



ORIGINAL RESEARCH PAPER

Anatomy

"BEST TEACHING METHODS BY USING AIDS- AN EVALUATION BY THE MEDICAL STUDENTS"

KEY WORDS: Medical Education, Audiovisual Aids and Assessment

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ABSTRACT

Indian medical education system is undergoing for major transformation. Faculty-development workshop is revised. The study was done for perception of the MBBS students of GSVM, KANPUR for prevailing system of teaching methods, to evaluate the benefit and suggestions of students about various aspects of the current medical education. 750 students were selected from 4 semesters for this study with a set of questionnaires. The response were collected and analyzed. 69.83% agreed that normal lectures are best method of teaching followed by demonstration. Most effective Teaching aid 76.25% by simulators 71.75 % by chalk and board, 69.82 % by audiovisual aids followed by group discussion and team based learning. Best evaluation method of summative either formative assessment includes combination of all 74.75% which includes long essay, short essay, viva voice, diagrams and MCQ.

INTRODUCTION

After Independence India was having only 15 medical colleges in 1933 Medical Council of India was constituted to reach the Standard level of medical education. India has the highest number of medical colleges in world and still there is a rapid expansion with a trend of favoring privatization of medical colleges and MCI have decreased the faculty student ratio (1). The medical education system in suffering from misdistribution, traditional curriculum, poor assessment, neglected research, communication skills, behavior, ethical knowledge and lack of faculty development programs. For this many colleges has started to evaluate the facilitator's performance of their teaching faculty. To train the Indian medical graduate MCI has revised conventional basic course workshop (BCW) into rBCW along with inclusion of ATCOM (Attitude and Communication) module (2). These evaluation can be used as Diagnostic tool for approaching new teaching methods with many newer aids after that the feedback of professionals faculty members and non teaching faculty. To enhance successful communication, medical teachers are using teaching-learning media. It is well known that the students learn when they are involved actively in learning than when they are passive recipients of instruction(3).

The present study was undertaken to elicit the perspective of MBBS undergraduate students up to which extent they are benefited by these teaching methods with required aids in right manner and to evaluate the teacher's performance and behavior.

MATERIAL AND METHOD

The current survey was planned and executed by on the Undergraduate, currently studying and who were due for appearing in final examination from semesters (2nd, 5th, 7th and 9th) of GSVM medical college. Study will be done on 760 students in which 720 students are appeared in test.

Study strategy: The Performa was distributed to the students in the classrooms with Investigator were on duty. The time allotted was 30 minutes. First we have some questions from the Student then we have given a sheet on which they can give their views used for betterment of future medicos and changes in medical curriculum. They were encouraged to furnish their independent and unbiased opinion regarding certain other aspects of teaching methods. Participants were instructed not to provide any personal information, nor to reveal their identity. All the questionnaires were manually checked. After compilation of collected data, coding was done for statistical analysis to enter in Microsoft Excel. Likerts scale was used

OBSERVATIONAL AND RESULT

720 students participated in the "Evaluation Process". It was observed that a few students did not attempt some of the questions. More than one option was ticked were not considered for calculation. we have assessed the teaching method followed by the aids using in it and after that the evaluation for feedback in tabulated form as follow

Table 1-Teaching methods

METHODS	SEMESTER	2nd (178)	5th(180)	7th (182)	9th (170)
Lecture N= 710	agree	136 (76.40%)	128(71.11%)	117(64.28%)	111(65.29%)
	neutral	126(70.78%)	15(8.33%)	20(10.98%)	11(6.40%)
	disagree	30(16.85%)	37(20.55%)	45(24.72%)	48(28.23%)
	SEMESTER	2nd (178)	5th(170)	7th (180)	9th (172)
Group discussions n=700	agree	60(33.70%)	116(68.23%)	117(65%)	120(69.76%)
	neutral	48(26.96%)	22(12.94%)	23(12.77%)	19(11.04%)
	disagree	70(39.32%)	32(18.82%)	40(22.22%)	33(19.18%)
	SEMESTER	2nd(179)	5th(182)	7th(175)	9th(176)
Seminar/ debates n=712	agree	55(30.72%)	60(32.96%)	66(37.71%)	86(48.86%)
	neutral	16(8.93%)	40(21.97%)	33(18.85%)	28(15.90%)
	disagree	108(60.33%)	82(45.05%)	76(43.42%)	62(35.22%)
	SEMESTER	2nd(180)	5th(184)	7th(177)	9th(179)
Demonstration/ practical n=720	agree	146(81.11%)	127(69.02%)	118(66.66%)	137(76.53%)
	neutral	12(6.66%)	20(10.86%)	32(18.07%)	17(9.49%)
	disagree	22(12.22%)	37(20.10%)	27(15.25%)	25(13.96%)
	SEMESTER	2nd(181)	5th(182)	7th(178)	9th(174)

