

Students' Feedback: An Assessment Tool for Teaching and Learning

Hafiz Naweed Ahmad

ABSTRACT

Objective To assess the effectiveness of class-room lectures based upon students' feedback.

Study design Cross sectional study.

Place & Duration of study Faculty of General Surgery Quaid-i-Azam Medical College, Bahawal Victoria Hospital Bahawalpur, third year MBBS Students of sessions-2012-13 and 2013-14.

Methodology Nine lectures were delivered to the students in each of the two consecutive sessions, during their rotation in surgical ward. The material of the lectures was integrated with relevant fundamental concepts of basic sciences. The lectures were inter-active. Formal feedback was obtained on a proforma in the last lecture of the term. Responses were quantified for statistical analysis by assigning numerical values to each attribute in ascending rank order, on six items questionnaire.

Results Seventy-three students completed feedback form. Regarding general opinion about the lectures, 29(39.72%) students marked them as "good" and 44(60.27%) marked as "better than other lectures" on the same subject. When asked about their own behavior and attitude during the lectures, majority (60.27%) of the students ticked "attentive and interested". Replying to the question about learning from the lectures, seven students opined "some information", 25 (34.24%) acquired "sufficient knowledge" and majority (n=41 - 56.16%) gained "sufficient knowledge and clear concepts".

Conclusions The conventional lecture continues to be an effective mode of instruction and liked by the students. The feedback can be utilized for improvement of instruction, and evaluation of teachers' performance.

Key words Medical education, Feedback, Teaching methodology, Lecture.

INTRODUCTION:

Time and again voices are heard from different quarters that there are some serious flaws in medical education that need to be redressed.^{1,2,3} PM&DC formulated general educational objectives in 1987.¹ The world conference on Medical Education proclaimed "Edinburgh Declaration" in 1988, and defined the aim of medical education as to produce doctors who will promote the health of all people.

The said conference suggested extending the setting of teaching beyond the hospital to include all the health resources of the community, and to train the teachers as educators not solely as experts in content.² It was recommended that undergraduate training should aim at building personal qualities and developing life-long habits in the students. This declaration laid down twelve principles for improvement in Medical Education. The World Summit on Medical Education in 1993 identified new challenges in the context of increasing population, economic recession, shrinking resources, war and violence, and examined a wide range of problems that impinged on medical education.³ Realizing the public perception that medical schools fall seriously short in their response to meet these challenges,

Correspondence:

Dr. Hafiz Naweed Ahmad
Department of Surgery
Bahawal Victoria Hospital
Bahawalpur
Email: naweed_a@yahoo.com

this summit came up with twenty two recommendations to change the present system into a really meaningful medical education.

In United Kingdom General Medical Council (GMC) published a report in 2003, which recommended that considerable and large proportion of learning should be student-centered and self-directed.⁴ This encouraged medical schools to adopt problem based learning (PBL). Alongwith tutorials and clinical sessions, lectures do have a definite role in this system. However, the practical significance in terms of final outcome of this system is still questionable. In "Tomorrow's Doctors" GMC mandates the procedures to be in place to check the quality of teaching, learning and assessment to ensure that the standards are being maintained. It has recommended the monitoring through a number of different systems, including student and patient feedback.⁵

In the national literature recently published the need for a change has been emphasized in order to keep abreast with modern medical knowledge and advanced clinical practices.^{6,7,8} But all these proposals and recommendations are not research-based analysis of medical education-curriculum and evaluation of the present teaching practices. This global trend of quality concern has been realized at our national level.⁹ At present more than a hundred medical colleges of Pakistan are teaching traditional discipline-based curriculum. Teaching methods are classroom lectures, large group demonstrations, small group clinical learning and tutorials. Lecture is still a major teaching method. It is adopted because of its economy.¹⁰ The objective of this study was to assess the effectiveness of lectures as medium of instruction, using the students' feedback. This is based upon the premise that lecture which is usually considered a teacher centered method of one way communication can be converted into an interactive two-way process of delivering information and concepts and students' understanding could be improved by integrating the basic and clinical sciences and their interest be generated and maintained throughout the discourse.

