

Developing an evaluation system for undergraduate teaching

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Abstract

Many teachers teach with very little concern about their own teaching skills. Thus they miss the opportunity to identify the lacunae in their teaching. Hence the present study was undertaken to develop an evaluation system for undergraduate teaching and to test its acceptability and workability. The evaluation system was aimed to identify lacunae in teaching and encourage the teachers to overcome them.

An objective type questionnaire which could evaluate the teaching skills like set induction, content, presentation, student teacher interaction was designed. Five randomly selected teaching sessions of each teacher were evaluated. The anonymity on the part of students and teachers was maintained. The lacunae noticed in teaching and ways to overcome them were discussed with each teacher individually and confidentially. The teachers were encouraged to overcome them.

The evaluation system was found to be workable, acceptable and easy to implement. It was useful and effective for evaluation and improvement of the faculty. It was also found to be inexpensive and less time consuming. The students' feedback can form a workable and inexpensive system to evaluate and improve the faculty. Such a study is beneficial for the teachers, students as well as the institution. Such a regular system of evaluation can help considerably to develop the faculty as well as to improve the standards of teaching. When coupled with peer evaluation, the system established in this study can be used to assess and improve the individual / departmental teaching.

Keywords: Students' feedback.

Introduction

In order to improve its quality, undergraduate teaching should be monitored continuously and assessed regularly. Many teachers teach with very little concern about their own teaching skills and hence the effectiveness of teaching. Their teaching is almost a one-way process - from teacher to students. Thus they probably keep themselves away from the opportunity to identify the lacunae in their teaching and hence to overcome them. They may have a wrong impression about their own teaching skills. Hence there is a need to have an objective evaluation of the teaching. The student feedback on the effectiveness of teaching for their learning activities is an imperative source in addressing this issue.

Several studies have attempted evaluating teaching using students' feedback e.g. Martin et al. (1991), Elliot et al. (1991), Saffron et al. (1994) & Eaton et al. (1997). This evaluation has been shown to be valid (Albanese, 1991; Benbassat & Bachar, 1981; Stritter et al., 1975) & reliable (Benbassat & Bachar, 1981; Irby & Rakestraw, 1981). Though evaluation of teaching is a routine procedure in western countries, we are unaware of similar studies in India.

With this background, the present study was undertaken to develop an evaluation system for undergraduate teaching and to test its acceptability and workability. The evaluation system was aimed to identify lacunae in teaching and encourage the teachers to overcome them.

Material and methods

The study was conducted in the Department of Anatomy, B. J. Medical College, Pune, India in the 2nd semester of the academic year, as by this time the students are familiar with the medical college, the anatomy department and the course. So they are more likely to give a frank and accurate response.

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A questionnaire including 25 objective type questions was prepared on the basis of important teaching skills. The teaching skills included along with their weightage in the questionnaire were—Set Induction (4%), Contents (4%), Presentation (56%), Student – Teacher Interaction (16%), Miscellaneous (18 %). In addition to these, the students were asked to note their overall impression about the teaching session. The options provided for each question with their scores were; YES (2), NO (0). The third option PARTIALLY (1) was provided wherever necessary. For the question no. 13, the scores were YES (0), NO (2). The scoring for the questions 12 & 25 was GOOD (2), AVERAGE (1) & BELOW AVERAGE (0).

The purpose and design of the study was explained to the teachers and 1st MBBS students. Written consent was taken from those teachers who wanted to participate in the study. The students were given the option to submit the response sheet blank if they were not willing to give feedback. A total of 200 students participated in the study. They were divided into four units, of 50 students. Each unit was further divided into two batches of 25 students. The postgraduate students and the lecturers conducted a lecture - cum - demonstrations with a batch of 25 students. The associate professors were allotted gross anatomy lectures to a unit of 50 students. The professors delivered lectures on histology / embryology to a class of 200 students.

The questionnaire was explained to the students and their queries, if any, were answered. Five teaching sessions of each teacher were selected randomly without prior intimation to teachers or students. Feedback was collected from all the students attending the class of postgraduate students, lecturers, and associate professors. From the class of professors, feedback was collected from 50 randomly selected students. The responses were collected at the end of the teaching session as soon as the teacher left the class. The responses were analyzed using code numbers allotted to the teachers randomly. Throughout the process, to ensure frank response, care was taken not to reveal identity of either the teachers or the students.

