Original Article

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Implementing Change in Teaching Methodology Based on Student's Feed Back: A Study

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Abstract

Aim: To make neccessary changes in teaching methodologies and improve standards of students performances. **Material & Methods:** A feed back was taken from 135 1st year MBBS students, 2011 batch,Gandhi Medical College, Musheerabad, through questionnaire forms given to each of them after observing their 10 months academic performance in 1st year MBBS. **Results:** Non powerpoint presentation (chalk & board, OHP) was preferred by 53.4% (72) of students & powerpoint presentation was preferred by 46.6%(63)of Students. However,drawbacks of powerpoint preferred students are lower retention and not higher ability of students in modern evaluation techniques compared to old ones. The advantage of powerpoint was found to be in the preference for Interactive mode of teaching which is highly significant statistically Yates chi Square = 17.23 ($p < 0.001$). **Conclusion:** Higher retention is seen in non powerpoint (chalk & board, OHP) preferred students and the difference is significant. Interactice mode of teaching was liked by significantly higher proportion of students preferring powerpoint compared to non-interactive mode.

Keywords: Teaching methodology; Feedback; Chalk and Board; Powerpoint; Interactive.

Introduction

Over years of observation it has been noted that the levels of performance by 1st year MBBS students has been declining gradually from the time of their joining MBBS till they graduate. The reasons behind this trend was so far seen to be multifactorial which involves:

- Variable teaching methods
- Variable basic levels of students
- Infrastructure available to the Students
- Influence of parents

But among all these since the index point of imbibing knowledge in a medical student starts from the teacher, he/she is the most crucial factor of all. Aim of a medical teacher is to impart knowledge in the best possible way i.e. understood, retained, recalled & applied whenever necessary by the students.Various challenges met by the teacher are:

- Different learning abilities of students
- Variation in course content
- Variable methods of evaluation
- Non standardized examination patterns.

Study on Evaluation on existing curriculum by Hussain MM *et al* recommended that training of the teachers on teaching training methodology and assessment system is needed.[1] Medical undergraduate students are preferring audiovisual aids along with interactive seminars [2] and problem based learning approach.

The present study was taken up with a goal to understand the most probable reasons behind students declining performances by collecting their opinions on the present teaching methodologies that are practiced in their college and suggestions regarding

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changes in teaching methodologies were asked for.

Material & Methods

A questionnaire-based survey of 150 medical undergraduate students, 2k11 batch in Gandhi Medical College in Musheerabad, Secunderabad, India was conducted after getting required permission.

The questionnaire was circulated to all 1st year medical students after observing their 10 months of academic stay, during the mentioned period they were taught by:

1) Classic chalk & board method
2) Overhead projector
3) LCD projection
4) Demonstration of models & bones (for small groups)
5) Practical on hands training in dissection & histology labs.

A total of 135 medical students completed the questionnaire. The students were asked to fill in the structured questionnaire about their views and perceptions of the teaching methods & suggestions were asked for.

The sample was broadly divided into 2 categories on the basis of the answers to 1st question. The answers to the 1st question therefore vertically divides the sample into 2 groups:

- *A* - group preferred PowerPoint (Powerpoint Preferred Group)
- *B* - group that preferred other methods (Chalk & Board, OHP) (Non-Powerpoint Preferred Group)

Answers for questions 2-6 were studied and statistically analysed and conclusion were recoded.

Results

Among 33 (100%) students with retention, 7 (21.2%0 preferred PowerPoint and rest 26 978.8%) preferred non PowerPoint.

Among 102 (100%) students with non retentions, 56 (54.9%) preferred PowerPoint and rest 46 (54.1%) preferred non PowerPoint.

The difference is 54.9% - 21.2% = 33.7% which is highly significant.

Among 63 (100%) students who could recall, 30 (47.6%) preferred PowerPoint and rest 33 (52.4%) preferred non PowerPoint. Among 72 (100%) students who could not recall 33 (45.8%) preferred PowerPoint and

Table 1: PowerPoint Versus Retention

	PowerPoint	Non PowerPoint	Total
Retained	7 (21.2%)	26 (78.8%)	33 (100.0%)
Not Retained	56 (54.9%)	46 (45.1%)	102 (100.0%)
Total	63 (46.6%)	72 (53.4%)	135 (100.0%)