METHODOLOGY:

The study was conducted at Faculty of General Surgery Quaid-i-Azam Medical College, Bahawal Victoria Hospital Bahawalpur. The feedback from third year MBBS students of two consecutive sessions, 2012-13 and 2013-14, during their rotation in surgical ward, was obtained. Students rotated in groups of 30 to 35. There was a term of nine lectures. Surgical diseases of head and neck region, gall

bladder diseases, nutrition in surgical patients and response to injury, were the topics discussed in these lectures. The material presented in the lectures was integrated with basic and clinical sciences. Before discussing the disease, the fundamental concepts of anatomy and physiology were refreshed in a brief but comprehensive manner utilizing diagrams and photographs. Power point slides were used for presentation. The lectures were interactive. Students were encouraged and allowed to ask questions during and after the lecture. Special efforts were made to maintain students' interest and attention throughout.

Feedback's was collected from the students at the end of the term. For this purpose the formal method was used and a structured feedback proforma was served in the last lecture without prior intimation. Responses were collected immediately. Complete anonymity was maintained. Seven questions were asked. Six of them were framed in structured responses. Seventh was open question to invite free comments from the students and gave them opportunity to express their ideas, objections and suggestions. Each of the six questions or attributes of this ordinal scale was focused on a single concept of successful lecturing. There were four ranks or options ordered randomly in response to each attribute or item of the scale and the student had to mark any one of them. Thus 24 options were provided to each student and he or she had to choose six best of them. For quantification of the data, a numerical score was designed by modification in existing pattern of opinion scores. The response options were assigned numerical values 1 to 4 in ascending rank- order in each item of the questionnaire.

The data was processed in SPSS-16 and frequency distribution of each attribute was calculated. Mean of the weighted score of each attribute was calculated and t- test was applied, using 3.5 as test value, to get the p values for each attribute. The standard value of 0.05, showed that the results were statistically significant.

RESULTS:

Seventy-three students responded to the feedback questionnaire. Frequency distribution of responses to each attribute is given in table- I. Expressing their general opinion about the lectures, twenty nine (39.72%) students marked them as "good" and forty four (60.27%) students marked as 'better than other lectures of surgery'. When asked about their own behavior and attitude during the lectures, 39.72% students marked 'attentive' and

Table I: Response Of Feedback Frequency Distribution									
Q#	Theme of the question	Option-1		Option-2		Option-3		Option-4	
		n	%	n	%	n	%	n	%
		Unsatisfactory		Of ordinary type		Good		Better than other lectures	
1	General opinion about the lectures	Nil	0	Nil	0	26	35.61	47	64.38
2	Student's behavior: Attention and interest	Bored		Uninterested		Attentive		Attentive & Interested	
		Nil	0	Nil	0	29	39.72	44	60.27
3	Learning from lectures	Something		To optimum level		Nothing		Maximum	
		5	6.48	36	49.31	Nil	0	32	43.83
4	Material presented in lectures	Deficient		Not organized		Optimum/organized		Organized & well-prepared	
		Nil	0	Nil	0	21	28.76	52	71.23
5	Method of teaching	Satisfactory		Good		Unsatisfactory		Impressive	
		5	6.48	47	64.38	Nil	0	21	28.76
6	Learning outcome: Knowledge and comprehension	Some information		Optimum knowledge		Nothing		Sufficient knowledge & clear concepts	
		7	9.58	25	34.24	Nil	0	41	56.16
7	Students' views and suggestions	Deliver more lectures. Add more diagrams. We like asking questions. Teacher involves students. Give us transparencies. Change lecture time, it is difficult to reach in the morning. etc							

