

# Problem-based learning as an efficient teaching modality: improvements proposed by UK medical students

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## Dear editor

We read the article by Yadav et al<sup>1</sup> with great interest which highlighted the positive perception of medical students toward problem-based learning (PBL). Surprisingly, however, over half of the participants deemed PBL as a time-consuming teaching method. This is supported by a study wherein 32.9% of respondents detailed PBL to be time inefficient, highlighting potential concerns regarding its ability to adequately meet learning outcomes.<sup>2</sup> As penultimate year medical students studying a curriculum utilizing PBL, we would like to use our experience to propose improvements that can be made to PBL teaching.

The paper highlighted the positive view students have of tutors in stimulating discussions. From our experience, we agree with this, but we think the tutor can also play a vital role in improving time efficiency of sessions. Some common reasons for inefficiency not discussed by the authors could be related to the quality of written cases, group cohesion, or poor timekeeping. To help tutors address such problems, we propose some improvements.

First, we suggest introducing standardized training amongst PBL tutors. This not only improves tutor competency as facilitators of productive PBL discussions but also reduces variability in the delivery of sessions. Such methods have already been shown to enhance student satisfaction with tutor performance.<sup>3</sup> Second, inviting feedback from students would give tutors the opportunity to make relevant changes to the sessions. Third, tutors could meet regularly to share PBL experiences. As a result, case designs can be improved through discussion to ensure time efficiency. Additionally, this provides an opportunity to identify commonly occurring problems and devise solutions.<sup>4</sup>

Finally, standardized assessments can be utilized to maximize learning. Problem analysis, self-directed learning, and reporting phase are three distinct but interdependent stages of PBL; each stage prepares students for learning in the next step. As medical students, we believe that self-directed learning is the most important part of this process. Unfortunately, it is very common to see low levels of self-directed learning by some students in the group before the reporting phase. We believe that the introduction of a multiple choice styled assessment would help tackle this issue. This approach has been shown to improve student achievement.<sup>5</sup> The quiz would ideally take place before the reporting phase consisting of questions designed by the universities based

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on the learning objectives of students. This will ensure that every student is on the same level or at least aware of the expectation from them.

We commend the authors for completing an insightful study exploring medical student views on PBL. We must stress, however, that the participants were exclusively first-year medical students at one institution. A multi-institutional study investigating a sample comprising medical students across all year groups would have improved the generalizability of findings. PBL is already well established, and students are receptive to its incorporation into university curricula as highlighted in this study. We, however, feel there is room for improvement in medical student perspectives on PBL particularly with regard to its time efficiency. We believe the suggested improvements can provide a possible avenue for achieving this.

## Disclosure

The authors report no conflicts of interest in this communication.

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## Authors' reply

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## Dear editor

First, we would like to thank and appreciate Aslami et al for their valuable suggestions noted as improvements proposed by UK medical students. We, personally, do agree with the letter that time can be managed efficiently during the problem-based learning (PBL) sessions. In our opinion, time duration of PBL sessions depends mainly on the three vital pillars of PBL: PBL case/scenario, tutors, and students in the group.

Effective PBL case/scenario for managing time: PBL case chosen should be interest arousal to students. The number and content of specific learning objectives in triggers of PBL should be in limit so that the students can easily cover it during the self-study as well as in group discussions.<sup>1</sup> If the learning objectives are too many, students will not be able to study and prepare up to a level in the very short allotted time, and therefore, the discussions made by students will be less fruitful.

Role of tutor in managing time: Of course, we should always introduce well-trained tutors in PBL sessions as suggested by Aslami et al in their letter. Moreover, we have clearly mentioned in our published article that all the tutors had already participated in the PBL training conducted

during “Teaching training workshops in CMC”.<sup>2</sup> No doubt, standardized tutors certainly reduce the variations among groups. The only feedback from the students and standardized tutors in PBL would not be sufficient to make homogeneity in PBL tutorial sessions. There is always a probability of individual variation no matter how much the enrolled tutors are standardized.<sup>3</sup> Therefore, some special kind of supervision and monitoring (eg, live webcast) to all the groups at one time is required.

Students in the group: We usually assume that all the medical students in a medical school are having the same motivation and dedication toward self-directed learning. Few students complete the assigned task within the time, whereas others require more time and more supervision to complete the same task keeping the other conditions same. Therefore, the students are not the same and they have different learning styles too.<sup>4</sup> On the other hand, all the students have to participate equally and move together in PBL group sessions, though they have different speeds of learning and grasping abilities. Therefore, the logical finding of our study is that to complete the same learning objectives effectively and efficiently, PBL method will take more time than the conventional lecture method.

However, the suggestions made by Aslami et al in PBL as an efficient teaching modality – improvements proposed by UK medical students are appreciable, the points we put in above discussions likely to be included in the discussions.

## Disclosure

The authors report no conflicts of interest in this communication.

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