Student's Perspective: Should Interactive or Non-Interactive Lectures be given to Medical and Dental Students?

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Abstract

In the complex setting of a medical/dental school it becomes essential to utilize an approach to teaching and learning that is best suited to the needs of the students.

For productive learning, teaching should facilitate development of logical approaches to a problem and to highlight especially those points which appear critical for students to understand.

A cross-sectional pilot study was carried out at Karachi Medical and Dental College to understand the perception of medical students about the current methods of teaching, interactive sessions in lecture and also to identify the techniques, best suited in delivering the knowledge to students. Study participants included third year, fourth year and fifth year M.B.B.S students. A semi-structured questionnaire was used to collect the information. SPSS version 16 was used for analysis of data. A total of 93 students participated in the study. 92.5% students believed lectures given to them are relevant and informative. About 87.1% students felt, lectures are beneficial before reading the topic from book. Approximately 86.0% of students preferred lectures to be interactive. The most preferred modality of teaching aid was found to be chalk-board, preferred by 73.1% students. The findings of pilot study suggested that a combination of conventional teaching methods with other methods such as, Animations, which is a 3D photographic model, PBL (Problem Based Learning) in which students learn about a subject through the experience of solving an open-ended problem. Students learn both thinking strategies and domain knowledge, Post-test in which students are evaluated for knowledge, they grasp after completion of lecture, often used in conjunction with a pretest to measure their achievement and the effectiveness of the lecture, and Doctor-Patient counseling sessions could be an effective way of teaching theory and clinical skills.

Keywords: Medical students, lectures, interactive, non-interactive.

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Introduction

Learning is an active process in which both the students and teacher have to work collectively to make this process enjoyable and easy to understand. For productive learning, teaching should facilitate development of logical approaches to a problem and to highlight especially those points which appear critical for students to understand. Thus, there is a need of such teaching methodology which not only benefits students in understanding the concepts but also enables students to implement the learned knowledge to routine clinical cases[1].

Teaching in most Asian countries is influenced by teacher-centered classroom[2]. Concepts such as flexibility in learning, problem solving, critical thinking and independent learning are least recognized[3]. The emerging trend all over the world is to have a problem-based, integrated student-centered medical curriculum, demanding active participation from the students and facilitating self-directed learning. It is well known that no system could be effective in it's application, it must be modified and applied to suit the needs of students[4]. The objectives of this study

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is to understand the preferences and perception of medical students about the current methods of teaching, interactive sessions in lecture and also to identify the techniques, best suited in delivering the knowledge to students.

PBL is a well known teaching method[4], which is used in many private and some government institutions in Pakistan - especially Karachi. However, it has not been possible to introduce it in the Karachi Medical and Dental College (KMDC). By publishing this short communication, and later on an original article, we plan to highlight the positive aspects of currently used methods in KMDC-interactive lectures/ chalk and board method; and perhaps at the end suggest that PBL should be introduced for KMDC students which may require time and resources from the administration and faculty.

Subjects and Methods

A cross-sectional pilot study, with the aim of replicating the study on a much larger, multi-institutional scale was carried out at Karachi Medical and Dental College, Abbasi Shaheed Hospital. The study included 93 students from third year M.B.B.S, fourth year and fifth year M.B.B.S and was conducted during the month of September 2015. Students were selected by non-probability convenient sampling. The questionnaire included three parts,

1. To assess whether students feel lectures are informative and relevant.

2. To assess if students prefer to have interactive or non-interactive lectures.

3. To assess, the methods, preferred by students that make the lecture interactive.

The data was entered and analyzed using SPPSS version 16.

Results and Discussion

The total of 93 students participated in this study. Among them, 86 (92.5%) students feel lectures given in class are informative and relevant.

Whereas, 7 (7.5%) students feel lectures are not informative. 81 (87.1%) students feel lectures are beneficial before reading the topic from book. 12 (12.9%) of them feel lectures are of no benefit before reading the book.

Among 93 students, 80 (86.0%) students prefer lectures to be interactive. Whereas 13 (14.0%) students prefer lectures to be non-interactive. 61 (65.6%) students prefer multi-media interactive sessions. 32 (34.4%) do not prefer multi-media non-interactive sessions. 90 (96.8%) students prefer Animations to be put on, in a multi-media lecture to better understand the concepts. 3 (3.2%) students do not prefer animations. 81 (87.1%) students prefer both pictures and text, instead of text alone in a multi-media lecture. 75 (80.6%) prefer black-board interactive sessions whereas, 18 (19.4%) prefer black-board non-interactive sessions. About 65 (69.9%) students prefer Problem Based Learning (PBL). 28 (30.1%) do not prefer PBL. Approximately 68 (73.1%) students prefer chalk-board lecture over a multi-media lecture whereas, 25 (26.9%) do not prefer chalk-board lecture over multi-media lecture. 11 (11.8%) students prefer pre-test in the beginning of lecture whereas, 80 (86.0%) students prefer post-test, in the end of lecture. Whereas, 2 students preferred neither pre-test nor post-test.

