident to first-year students unfamiliar with clinical practice. Students may have rated problem-based learning lower because they did not see the relevance of learning application and decision-making skills. Instead preferring a didactic teaching style which they are familiar with.

Correspondence: Rahul Penumaka  
Email [rahul.penumaka16@imperial.ac.uk](mailto:rahul.penumaka16@imperial.ac.uk)

The article by Solomon is important and shows lecture-based learning as superior to problem-based learning for immediate knowledge retention and nursing student preference. However, the study's findings should be considered in the context of its design and outcome measures. The comparison of lecture-based learning and problem-based learning is important for understanding how best to prepare medical trainees for the fast-paced, high-stakes environment of clinical practice. Future studies are needed and could test students' months after the teaching intervention to assess the impact on long-term retention. Studies could also examine senior clinical students or provide students with both lecture-based and problem-based sessions taught by the same instructor.

## Disclosure

The author reports no conflicts of interest in this communication.

## References

1. Solomon Y. Comparison between problem-based learning and lecture-based learning: effect of nursing students' immediate knowledge retention. *Adv Med Educ Pract.* 2020;11:947–952. doi:10.2147/AMEP.S269207
2. Devine OP, Harborne AC, Horsfall HL, et al. The Analysis of Teaching of Medical Schools (AToMS) survey: an analysis of 47,258 timetabled teaching events in 25 UK medical schools relating to timing, duration, teaching formats, teaching content, and problem-based learning. *BMC Med.* 2020;18(1):126. doi:10.1186/s12916-020-01571-4
3. Alaagib NA, Musa OA, Saeed AM. Comparison of the effectiveness of lectures based on problems and traditional lectures in physiology teaching in Sudan. *BMC Med Educ.* 2019;19(1):365. doi:10.1186/s12909-019-1799-0
4. Wolff M, Wagner M, Poznanski S, et al. Not another boring lecture: engaging learners with active learning techniques. *J Emerg Med.* 2015;48(1):85–93. doi:10.1016/j.jemermed.2014.09.010

Dove Medical Press encourages responsible, free and frank academic debate. The content of the Advances in Medical Education and Practice 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the Advances in Medical Education and Practice editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

### Advances in Medical Education and Practice

Dovepress

### Publish your work in this journal

Advances in Medical Education and Practice is an international, peer-reviewed, open access journal that aims to present and publish research on Medical Education covering medical, dental, nursing and allied health care professional education. The journal covers undergraduate education, postgraduate training and continuing medical education

including emerging trends and innovative models linking education, research, and health care services. The manuscript management system is completely online and includes a very quick and fair peer-review system. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <http://www.dovepress.com/advances-in-medical-education-and-practice-journal>