Bedside teaching / ward rounds n=715	agree	91(50.27%)	103(56.59%)	130(73.03%)	150(86.20%)
	neutral	50(27.62%)	47(25.82%)	33(18.53%)	12(6.89%)
	disagree	40(22.09%)	31(17.03%)	15(8.42%)	13(7.47%)
	SEMESTER	2nd(177)	5th(179)	7th(177)	9th(185)
Self directed learning n=718	agree	25(14.12%)	51(28.49%)	47(26.55%)	58(31.35%)
	neutral	32(18.07%)	27(15.083%)	31(17.51%)	41(22.16%)
	disagree	120(67.79%)	101(56.42%)	99(55.93%)	86(46.48%)

By **TABLE 1** we observed that Lecture is choice of student maximum of first year and also satisfied by demonstration. Group discussion is choice and seminar least liked by final year. Bed side teaching is choice for final year student. First year showed their

interest in bed side teaching, while self directed learning is done only in motivated students of final year. As they told that the communication skills of teachers are good and their behavior towards students is friendly.

Table 2- Object used for teaching

METHODS	SEMESTER	2nd(182)	5th(180)	7th(168)	9th(176)
Chalk and board n=706	agree	140(76.92%)	142(78.88%)	111(66.07%)	115(65.34%)
	neutral	12(6.59%)	30(16.66%)	20(11.90%)	21(11.93%)
	disagree	30(16.48%)	08(4.44%)	37(22.02%)	40(22.72%)
	SEMESTER	2nd(186)	5th(184)	7th(175)	9th(163)
Audiovisual by e-learning n=708	agree	148(79.56%)	111(62.32%)	98(56%)	128(78.52%)
	neutral	09(4.83%)	21(11.41%)	54(30.85%)	26(15.9%)
	disagree	29(15.59%)	52(28.2%)	23 (13.23%)	9(5.52%)
	SEMESTER	2nd(180)	5th(173)	7th(179)	9th(177)
Role play n=709	agree	78(43.07%)	90(52.03%)	120(67.03%)	160 (90.39%)
	neutral	80(44.44%)	65(37.57%)	34(18.99%)	12(6.77%)
	disagree	12(6.66%)	18(10.40%)	25 (13.96%)	05(2.82%)
	SEMESTER	2nd(185)	5th(181)	7th(174)	9th(175)
Problem based learning n=715	agree	21(11.35%)	65(35.91%)	114(65.5%)	139(79.42%)
	neutral	55(29.72%)	64(35.35%)	35(20.11%)	22 (12.57%)
	disagree	109(58.9%)	52 (28.72%)	25(14.36%)	14(8%)
	SEMESTER	2nd(175)	5th(178)	7th(180)	9th(185)
Team based learning n=718	agree	22(12.57%)	45(25.26%)	82(45.52%)	115(62.12%)
	neutral	89(50.85%)	76 (42.69%)	52 (28.8%)	26(14.05%)
	disagree	64(36.57%)	67 (37.64%)	46(25.5 %)	44(23.78%)
	SEMESTER	2nd (187)	5th (180)	7th (175)	9th(170)
Mannequins / simulation devices n=712	agree	146(78.07%)	123(68.33%)	135(77.14%)	142(83.52 %)
	neutral	24(12.83%)	21(11.66)	17 (9.71%)	12 (7.05%)
	disagree	17(9.09%)	36(2)	23(13.13%)	16(9.41%)

After the training of many teachers according to met workshops they have started the new method. First year student likes chalk and board and all new teaching aids. By **TABLE 2**. Role play is maximum and best choice for final year while first year students

don't know it. Problem based learning is done by seniors rather than second year. Team based learning is also interesting, as unknown to first year. Mannequins and simulators are the best choice for all the semesters.