Table II: Statistical Analysis of Weighted Score of Each item of Feedback				
Question themes (Items of the scores)	Mean weighted Score of each item/attribute	Standard Deviation	Testing for significance of mean (Test Value=3.5)	p-Value
General opinion about the lecture	3.644	0.4821	T=2.549	0.013
Student's behavior; attention and interest	3.603	0.4927	T=1.782	0.079
Learning from lectures	3.246	0.5720	T=-3.785	0.000
Material presented in lectures	3.685	0.4677	T=3.378	0.001
Method of teaching	3.329	0.5541	T=-2.640	0.010
Learning outcome, knowledge and comprehension	3.493	0.6692	T=-0.087	0.931

the majority (60.27%) ticked "attentive and interested". Thirty-six students marked 'optimum learning' and 32 ticked 'maximum learning' from the lectures. In reference to the question about the material of the lectures, 28.76% (n=21) students opined "organized". Majority (n=41) of the students gained "sufficient

knowledge and clear concepts". This frequency distribution of responses showed that majority of students opined high ranks (weighted scores 3 & 4) for each attribute of the questionnaire (table II). Mean weighted score of student was 21 with mean difference of -3SD1.848 (p=0.000) which is significant.

DISCUSSION:

Evaluation of teaching by students' feedback has been recommended by education experts.^{11,12} Feedback is considered to be the heart of medical teaching.¹³ It is a two-way process. The teacher gives feedback to students and gets feedback from them. It is necessary not only to assess students' learning outcome but also to evaluate teachers' own teaching performance.¹⁰

Students' opinion-based studies have been conducted to evaluate the students' study habits in surgical clerkship and effective teaching of physical examination skills.^{14,15} Medical students' feedback has also been used to compare different curricula and teaching methods and to get their view point about the formative assessment.^{16,17} Feedback prescription pads have been used as a simple method to get students' feedback about the feedback provided to them during third year clerkship.¹⁸

The researchers, faculty and administrators agree that quality teaching can include effective choice of materials, organization of subject matter, effective communication skills, knowledge of the subject, availability to students and responsiveness to their concerns and opinions.¹⁹ Lecture based teaching modules designed according to the concept of integrated teaching improved learning of undergraduate MBBS students.²⁰ This study evaluated the effectiveness of lecture on the above mentioned parameters through anonymous structured feedback. The purpose of lectures was to impart factual knowledge of the disease and deliver fundamental concepts. For this purpose material was integrated with knowledge and concepts of basic sciences. This integration is the logic usually used in favor of other teaching methodologies like system-based learning and problem-based learning. The lectures were made interactive by asking random questions and encouraging the students to ask questions. Thus the lecture became two way communication, and attention and interest of the students could be maintained throughout. Therefore the students expressed their satisfaction about lectures and considered them better than others in the same subject.

In question 3, about learning from lecture, the opinion was divided between 'optimum' and 'maximum'. Majority of the students opined that the contents of lectures were organized and well-prepared. In question 5, the comments were structured to compel the students to think before ticking the options 'good' or 'impressive'. A significant point to note is the clear division of the students' opinion between high ranks

(weighted score 3 and 4) in each attribute of the scale. This reflects that the students have chosen their responses very intelligently and thoughtfully discriminating between these closely associated traits in options scored 3 and 4. In question 6, the students made a very important distinction between 'knowledge' and 'concepts'. This distinction is many a times ignored by the teachers and they keep on overloading the students with information without assessing whether they have assimilated the material or not. Here the majority of students felt that they received from the lectures 'sufficient knowledge and clear concepts'. In response to open question the students gave frank and free comments on various aspects. They also gave suggestions for improvement by enhancing lecture time including more photographs and real patients and delivering more lectures and asking more questions.

The results of this study in terms of effectiveness of lecture and student satisfaction by this method are comparable to those of the American studies conducted for the same purpose. It was proved that an hour lecture induced significant change in students' behavior and that the students prefer lecture to other methods of teaching like standardized patient interaction.^{21,22} In addition to other sources and stake holders, medical students' feedback can be an important source of diagnostic input in managing the daunting challenge of curricular change.²³ Students' feedback can elicit the quality of education at the institutional level and help the medical teachers to assess the impact of their teaching and learning outcome of the students.

