Learning Resources and Activities: Students' Feedback from Two Malaysian Medical Schools

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SUMMARY
In a survey of clinical students in two Malaysian medical schools, it was found that students used a wide variety of learning resources, but textbooks were still the primary source of their information. Students had positive views about clinical teaching and lectures but somewhat lower opinions on problem-based learning. They generally did not perceive lecturers as facilitators, role models and counselors. In spite of the stated curricular goals of promoting self-directed learning via problem-based learning, students in these medical schools were driven by the nature of examinations and focused mainly on clinical contents rather than the process of learning.

KEY WORDS:
Medical education, Problem-based learning, Learning resources

INTRODUCTION
In Malaysia, in keeping with trends elsewhere,[1] undergraduate medical education has shifted emphasis to promote self-directed learning among the students using problem-based approaches, coupled with attempts at reducing factual overload. These changes have the potential to encourage critical thinking of young doctors and better prepare them for life-long learning[2]. To what extent these curricular changes affected learning behaviours among the medical students? This issue was investigated by surveying usage of medical resources, perception towards teaching activities and opinions on the role of lecturers in two Malaysian medical schools.

This is a self-completion questionnaire survey carried out with the medical students in the University of Malaya (UM) and International Medical University (IMU). At the time of the study in 2004, all students had at least one full year of clinical training. UM introduced problem-based learning (PBL) into their integrated curriculum in 1999, while IMU had a hybrid PBL curriculum since its inception in 1993. In UM, PBL forms part of the five-year undergraduate curriculum. There are six PBL sessions during the first year, 10 during second year, and four sessions during clinical years. Each PBL session consists of two discussion meetings. The first meeting aims to formulate learning objectives based on a paper-based case while the students would share their findings during the second meeting. The objectives of these PBL sessions are to encourage critical thinking, self-directed learning, enhance communication skills and information searching skills.

In IMU, PBL was an integral part of the curriculum delivery in Phase 1 (first two-and-a-half years). During Phase 2 (second two-and-a-half clinical years), learning in the clinical settings was supplemented by small group sessions called task-based learning (TBL)[3]. During TBL, an extension of PBL in the Phase 1, the focus for learning is the tasks of the health care professional (e.g. management of a patient with headache). Specific outcomes to be achieved during the student-led (faculty facilitated) TBL may include aspects on drug therapy (e.g. pain relief for headache) or development of generic competencies (e.g. patient education of chronic headache sufferers). For the purpose of this paper, students regarded TBL as equivalent to PBL. Prior to the survey, six focus group discussions (UM n=3, IMU n=3) with thirty-three clinical students from UM (n=14) and IMU (n=19) were carried out. The focus groups explored how they search for information, the reasons behind their choice, their learning experience and opinions of the teaching activities. A self-completion questionnaire assessing similar domains was developed based on the qualitative data. The questionnaire was pilot-tested and revised before distributing to the clinical students in UM and IMU. A five-point Likert scale (1=Not useful at all, 2=Not useful, 3=Neutral, 4=Useful, 5=Very useful) was used to assess their views on the sources of information, learning methods and role of faculty. A sample of the questions used in this study is provided in the appendix.

We compared UM versus IMU for reported usage of learning resources using chi-square test; and for students' opinion on the role of lecturers (in five-point Likert scale) using Mann-Whitney U test. Level of statistical significance was set at $p<0.05$. Approvals for this study were obtained from the respective Institutional Review Boards of both universities.

The overall response rate was 87.1% (UM 165/186; IMU 140/164). The learning resources used by medical students were varied (Table I). The median number of learning resources used was 5 (range 1-9). More than half of the students had used internet and guidelines but just about one-third reported using journals. Textbooks were overwhelmingly the main learning resource. As shown in Table II, students were much more positive towards clinical teaching and lectures than problem-based learning. Qualitative data from the focus group discussions revealed that while the medical students were aware of the benefits of newer educational approaches (e.g. PBL, evidence-based medicine, self-directed learning), they felt that these methods were not helpful to pass the examinations. As shown in Table III, the students

perceived the lecturers as providers of information and teachers of clinical skills rather than facilitators of learning or role models.