The scores achieved by each teacher in all the teaching skills studied were calculated for all five teaching sessions. From this an average score achieved by the teacher in each teaching skill was calculated. The mean of average scores of all teaching skills gave overall score of the teacher. The mean of average scores of all teachers gave the scores of the department. The scores achieved were communicated to the teachers individually and confidentially by the head of department who discussed the lacunae and the ways to overcome them. The teachers were encouraged to improve.

Observations

The evaluation system was found to be workable and easy to implement. It was implemented smoothly for one semester. It was found to be inexpensive and less time consuming. It took about 10 minutes to collect the feedback for one teaching session. All the teachers in the anatomy department showed willingness to participate in the study. Thus the evaluation system was acceptable to teachers in the department. A total of 2061 copies of the questionnaire were distributed to 200 students through 70 teaching sessions. All of them were returned answered, resulting in 100% response rate from the students. Many teachers who participated in the study opined that the system was useful to identify lacunae in their teaching and the expert consultancy provided helped them to rectify those.

To illustrate the results obtained through this system, the scores achieved by teachers in anatomy department are given in tables 1.

Discussion

The need to evaluate the competency and efficiency of teachers and thus to assess their teaching has been expressed from time to time (Irby, 1993). The present study is a genuine attempt to develop an evaluation system for undergraduate teaching.

The evaluation system

Effective use of communication skills makes the teaching effective and conveys the knowledge of the teacher to students. It is the students who are a better source of information about the communication skills of a teacher than any one else. Hence it was decided to design the evaluation system on the basis of "students' feedback". The feedback was taken only by objective methods as the observations of subjective method can not be analyzed statistically. This has an added advantage in that the faculty popularity among students and their entertainment value which are the inherent drawbacks of the subjective method were ruled out in the objective method. As the way of presentation and student- teacher interaction form the core of teaching skills, they were given maximum weightage in the questionnaire (56% and 16% respectively). Set induction, by arousing the students' interest in the subject increases concentration and attention and can lead to improved long term knowledge (Handfield-Jones et al., 1993). Hence it was included in the questionnaire. Content, stimulation of thinking and time management being integral parts of teaching were also given due weightage in the questionnaire.

The participation in the present study for both the teachers and students was voluntary which resulted in an honest attempt to assess one's

own teaching. Selection of multiple classes of a teacher randomly, over a period of time and the double blind method adopted had helped to keep information unbiased.

While evaluating the teachers through students' feedback, a fear that the faculty could be embarrassed by using the results has been expressed by some. We preferred to maintain the anonymity on the part of students and teachers. This helped to make the system acceptable to teachers. The teaching task allotted to each teacher was appropriate to his / her cadre and experience. Collecting the feedback after the teacher leaves the class; by a non teaching staff was a step to rule out possible influence of teacher on frank and honest response by students. The quality of a teaching session may be affected by multiple factors like complexity of the topic, time available for preparation, mood of the teacher and students during the class. To overcome these, multiple teaching sessions of each teacher were evaluated and average was calculated to denote his/ her performance.

Teaching in the Department of Anatomy

The entire faculty in the department gave their consent for evaluation which indicates the overall desire to be evaluated and to improve one's own teaching. Furthermore, a 100% response rate from students' side indicates their notable enthusiasm. Some students, showing over enthusiasm commented on topics not included in the questionnaire.

Departments rely on the help of the postgraduate students in delivering the teaching programs. However, in the present study the scores achieved by the postgraduate students were least in all teaching skills studied (Table I). This may be due to their insufficient subject knowledge, lack of training in teaching technology and lack of / no teaching experience. This suggests that the postgraduate students

should be given the task of teaching only after they receive training in teaching techniques and have sufficient subject knowledge. All the junior teachers and most of the senior teachers scored well in all parameters of the study.

In the present study, the scores achieved by the junior as well as senior teachers in set induction show a lot of individual variation. This indicates that many teachers did not give due attention to it during teaching. All the junior and senior teachers scored highest in content of lecture. Though the ability of the students to judge the contents of the lecture is doubtful, it appears that all the teachers included content in their teaching to students' satisfaction. The average scores achieved by the junior as well as the senior teachers in presentation show that it was effective for most of the teaching sessions. However, of all the teaching skills studied, the junior teachers scored least in presentation which reflects their lack of experience. In most of the teaching sessions by junior teachers, the student-teacher interaction was quite good. However, the senior teachers in spite of their vast experience could not interact with their students with equal effectiveness. The method of teaching i.e. didactic lectures and teaching to a large group were probably hindrances for student - teacher interaction. From the scores of Department of Anatomy as a whole, it appears that the overall teaching in the department is good. When we asked for a general impression about teaching in the anatomy department, 61.78% students opined that it was good. However considering the number of students grading it average and below average, there is need and scope for further improvement of the teaching in the department as a whole as well as of individual teachers.