Students were also asked about their preference for different methods which make lecture, interactive.

1. **Less than the majority breaking the class into smaller groups:** 29 (31.2%) students preferred class should be broken into smaller groups. It is beneficial for promoting the discussion of ideas and concepts, for examining issues and presenting alternatives, for encouraging the application of new concepts, and for fostering problem solving and communication skills. Group discussions also give the teacher an additional way of assessing student attitudes andbeliefs[5,6]. 64 (68.8%) students do not prefer this technique.

2. **Questioning the audience:** 32 (34.4%) students prefer questioning from audience during lecture. As it is the easiest to implement. Ques-

Table 1. Showing response of Medical Students to the following statements.

1	2	3	4	5	6	7	8	9	10
✓	✓	✓	X	X	✓	✓	✓	X	✓
92.5% (86)	87.1% (81)	86.0% (80)	55.9% (52)	65.6% (61)	96.8% (90)	87.1% (81)	80.6% (75)	74.2% (69)	69.9% (65)

11	12	13	14	15	16	17	18	19	20
✓	X	✓	X	X	X	✓	X	✓	X
73.1% (68)	88.2% (82)	86.0% (80)	68.8% (64)	65.6% (61)	51.6% (48)	92.5% (86)	90.3% (84)	50.5% (47)	75.3% (70)

Positive (Yes) ✓   Negative (No)   X

Remaining % and number of students, are either positive (yes) or negative (no)

tions can stimulate interest, arouse attention, serve as an `ice breaker', and provide valuable feedback to both the teacher and student[7]. Majority 61 (65.6%) students do not prefer questioning sessions during lecture.

3.   Using audience responses by putting 'multiple choice' or 'true false' questions in lecture: 45 (48.4%) students prefer 'multiple choice' and 'true false' to be put in the end of lecture to evolve, how much students have grasped the delivered lecture. Whereas, 48 (51.6%) do not prefer this technique.

4.   Use of Clinical Cases: 86(92.5%) students prefer the use of clinical cases during lecture. Students are presented with a short description of a problem situation. If they ask the right questions, they are supplied with more information. As a group, the students take the role of the decision maker trying to sort out the problem. Sometimes they are divided into teams and asked to defend their positions. Often they work alone. The class, however, must come to a decision that is mutually

agreeable[8,9]. 7 (7.5%) students do not prefer use of clinical cases.

5.   Using simulation and role plays: 9 (9.7%) students prefer this technique. Simulations and role plays allow students to try out a real life situation in a `safe setting' and to receive feedback on their experiences. By presenting students with a situation that they are likely to face in the future, simulations can heighten attention and clinical relevance, and involve students at a number of levels in the lecture format[10]. 84 (90.3%) students did not prefer simulations and role plays during lecture.

6.   Doctor-Patient counseling sessions: 47 (50.5%) students prefer Doctor-Patient counseling sessions in the end of lecture. Whereas, 46 (49.5%) students do not prefer this method to make lectures effective.

7.   Using student's presentation skills: 23 (24.7%) students prefer the use of student's presentation skills for delivering the lecture. Whereas, 70 (75.3%) students do not prefer this technique to make lectures interactive.

1. Lectures given in class are informative and relevant.

2. Lectures are beneficial before reading the topic frombook.

3. Lectures should be interactive.

4. Preference for multi-media interactive sessions.

5. Preference for multi-media non-interactive sessions.

6. Preference for animations to be put in a multi-media lecture.

7. Preference for both pictures and texts in lectures.

8. Preference for black-board interactive sessions.

9. Preference for black-board non-interactive sessions.

10. Preference for problem based learning (PBL)

11. Preference for chalk-board lecture over multi-media lecture.

12. Preference for pre-test.

13. Preference for post-test.

Methods that make lecture interactive:

14. Breaking the class into smaller groups.

15. Questioning the audience.

16. Use of multiple choice questions or true false.

17. Use of clinical cases.

18. Use of simulations and role plays.

19. Doctor-patient counseling sessions.

20. Student's presentation skills.

Conclusion

The findings of pilot study suggest that a combination of conventional teaching methods with other methods such as, Animations, PBL, Post-test, Doctor-Patient counseling sessions could be an effective way of teaching theory and clinical skills.

The classes could be made more interesting and interactive by giving Multiple choice questions, True and False or Clinical Scenarios related to the topic. Teachers should be encouraged to use Chalk-board and interact with students during lecture. This is a pilot study and we plan to do a multi-center study with a larger sample size.

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