It is gratifying to note that medical students in both institutions use a broad range of learning resources. The use of information and communication technologies (especially internet and personal digital assistant) and non-traditional sources such as guidelines and journals are likely to increase. It is anticipated that there will be a greater need to equip students with skills in the efficient search of the electronic resources and the ability to appraise the retrieved information – skills that are essential for their continuing personal and professional development. It was noted that the students were more concerned with the acquisition of clinical skills and theoretical knowledge – as shown by their favourable view of clinical teaching and lectures but somewhat negative views of PBL sessions. The students' negative views of PBL were at variant with the positive impressions of medical educators[4,5]. The main reason for this, as revealed in the focus group discussions, was that students were preoccupied with examinations (which assessed primarily clinical contents) and regarded PBL sessions as relatively inefficient way of learning. Our students perceived the lecturers to be playing the role of imparting clinical knowledge and skills rather than

being facilitators, role models and counsellors. Balancing the curricular time devoted to clinical contents as well as the less tangible goals (e.g. self-directed learning, problem-solving skills, etc) is still a challenge in the local context.

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Table I: Learning resources used by medical students (%)

	Main source (n=256)	Ever used (n=304)
Textbooks	83.3	98.0
Lecture notes	6.5	87.8#
Pocket books	5.5	54.3
Lecturers	2.9	75.0
Internet	0.7	65.8
Guidelines	0.7	57.9
Journals	0.4	39.1#
CD-ROM	0	15.1
PDA*	0	10.5#
Video tapes	0	3.9
Total	100.0	-

*PDA personal digital assistant
#Chi-square test: p<0.05, IMU>UM for PDA, UM>IMU for lecture notes and journal

Table II: Students' opinions on clinical teaching, lectures and problem-based learning (%)

	Very useful	Useful	Neutral	Not useful	Not useful at all	Total
Clinical teaching (ward/clinic)	59.9	33.9	0	5.9	0.3	100.0
Lectures	29.2	53.3	15.9	1.3	0.3	100.0
Problem-based learning#	5.3	28.8	38.1	18.9	8.9	100.0

#Mann-Whitney U test: IMU significantly more positive than UM (p<0.05)

Table III: Students' opinion on the role of lecturers (%)

	Very useful	Useful	Neutral	Not useful	Not useful at all	Total
Providing theoretical knowledge	42.4	48.7	6.6	2.0	0.3	100.0
Learning clinical skills	52.0	37.8	8.2	1.7	0.3	100.0
Prioritising information	47.7	40.1	10.5	1.0	0.7	100.0
Summarising information	40.2	44.7	12.5	2.3	0.3	100.0
Facilitating PBL sessions#	19.4	42.4	28.0	7.2	3.0	100.0
Role modelling	17.4	35.9	36.5	6.9	3.3	100.0
Counselling of students	9.9	29.2	41.8	13.5	5.6	100.0

Mann-Whitney U test: IMU significantly more positive than UM (p<0.05)

APPENDIX

This is part of the questionnaire used in our survey. Only those questions relevant to the present paper are reproduced.

1. Which of the following resources do you use to study?
(You can tick more than one)
☐ Textbooks
☐ Pocket books   ☐ Internet
☐ Lecture/Tutorial notes   ☐ Journals
☐ Lecturers/Tutors☐   PDA   ☐ Guidelines/Protocols
☐ CD-ROM   ☐ Video tapes
☐ Others: _____

2. Which of the following MAIN resources do you use to study? (Tick ONLY one)
☐ Textbooks
☐ Pocket books   ☐ Internet
☐ Lecture/Tutorial notes   ☐ Journals
☐ Lecturers/Tutors☐   PDA   ☐ Guidelines/Protocols
☐ CD-ROM   ☐ Video tapes
☐ Others: _____

For the following questions, please use 1 to 5 to indicate your choice:

1	2	3	4	5
Not useful at all	Not useful	Neutral	Useful	Very useful

3. What is your opinion of the following learning experiences:

a Lectures	
b Clinical Teaching (Ward / Clinic)	
c Problem-based learning	

4. Do you think the lecturers/tutors are useful for the following tasks?

a Providing theoretical knowledge	
b Facilitating seminars/PBL sessions	
c Summarising information	
d Prioritising information	
e Learning clinical skills	
f Counselling of students	
g Role modelling	