

Problem-based Learning: Issues and Challenges

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Health science curricula have been undergoing changes worldwide and the medical and dental faculties at the National University of Singapore have also just reorganised their curricula to make them relevant to current and the future practice of medicine and dentistry. Traditional curricula tend to have too much time devoted to didactic teaching methods leading to passive learning and too many traditional examinations. These tend to produce graduates who learn to pass examinations rather than graduates who will practise and enjoy life-long learning in their professional lives.

As a result of these identified problems with traditional curricula, more innovative ways of teaching/learning have been explored. One of these is problem-based learning or PBL. Why are an increasing number of schools of health sciences incorporating PBL into their curricula? The reason is that the philosophy behind the implementation of PBL is to ensure a graduate who is a self-directed and life-long learner as is expected of all health science professionals.

The traditional way of teaching the basic sciences is to have an expert in a given disciplinary area lecture to a large group of students. There is not much integration of knowledge and little linking of the basic science knowledge to clinical practice. Thus, students try to absorb a large volume of knowledge that is “given back” to their teachers in the examinations and the knowledge is forgotten when they get to the wards. However, when the learning of basic science is done in the context of its application, retention of such knowledge has been shown to be more long-term.

So what is problem-based learning? In PBL, the use of clinical problems as triggers enables students in small groups to discuss and debate on the learning issues important to help them in the understanding of the trigger problem. Operationally, the practice of PBL may differ in the details.

However, the essential parts are that there is a clinical problem presented to a small group of students. At the first session, the facts are discussed, hypotheses to explain these facts are generated and then learning issues relevant to the problem will be identified. Then the students will go back and study/research on these learning issues. At the second session, the students will discuss the problem again in light of what they have learnt.

The small groups will have a teacher-tutor who facilitates the discussion and guides the students based on pre-determined learning objectives of the trigger problem and the requirements of the curriculum. Thus, while there is great flexibility in the pace and strategy in PBL discussions, the boundaries are defined so that students do not lose track of the overall objectives.

Perhaps more importantly than the integration of basic science to clinical practice that the student learns from their PBL trigger problem, the process of PBL allows the students to manage their own learning. When they discuss the trigger problem they learn to identify important facts, form hypotheses and decide on the important learning issues that they want to follow up. Moreover, by actively participating in a group discussion and cooperating in the search for information, students learn to be team-players, to communicate effectively and to be responsible for both their own learning and that of their colleagues. This is a mirror of the way clinicians practise. Thus, the PBL process will encourage students to be self-directed and life-long learners as well as cultivate their team spirit, communication skills and professional attitudes.

There is much experience that shows PBL to be an effective way of adult learning. Of course, this has now been extended to other fields in higher education and to primary and secondary schools as well, but our focus in this

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issue will be on PBL in health sciences in tertiary institutions.

The dental and medical faculties at the National University of Singapore have pioneered PBL in their new curricula since 1996 and 1999 respectively. The inclusion of PBL in a hybrid curriculum that still includes elements of lectures and other small group learning activities bodes well for both faculties as they prepare their students for the practice of medicine in the fast-changing world of health sciences.

We are therefore pleased to present this collection of articles on PBL in health science education from several experts from Canada and the Netherlands and the experience of our fellow medical educationists in the region. All the regional authors are senior administrators of top medical and dental schools in the Asia Pacific. They will discuss issues related to the implementation of PBL in their different institutions.

These reports are based on the successful First ASEAN Symposium on PBL in the Health Sciences (20 to 22 November 2000) that was organised by the medical and dental faculties and the Centre for Development of Teaching and Learning of the National University of Singapore. Although it was first conceived as a regional (ASEAN) meeting, there was strong support from our colleagues in the Asia-Pacific countries such as Japan, Korea, Taiwan and Australia. This has led to the founding of the Asia Pacific Association for PBL in the Health Sciences (APA-PHS).

We hope that these articles will provoke you to reflect on the use of PBL and the philosophy behind adult learning not just in an undergraduate curriculum but also in postgraduate education.