As the teaching skills assessed and the method used for it is more or less different than the western studies, we cannot compare our finding with the western ones.

Table 1: Scores achieved by the teachers in anatomy department (%)

Cadre	No. of teachers	No. of responses	Scores	Set Induction	Contents	Presentation	Student-Teacher Interaction	Average Score
Post-Graduate Students	2	241	min	34.12	53.57	48.28	56.08	48.53
			max	62.84	67.74	63.45	48.41	64.57
			mean	48.48	60.65	55.87	52.25	56.55
Lecturers	6	654	min	72.05	87.91	75.58	73.39	76.03
			max	95.09	97.88	90.78	97.07	92.73
			mean	89.14	94.57	85.81	89.12	87.36
Associate Professors & Professors	6	1156	min	51.24	82.72	58.52	44.41	57.60
			max	95.32	98.32	90.37	95.62	91.63
			mean	81.40	91.71	81.46	75.71	81.45
Anatomy Department	14	2061	mean	80.19	88.90	79.89	79.06	80.56

Such a study is beneficial for the students, teachers and the college. The students are benefited by participating in the improvement of their own education (as well as the education of future students who will follow in ensuing years). The teachers are benefited as the study forms a source of evaluation of their teaching. They receive an expert consultation on lacunae in their teaching. Their good teaching skills are recognized and appreciated which acts as stimulus for them to become a more effective teacher. The college benefits from all of the above through documentation of individual faculty members' efforts in teaching so that such achievement can be more properly recognized in decisions regarding faculty promotion and tenure.

Enthusiastic participation by both the teachers and students in the present study encourages us to suggest that this evaluation system can be implemented in other teaching institutions as well. Such a system of regular evaluation can help to considerably develop the faculty as well as to improve the standard of teaching.

Thus the students' feedback can form the basis of a workable and acceptable system to assess undergraduate teaching. When combined with peer evaluation it can form a better system of faculty evaluation. Individualized feedback coupled with specific consultation remains of key importance to effective faculty development (Elliot & Hickam, 1991). The present study can help to design a model evaluation system which, by using update data about teaching can play a key role in review, modifications, and hence evolution of the curriculum.

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Annexure - I

INSTRUCTIONS – Please encircle the most appropriate option/s.

1. Did the teacher arouse interest in the topic of lecture /LCD in any way? e.g. by narrating a case history or by questioning etc.
i) YES ii) NO
2. Whether the objectives of the lecture were specified to you initially?
i) YES ii) NO
3. If yes, whether all the objectives were covered in the class?
i) YES ii) NO
4. Was the material of the lecture /LCD organized in logical sequence?
i) YES ii) NO
5. Whether teacher explained the topic effectively?
i) YES ii) NO iii) PARTIALLY
6. Was the subject simplified for better understanding?
i) YES ii) NO iii) PARTIALLY
7. Were any audio-visual aids used during the teaching session?
i) YES ii) NO
8. If yes, whether the audio-visual aids were used effectively?
i) YES ii) NO iii) PARTIALLY
9. Was the voice clearly audible?
i) YES ii) NO
10. Was the language easy to understand?
i) YES ii) NO
11. Whether the pronunciations were clear?
i) YES ii) NO
12. Grade the fluency of the language used during the teaching session?
i) GOOD ii) AVERAGE
iii) BELOW AVERAGE
13. Was the speech monotonous?
i) YES ii) NO
14. Whether questions were asked from you?
i) YES ii) NO
15. Did the teacher encourage the students' response?
i) YES ii) NO
16. Whether the students allowed / encouraged to ask questions?
i) YES ii) NO
17. Did the teacher answer the questions satisfactorily?
i) YES ii) NO
18. Was there any change in the pace of presentation? e.g. by cracking jokes etc.
i) YES ii) NO
19. Whether the important points were stressed? e.g. by writing on board, by repeating etc.
i) YES ii) NO
20. Did the teacher summarize the topic at the end?
i) YES ii) NO
21. Did the class start on scheduled time?
i) YES ii) NO
22. Do you think that the teacher was well informed about the topic?
i) YES ii) NO
23. Did the teacher stimulate thinking in your mind?
i) YES ii) NO
24. Whether the teacher was confident and at ease during the session?
i) YES ii) NO
25. What is your general impression at the end of the teaching session?
i) GOOD ii) AVERAGE
iii) BELOW AVERAGE