PROBLEM-BASED LEARNING AND TASK-BASED LEARNING: A PRACTICAL SYNTHESIS

Yuzo Takahashi
Department of Parasitology, Gifu University School of Medicine, Gifu, Japan.

The author of this article attended the International PBL Workshop in Kaohsiung Medical University in 2007 as an international tutor. Based on his personal experiences in the workshop and at his own medical school, he finds there are frequent problems in PBL programs related to the difficulty in providing expert tutors. Students in PBL tutorials may fear they are unable to get sufficient guidance from tutors in terms of learning the issues they should research; moreover, PBL case writers fear their cases are less effective, because non-expert tutors may misdirect students in the step 1 tutorial discussion. The author proposes that combining standard problem-based learning (PBL) methods with elements of task-based learning (TBL) can be effective at addressing both of these problems. The TBL method he proposes involves providing students with an additional sheet at the end of PBL tutorials. This sheet is written by the case writer and details key learning issues, questions and perspectives the students should investigate during their research process. This reduces the need to have expert tutors who know the full range of facts about the case, and leaves students feeling supported and less concerned they will miss important learning issues.

Key Words: educational methods, problem-based learning

PBL has now spread to medical schools all over the world [1,2]. Although its usefulness and impact are well recognized, medical schools frequently report difficulties with finding competent tutors when PBL is adapted as a major teaching strategy.

Task-based learning, or TBL, is similar to PBL, but there are essential differences in strategy [3]. In PBL, learning issues are to be raised by students, based on the theory this fosters an active, independent learning attitude in the students. In TBL, by contrast, learning issues are provided by the case writers, a strategy that has advantages and disadvantages. On the one hand, TBL makes it possible for small group learning to take place without mobilizing competent tutors. Unfortunately, it can tend to leave students feeling dependent on instructors to provide them with research topics, rather than pushing them to think of these topics themselves.

This article suggests some further improvements for PBL, so that PBL may be adapted more practically by medical schools struggling with limited educational resources.

EXPERIENCE IN THE 2007 INTERNATIONAL PBL WORKSHOP AT KAOHSIUNG MEDICAL UNIVERSITY, TAIWAN

The PBL system utilized in the workshop was four-step PBL from the University of Hawaii. The first step of this Hawaii-type PBL is a tutorial discussion among a small group of students. (The author’s group comprised eight students, including five from Taiwan,
two from Poland and one from Japan.) The first case chosen for tutorial discussion dealt with a common clinical scenario, and the learning for this case was facilitated by a tutor along the lines suggested by the case writer. Emphasis was placed on clinical reasoning, so that students would walk away from the case with a deeper knowledge of both clinical and basic medicine. The author’s feeling is this strategy is ideal for producing deep-thinking and life-long learning physicians.

The tutor guide in the case was well written, but the author feels that at the time he was not ready to perform tutoring at the required level and was afraid he would tutor in a way that discouraged his students’ motivation. The author has clinical experience, although he is currently appointed as a professor of basic medicine. In spite of the language barrier, student discussion was very active during the case. Students raised more than enough learning issues without proper tutoring, as seemed to be the case writer’s intention. Because of limitations on time, only a few learning issues were allocated to each student for step two study.

The second case used in the workshop included a list of learning issues, which was distributed after the step one session. This list of learning issues was created by the case writer, and it was intended to function as a task for students after the tutorial session. It is the second strategy that the author refers to as a combination of PBL and TBL. After reading the list of learning issues, students felt confident in themselves, because most of the learning issues on the list had also been raised by them. In addition, students were also able to discuss learning issues they had neglected to raise.

**DISCUSSION**

PBL is a useful method for medical students that helps them to internalize textbook knowledge through a process of solving patient-related problems, as well as to become deeper thinkers overall in terms of clinical reasoning [1,2]. As such, a PBL scenario incorporates knowledge and skills from multiple departments that are meant to go beyond the ability of a single specialist.

Unfortunately, most medical school faculty are faced with keen international competition for their jobs, and the expertise of each individual is narrow, a situation that does not lend itself well to PBL tutoring, even if a tutor guide is perfectly prepared by the case writer. Of course, tutors may read instructions on how to guide student discussion effectively, but they still need some amount of active knowledge (knowledge usable for problem solving) about the case to perform effective tutoring [4]. As a result, most medical schools continue to confront shortages in the numbers of tutors who are able to effectively guide and facilitate self-directed learning by students.

From the author’s perspective, medical students are generally excellent at PBL discussions. They understand the benefits of self-learning and are able to engage in active discussions about the case, even if the tutor remains silent. This fact suggests one aim of PBL discussion—that is, students’ ability to uncover learning issues by themselves—can be achieved without competent tutors. Of course, it is also true students sometimes raise irrelevant learning issues when PBL discussion occurs without competent tutors; their learning efforts may not concentrate on the key issues of the case. At worst, students may fail to develop critical thinking skills in such a PBL setting.

However, these disadvantages may be counter-balanced, at least partially, if the tutor provides an additional case worksheet that contains learning issues, tips and key questions suggested by the case writer. After reading this sheet, students can more easily understand the academic intention of the case writer, and they are less likely to miss essential issues. This additional sheet functions as a task for the students to engage in after PBL. To make it less likely to curb the students’ own independent thinking about the case, this sheet should be distributed after students have already had an opportunity to come up with a list of their own learning issues.

Finally, care should be taken by the case writer when this additional sheet is written. A simple to-do list must be avoided. (The author himself once encountered a bad sheet full of “do this” and “do that” when tutoring in his own medical school, and his impression was that it diminished the value of the PBL case.) Instead, an emphasis on “how and why questions” is much more likely to stimulate deeper thinking in students. The sheet provided at the end of the case must find ways to ask these sorts of questions so that it facilitates rather than spoils students’ clinical thinking. Furthermore, while the long-term outcome of PBL plus the proposed TBL strategy is unknown, it may
be an important practical solution for medical schools facing problems due to a shortage of expert tutors.

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REFERENCES