Table 3- Evaluation method

METHODS	SEMESTER	2nd(186)	5th(176)	7th(174)	9th(177)
Long essay n=713	agree	101 (54.5%)	97(55.11%)	81(46.55%)	112(63.27%)
	neutral	57 (30.62%)	62(35.22%)	63(36.02%)	54(30.50%)
	disagree	28 (15.05%)	17(9.06%)	30(17.26%)	11(6.21%)
	SEMESTER	2nd(184)	5th(179)	7th(173)	9th(180)
Short essay n=716	agree	131(71.11%)	129(72.06%)	101(58.38%)	143(79.44%)
	neutral	47(25.54%)	37(20.67%)	39(22.54%)	9(5%)
	disagree	6(3.24%)	13(7.26%)	33(19.07%)	28(15.55%)
	SEMESTER	2nd(182)	5th(179)	7th(186)	9th(172)
Brief notes or diagrams n=719	agree	121(66.48%)	141(78.77%)	135(72.58%)	137(79.65%)
	neutral	17(9.34%)	19(10.61)	7(3.76%)	11(6.39%)
	disagree	44(24.13%)	19(10.61%)	44(23.65%)	24(13.95%)
	SEMESTER	2nd(179)	5th(181)	7th(180)	9th(176)
MCQ n=716	agree	160(89.38%)	120(66.29%)	131(72.77%)	140(79.54%)
	neutral	11(6.14%)	42(23.20%)	23(12.77%)	169(9.09%)
	disagree	8(4.46%)	19(10.49%)	26(14.44%)	20(11.36%)
	SEMESTER	2nd(177)	5th(175)	7th(179)	9th(174)
Viva voice n=705	agree	25(14.12%)	57(32.57%)	101(56.42%)	141(81.03%)
	neutral	41(23.16%)	27(15.54%)	31(17.31%)	11(6.14%)
	disagree	111(62.78%)	91(52%)	47(26.23%)	22(12.29%)
	SEMESTER	2nd(184)	5th(178)	7th(179)	9th(179)
Combined of all paper n=720	agree	142(77.17%)	147(82.58%)	101(56.42%)	143(79.88%)
	neutral	27(14.67%)	23(12.92%)	37(20.67%)	13(7.26%)
	disagree	15(8.15%)	8(4.49%)	41(22.90%)	23(12.84%)

TABLE NO. 3 tells feedback of students during summative assessment, best method by all the semester is combined of all types of question, according to semester long essay and short essay and brief essay is choice and viva voice for final year and mcq for first year, viva voice is least liked .

DISCUSSION

The curriculum of medical education in India needs to be revised. The students hence fail to develop a compassionate doctor-patient relationship. Compassionate view by the doctor certainly improves the quality of medical service, and also helps to reduce the quantity of increasing medico-legal suits filed against physicians in long-term (1).

The teaching should be done by black board with audio visual aids. Lectures are the best method of teaching (7,8) which correlates with our study but simulators and mannequins is best choice by students. Audio visual aids can be effectively used to show the photographs and animated pictures. About the evaluation methods, participants expressed multiple choice questions as preferred method of evaluation due to the trend for preparation of post graduate entrance examinations from 1st Professional MBBS onwards (3). MCQ 88.18%, brief notes 85.31%, and short notes 77.02%, and a combined form of all types 78.80% (3).

Students expressing their preference to be taught by a single teacher for improvement' including more interactive sessions in small groups, increased scope for clarification of doubts, repetition of important concepts for frequent formative oral evaluation in presence of a single facilitator (4). Small group teaching is an important component of undergraduate medical education; many medical schools have adopted this strategy of teaching to make the classes more interactive and to give opportunities for students to take part in discussion (7,8)

Almost everyone advocated for introduction of students' feedback in regular teaching-learning, repeat of MET workshops like rBCW (2). Instead of using patients as clinical material for evaluation of clinical competencies of medical students. OSCE and OSPE should be made integral components of clinical and practical exams for various subjects (5).

77% students favors real life case studies with treatment whereas 73% showed interest in Problem Based Learning 64 % (8) and seminars (6).

By introducing student doctor system, where student becomes an integral part of the treating team, he can build intimate relationship with patient, which can further develop the level of confidence and create a feeling that doctor is actively involved in his treatment. This will also go a long way in motivating the students to build up ethical and moral values and communication skills so as to enable him to influence the patient to be co-operative to discharge his duties as a student doctor (9).

CONCLUSION

Medical education should aim to progress by training compassionate, professionally excellent and ethically sound individuals who will go out as leaders of health teams and healing communities. Their service may be in preventive, curative, rehabilitative or palliative aspects of health care in education or research. The present Medical Education system should be able to produce health professionals who are efficient in providing quality health care in remote corners of rural India. Innovation should also target to develop communication skill and public dealing. Medical education should be integrated, problem based and evidence-based. In general students' perceptions regarding learning medical education was observed to be positive. We need to identify priority areas for feedback oriented improvement.

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