Problem Based Learning in the 3rd World Context

V. Zaman (Department of Microbiology, The Aga Khan University Karachi.)

Problem based learning (PBL) was first introduced into the medical curriculum by the Case Western University of USA and the Mc Master University of Canada in the late sixties. This example was followed by the University of Liniber at Maastricht in Netherlands and University of Newcastle in Australia[1]. The University of Manchester introduced first PBL in 1994, after the publication of the General Medical Council's document, Tomorrow's Doctors, which recommended that medical education should foster, "learning through curiosity and exploration of knowledge and critical evaluation".

The McMaster University programme, was developed by the neurologist Howard Barrows in collaboration with others, in response to poor knowledge that medical students displayed during their neurology clerkship. According to Maudsley[2], PBL was recommended "as a(not the)" major method of undergraduate medical education, to rectify this deficiency.

In PBL students are divided into small groups of 5 or 6 (upper limit 12) and given a "clinical" problem to solve. At this stage they have little if any knowledge of basic sciences, as PBL starts from the beginning of the course. They are required to acquire this knowledge, as they proceed to study the case, with no teacher intervention. The institution provides resources to accomplish this, in form of library and computer facilities, photograph displays, self-learning material, anatomical models, histopathology slides and a good pathology museum[3]. There is no doubt that this early clinical exposure is a healthy departure from the traditional programme, which students appreciate.

Each group has a "facilitator" or a tutor who only acts as a guide any may even be a "non-expert". The use of a "non-expert", has however been criticized by students in one of the surveys done at the University of Manchester and they prefer an expert to be in charge[4]. It is claimed that PBL gives the students, cognitive skills for the early development of medical expertise and thus to make them eventually into better doctors[5].

Maudsley[2] states that inspite of a large amount of literature on PBL, its definitions remains "elusive" and its relationship to "problem solving" unclear. The term "case-based" learning, appears to be more appropriate, as the new learning process utilizes cases-real or simulated. The latter being trained subjects portraying features of illness or other abnormalities. Using this material the students learn to take medical histories on these "patients" and to practice physical examination.

In some schools, e.g., Manchester the number of lectures have been drastically reduced, and the bulk of training is now by PBL. Generally, the anti-lecture attitude is based on the view, that lectures are "teacher-centered" and unsuitable for student needs, implying that the interest of teachers and students, for some unspecified reason, are in conflict with each other! It is also claimed that lectures lead to rote learning (memorizing without understanding) and the information given is soon forgotten. To emphaze this point, examples are often given of poor lecturers, who read from prepared texts and should not be in the teaching profession in the first place! In reality a well-planed and interactive lecture, is probably the most cost effective way of delivering information to a large audience. A good lecturer is in constant eye contact with the students and quickly responds to their needs. He explains the problem so that rote learning does not occur.

In many medical schools PBL and lectures are now used in hybrid arrangement at the National University of Singapore (NUS), with which I am familiar, PBL forms 20% of the medical programme[6]. At Harvard there is one-hour lecture every day but the lecturers are asked to incorporate material that they do not think will have been covered in group sessions[7]. PBL and the traditional lecture is not a dysfunctional marriage, and there is no reason why the existing structure should be totally dismantled

in favor of PBL. Another impression that I have of the PBL programme in Singapore is that it is more difficult for non-medical faculty to handle it, as it is case based and clinically oriented.
PBL purists also oppose the use of handouts, although handouts are useful, in providing a skeleton around which information can be built by students. In fact, good students usually expand on the handouts, to create their own notes, which in itself is a good learning exercise. In this respect I refer to the "scheme-based problem solving" used in the University of Calgary, Canada[8]. They provide a "scaffold", for students to build upon, as "clinical problems are not resolved by way of a generic process but rather by using problem-specific strategy." This view is different from PBL, which has a more generic approach.
As PBL has been practiced for a number of years, warning signals are now appearing in the literature indicating grounds for improvement. A comparison was published by Moore et al[9] (1994) from Harvard for two years (1989 and 1990) between the new pathway (NP). in which students, used PBL, and traditional learning. The positive features of NP were in greater interpersonal and humanistic skills and psychosocial knowledge, but NP students were not able to demonstrate an often cited goal of PBL - that PBL students solve problems better. The NP curriculum led to a positive, but instructively stressful experience in students becoming "more anxious and frustrated than their control colleagues, particularly over intratutorial conflicts and what and how much to study". I believe this "stressful experience" is likely to be even greater amongst Pakistani students, because of the poor facilities generally available to them. Jerry Colliver (2000)[10], professor of statistics at the Southern Illinois University has analyzed data on PBL from 1992 to 1998. He did not find evidence that PBL improved the knowledge base or the clinical performance of students, as compared to traditional learning, nor did PBL show improvement significant enough to justify resources in running it (italics are mine, as this is a very important consideration for the 3rd world countries). He further found some evidence that PBL may even have a deleterious afiect on licensure examination performance (Colliver, 2001)[11]. This he attributes to knowledge of PBL students being more patchy, and restricted mainly to the cases that they have discussed, in contrast to the wider sweep of the traditional teaching.
In Pakistan, students come from a varied background and their standard of schooling and maturity differs greatly. They often have language difficulties and are younger in age that their N. American counterparts and would find it difficult to solve clinical problems, in the total absence of lectures and teacher assistance. In some medical schools, the student numbers may run into hundreds in each class, and to divide them into small groups for PBL, would be an unsurmountable task, because of staff and space limitations. I am therefore suggesting the following:
a). That a hybrid programme be followed in which lectures cover topics which can't be incorporated into case studies.
b). On-line journals be made available to students because of poor library facilities in most schools.
c). 35 mm slides and other illustrative material on important diseases be also made available, as hardly any good museums exist.
d). The tutor be preferably medically qualified, as discussions are mainly case based and students prefer experts.
e). A suitable method of assessment or grading of students be worked out, as self assessment used in some universities, is not likely to work in Pakistan.
f). The programme be developed in inëremental steps, depending on response of students, and their performance at the examination.

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