

Editorial

PBL a Fad or Reality?

N. Huda

Department of Medical Education, Ziauddin Medical University, Karachi.

Problem-Based Learning (PBL) has gained more acceptance in recent years worldwide. Several medical schools of Asia including Pakistan, along with Northern America, South America, Europe and Australia have widely reported implementation of PBL.^{1,2} Although variations in PBL among various schools exist, the emphasis remains on clinical relevance of the problems requiring integration and application of knowledge, an active role of students in the process of learning, small group discussions and searching for answers from different sources of learning. Extensive research in cognitive science has revealed that adults learn best if they find knowledge is relevant, appropriate to their level, and built on day to day experience. If they do, then students develop interest, derive pleasure in learning and spend more time in deep learning.

Even today there is considerable resistance and apprehensions among educators in accepting PBL but with evidence emerging PBL is better placed than in previous years.

In this issue, a young doctor writes of her experience as a student in the course of Pharmacology at McMaster University which used PBL as the instructional strategy.³ She found the course a pleasurable experience which lead to learning the skill of 'how to learn'. For the author the PBL process allowed her to explore areas of interest, and the course structure fostered independent learning, working in small groups, personal appreciation of colleagues, self and peer assessment and close interaction with faculty and students on academic and personal matters in and outside the school. It is worthwhile to note that the author's emphasis is more on enjoying the process of learning rather than on becoming more knowledgeable. This is in contrast to the traditional educational environment where the emphasis lies on learning due to fear of teachers and of failing the examinations. Should medical educators be concerned in creating a conducive environment where the students' derive pleasure in learning?

Medicine has become a lifelong learning process. To meet the challenge posed by exponential growth of knowledge it has become imperative to inculcate self learning habits in medical students during the undergraduate years of schooling. It becomes the responsibility of medical educators to prepare students for future practice. After several research studies it is increasing becoming evident that the PBL process matches with what a physician actually does when in practice. In PBL, students study in relation to

the problems presented in small groups. Students decide what they already know about the problem and make a list of learning objectives to find out the answers of what they do not know. Through independent study supplemented by discussion with resource persons students find the answers and return to small group where the student shares the information collected with the group. Keswani⁴, a student at Ziauddin Medical University where PBL is used, confirms that this process allows students to develop a critical approach to the knowledge acquired, integrate the knowledge, analyse and interpret it to finally reach a solution to a given problem. The role of the tutor is not to dominate or be an information provider but more to facilitate students in their learning by asking probing questions, putting the students on the right track and assessment of the learning process.

Traditionally lectures being the predominant mode of instruction decide the content, particularly in case of basic sciences teaching. Relevance of the lectures is decided by teachers according to their understanding. Students find it boring as they do not see its relevance at that point of time and cram large information just to pass the examinations. Moreover information learnt through memorization is liable to produce superficial learners who remember it for a short span. Memorized facts if linked with application of knowledge is likely to generate more interest in students, and students indulge in finding answers and develop deep interest in subjects. Unless students develop interest in what they are learning they would be faced with difficulty in trying to solve patient problems when confronted in real practice.

Unlike conventional learning methods, the content of PBL is presented as a description of the phenomena and through activation of their prior knowledge students try to explain the phenomena in small groups. Undoubtedly the quality of problems has a major influence on students process of activation of prior knowledge, tutorial group functioning and the amount of time spent in self study.

There is no denial that the debate in literature continues over the pros and cons of PBL. A strong group in favour of PBL has long argued that its characteristics correlate with the adults principles of learning and students develop the educational skills that allows them to process, organize and evaluate new information in order to be life long self-directed learners. Moreover students develop professional attributes such as tolerating others opinions,

team work, searching for information, improved communication skills. However others have voiced concern that the quantum of knowledge gained from PBL is the same as from traditional lecture method. It is also said that knowledge gaps exist as the role of tutor is passive and in general there is lack of significant evidence of its value in medical schools.

Failure to implement is not because the PBL approach is faulty but largely due to ill planned and unstructured implementation strategy. Like other new methods, certain pre requisites are mandatory for effective implementation. Firstly a willing leadership with a vision and passion who is convinced of the rationale and has understanding of the PBL process. This is followed by training appropriate number of multi-disciplinary faculty on pedagogical approaches who would fulfil the role of tutors in small groups discussion; a core group who would implement the process; strengthening learning resource, and preferably have a low number of students in each tutorial group. In developing countries it is true that students who enter medical schools come largely from conventional background. They expect teachers to be the source of information provider and direct their learning process. This places teachers in an active role and students in a passive one. To overcome students difficulty in achieving PBL objectives in small groups Huda and Brula⁵ reported on a bridging course which prepared the students for the PBL process during the orientation programme. This allowed the students to become familiar with the process and reduced their difficulties.

In Pakistan, Ziauddin Medical University has reported effective use of PBL since 1996 although public medical schools have undergone training in PBL under the banner of COME project. Otherwise Flexner's paradigm of medical education continues to be predominant with emphasis on separate teaching of basic and clinical sciences, passive role of students, clinical training in large

tertiary care centers and assessment emphasis on reproducing facts rather than interpretation and problem solving. Unfortunately in Pakistan the hallmark of learning process in medical colleges is teachers teach and students sit and listen and learn by memorizing what they are taught through teachers notes, guides and textbooks. Even in ward rounds students contribution is very little as more time is spent in discussing trivialities and specific scientific aspects rather than bedside investigations. However students active participation is more observed in morning meetings and patient management conferences. Students in general are not given much opportunities to think critically probe areas requiring why and how to solve problems. This process denies preparation for real practice.

With ever increasing evidence PBL is no longer considered a passing fad but is a reality. The greatest beneficiary of PBL will be the graduates who on completion of their undergraduate studies will utilize their learning skills to cope and manage the large bulk of information. In UK, the GMC played a dominant role in directing medical education towards student-centered education. Like in UK, Pakistan's regulatory body, the Pakistan Medical and Dental Council (PMDC) has an opportunity to play a pivotal role. If not done soon Pakistan graduates will find themselves at a disadvantage not because of intellect but rather because the system did not respond to change.

References

1. Khoo H. Implementation of problem-based learning in Asian medical schools and students' perceptions of their experience. *Med Educ* 2003;37:401-9.
2. Carrera LI, Tellez TE, D'Ottavio AE. Implementing a problem-based learning curriculum in an Argentinean medical school: implications for developing countries. *Acad Med* 2003;78:798-801.
3. Pasha A. Description of a Canadian PBL programme in pharmacology. *J Pak Med Assoc* 2004;54:170-72.
4. Keswani K. Problem-Based Learning: a student's perspective. *J Pak Med Assoc* 2001;51:302-3.
5. Huda N, Brula AQ. An introductory course on study skills forming a bridge between traditional and problem-based learning (PBL). *J Pak Med Assoc* 2001;51:268-70.