CONCLUSIONS:

Medical students can realize the effectiveness of teaching and rate their teacher's efficiency and performance. Their opinion and feedback is an effective tool to be utilized for assessment and improvement of teaching methodologies especially the lectures.

REFERENCES:

1. Ahmed SU. What should be the primary concern of medical education. In: Quality Education. NBF, Islamabad, 1999; 99-104.
2. World Federation for Medical Education. The Edinburgh Declaration. Lancet. 1988;ii:464.
3. The World Summit on Medical Education Recommendations. Med Educ. 1994;28: 142-9.

4. Medical School in the United Kingdom. [Internet] Available from: URL: http://en.wikipedia.org/wiki/Medical_school_in_the_United_Kingdom accessed September 2015.
5. General Medical Council (UK) Tomorrow's Doctors: Quality assurance, review and evaluation. 2009;36-40.
6. Amin M, Ahmed B. Dental education in Pakistan: Current trends and practices. *J Coll Physicians Surg Pak.* 2010;20:497-8.
7. Saeeda B. Computer assisted learning programs versus conventional teacher centered methods for undergraduate medical education. *J Coll Physicians Surg Pak.* 2010;20:352.
8. Biggs JSG. The social responsibilities of medical colleges in Pakistan. *J Coll Physicians Surg Pak.* 2013;23:2-4.
9. University of Health Sciences Lahore. [internet] Quality Enhancement Cell. Available from: URL: <http://www.uhs.edu.pk/qec/> accessed on September 2015.
10. Newble D, Cannon RA. Giving a lecture in Hand book for Medical Teachers, 3rd Ed. United Kingdom, Kluwer Academic Publishers. 1994;1-18.
11. Davis GB. Fast feedback. In Tools for Teaching. San Francisco, Jossey-Bass Publishers. 1993;345-7.
12. Vendnayagam EG. Lecture method In M. Rashid Teaching Strategies AIOU. Islamabad, NBF, 2000;222-33.
13. Branch WT Jr, Paranjape A. Feedback and reflection: Teaching methods for clinical settings. *Acad Med.* 2002;77:1185-8.
14. Boehler ML, Schwind CJ, Folse R, Dunnington G, Markwell S, Dutta S. An evaluation of study habits of third-year medical students in surgical clerkship. *Am J Surg.* 2001;181:268-71.
15. Martens MJC, Verwijnen GM, Robert JD, Dalen JV, Scherpbier AJJ, Vieuten DV. Student views on the effective teaching of physical examination skills: a qualitative study. *Med Educ.* 2009;43:184-91.
16. Al-Damegh SA, Baig L. Comparison of an integrated problem-based learning curriculum with the traditional discipline-based curriculum in KSA. *J Coll Physicians Surg Pak.* 2005;15:605-8.
17. Bazrafkan L, Amini M, Mahbudi A, Lahigi P. A survey of medical interns view points on feedback in internal surgery, pediatrics, obstetrics and gynaecology wards at Shiraz University of Medical Sciences. *J Med Educ.* 2009;13:73- 8.
18. Prystowsky JB, DaRosa DA. A learning prescription permits feedback on feedback. *Am J Surg.* 2003;185:264-7.
19. A York University Senate Committee On Teaching and Learning. Teaching Assessment and Evaluation Guide, Revised 2002. [Internet] Available from URL: <http://secretariat.info.yorku.ca/files/tevguide.pdf> accessed on September 2015.
20. Raman VLM, Raju KS. Study on effectiveness of integrated lecture module versus didactic lecture module in learning skills. *J Dental Med Sci.* 2015;14:14-6.
21. Reed DN Jr, Littman TA, Anderson CH, Dirani GR, Gauvin JM, Apelgren K, et al. What is an hour-lecture worth. *Am J Surg.* 2008;195:379-81.
22. Carter MB, Wesley G, Larson G M. Didactic lecture versus instructional standardized patient interaction in the surgical clerkship. *Am J Surg.* 2005;189:243-8.
23. Mc Cuddy MK, Musa P, Gingerich EFR. Using studentfeedback in designing student focused curricula. *Int J Educ Management.* 2008;22:611-37.