Self evaluation and group evaluation also play an important part in the efficient running of a problem based learning group: they allow students to identify their own strengths and weaknesses and thus help to modify individual and group learning processes. Tutors' effectiveness is also scrutinised. Evaluation not only helps to improve individual and group function but also identifies those students who are having difficulties, so that remedial strategies can be started.

Students do learn effectively in a problem based learning system. They learn not only about the basic science of a problem but also about the many ethical considerations of modern medicine and the impact of disease on the family and community. It is thrilling to work with a group of students who enjoy learning medicine: the tutor learns a lot too. Having read Bligh's editorial, I will return to Britain with more optimism about the direction of medical education there.

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1 Bligh J. Problem based, small group learning. *BMJ* 1995;311: 342-3. (5 August.)

. . . but not all do

EDITOR,—John Bligh informs us that problem based learning is the cynosure of contemporary pedagogy.[1] His editorial is replete with vogue phrases: "preferred active learning" (what is inactive learning?), "interpersonal skills," "learning involvement," etc. As a member of the academic staff of a Canadian medical school I can assure Bligh that not all Canadian academic staff share his admiration for McMaster University's teaching methods. Medical educators cannot avoid the responsibility for inculcating many facts, and medical students cannot be expected to function in a factless vacuum while trying to become knowledgeable through heuristic osmosis. McMaster University realised this several years ago and changed its methods because of problems that its graduates had in passing the examination to become a licentiate of the Medical Council of Canada.

In my student days at Sheffield University I wondered about the relevance of what we were taught, but now I marvel at how perspicacious my teachers were. Francis Davies's lectures on neuroanatomy were a paradigm of clear thinking, free of jargon and adorned by mordant wit. Nowadays, when I attend some of the problem based learning sessions I am left feeling that many members of the academic staff have as much charisma as Uriah Heep pontificating on a slag heap in Wales on a wet January morning.

When graduates of McMaster University move to other medical schools and become house officers their knowledge is usually less than that of other Canadian graduates, though they soon catch up. Bligh suggests that this is because of the "McMastery" and that they retain more. I suggest that it is because they were taught less and therefore have less to forget. Since most students at McMaster University are older than those elsewhere and have often held down a position in a profession such as pharmacy or music or have been on the academic staff of a university, they work harder and are better motivated than students elsewhere, and their interests are more catholic. Canadian schools could learn from McMaster University's method of selecting medical students.

I note that Bligh also refers to Weatherall's paper entitled "The inhumanity of medicine."[2] That paper is an indictment of modern medicine. When I was in training in the 1950s I never heard of, or saw, anything as callous and heartrending as the events described by Weatherall. I notice that residents now do not have the dedication to providing service that was apparent 30 to 40 years ago.

Lastly, the General Medical Council, with its enthusiasm for change, would do well to remember Burke's dictum, "To innovate is not to reform."

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1 Bligh J. Problem based, small group learning. *BMJ* 1995;311: 342-3. (5 August.)
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Problem based learning has been used for years in general practice in London . . .

EDITOR,—We were interested to read in John Bligh's editorial that problem based, small group learning "seems at last to be coming in from the cold."[1] This method of learning has been used successfully in both postgraduate and undergraduate education for general practice in south London for over 20 years. Local half day release courses (a statutory part of vocational training for general practice) have spawned many young practitioner groups, which meet regularly for continuing education and mutual support using problem based, small group learning.

Why has this method of education not taken root in British medical schools? Could it be because it is fundamentally different from the teachers' traditional, top down approach? It values their views and prior experience and empowers them to direct their own learning. Students value the knowledge and experience of their peers, which thus allows collaborative rather than competitive learning.

To be successful, these radical changes in educational methods have to be supported by teachers and the structures in which they work. Teachers have to become facilitators of learning as well as transmitters of knowledge. This entails a transfer of power and control to students, which is perhaps harder to sustain in traditional hierarchical medical schools. Changes in learning methods will be successful only if teachers can be motivated and trained to acquire the new skills required.

The culture and structure of postgraduate education for general practice support problem based learning in small groups. Introducing similar changes in medical schools will require major changes in the schools' organisation and finance. Inevitably, more teaching will be done by clinicians, especially in primary care. Jones and Higgs recently gave a more detailed account of the resources needed for such a change.[2]

The change could be an exciting challenge, involving greater collaboration between undergraduate and postgraduate teachers as they seek to optimise the balance between the use of didactic teaching and problem based, self directed learning. It would be a shame if these valuable educational initiatives were stifled by being absorbed into the present rigid medical school structure or withered because medical schools were not sufficiently motivated to change.

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1 Bligh J. Problem based, small group learning. *BMJ* 1995;311: 342-3. (5 August.)
2 Jones R, Higgs R. The impacts of increased general practice teaching in the undergraduate medical curriculum. *Education for General Practice* 1995;6:218-25.

. . . and has been introduced successfully in Manchester

EDITOR,—John Bligh's editorial on problem based learning sets out the current developments in undergraduate medical education in Britain.[1] The lead time for change is long. In Manchester the seeds of reform of the curriculum date back to 1987, and in 1994 the medical school became the first in Britain to introduce problem based learning as the main learning strategy for first year students, with its continuation throughout a new curriculum.

As Bligh states, an important element in developing the curriculum is identifying the core content. We have conducted a major exercise, involving over 200 people in 40 specialties and work settings. The first step was to agree on a list of 206 index clinical situations in which we would expect our newly graduated doctors to have some competence. These were then broken down into over 11 000 items of skills, attitudes, and knowledge in four different domains. There is a large amount of overlap, and the core content is being condensed from the material submitted. We have found that in one semester a quarter of the index clinical situations are embraced, to some degree, by the working problems.

Our experience of introducing problem based learning mirrors that of others, with initial apprehension being slowly overcome. As part of an extensive evaluation we found that the proportion of medical students who dislike the method of learning has fallen during the year from 9% (17/187) to 5% (7/155), while the proportion of those who like it has increased from 37% (69/187) to 59% (91/155) (the total numbers are the numbers of students who returned our questionnaire (semester 1, 77%, and semester 2, 64%; 243 students in the year)). It is important to match the assessments to the learning styles, and to do this we have introduced a new integrated system.

Bligh does not discuss use of the library. Students now spend a much greater proportion of their time using the library's resources, and 136 of 155 students said that, when using the library, they were stimulated to find out more than simply met their learning needs. We involved the library staff in planning the curriculum from an early stage.

As in Maastricht, we think that it is important to have a skills programme running in parallel with problem based learning. We have established skills laboratories and used the core content exercise to determine what core skills should be acquired.

The inception of a new problem based learning curriculum in Manchester has been successful; the key has been having a team of people dedicated to curriculum reform.

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1 Bligh J. Problem based, small group learning. *BMJ* 1995;311: 342-3. (5 August.)

Mobility after amputation of a lower limb

EDITOR,—Minerva's synopsis[1] of a review on mobility after amputation of a lower limb[2] is misleading. Data collected by our subregional prosthetic centre indicate that 85% of patients have amputations because of peripheral vascular disease and diabetes and that the overall prevalence of diabetes in patients with amputations is in the region of 35%. After assessment for rehabilitation and prosthetic management even the elderly patients become less dependent on other people because they can transfer themselves from their bed to a chair, stand, and achieve some indoor