Y - Chi square = 10.06, P < 0.001 HS

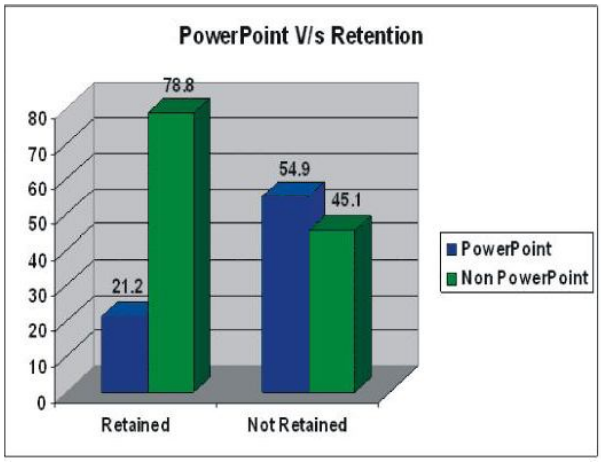


Table 2: PowerPoint Versus Recall

	PowerPoint	Non Power Point	Total
Recalled	30 (47.6%)	33 (52.4%)	63 (100.0%)
Not Recalled	22 (45.8%)	39 (54.2%)	72 (100.0%)
Total	63 (46.6%)	72 (53.4%)	135 (100.0%)

P > 0.05 NS

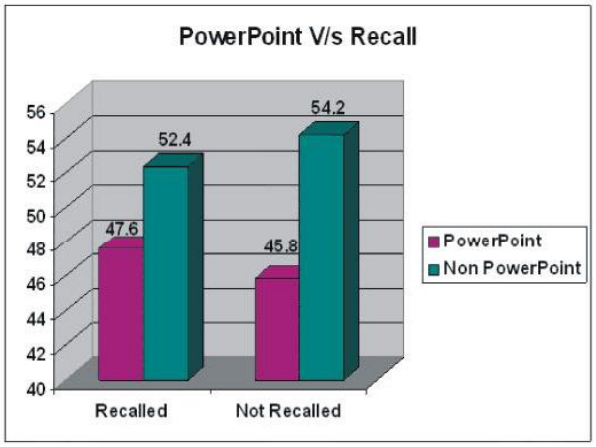


Table 3: PowerPoint Versus Integrated

	Power Point	Non Power Point	Total
Integrated	41 (45.0%)	50 (55.0%)	91 (100.0%)
System Based	22 (50%)	22 (50%)	44 (100.0%)
Total	63 (46.6%)	72 (53.4%)	135 (100.0%)

P > 0.01 NS

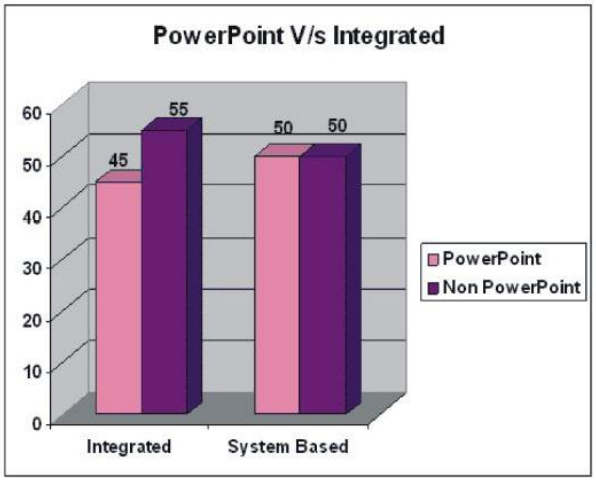


Table 4: PowerPoint Versus Interactive

	Power Point	Non Power Point	Total
Interactive	30 (37.0%)	51 (63.0%)	81 (100.0%)
Non Interactive	33 (61.1%)	21 (38.9%)	54 (100.0%)
Total	63 (46.6%)	72 (53.4%)	135 (100.0%)

Y-Chi square = 17.23, p < 0.001 HS

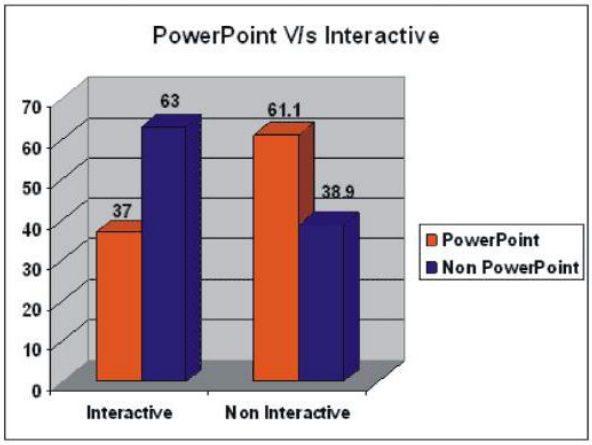


Table 5: PowerPoint Versus Essay

	Power Point	Non Power Point	Total
Essay	36 (63.1%)	21 (36.9%)	57 (100.0%)
Non Essay	27 (50%)	27 (50%)	54 (100.0%)
Total	63 (56.7%)	48 (43.3%)	111 (100.0%)

* Not responding in Non PowerPoint group = 24
p > 0.05 NS

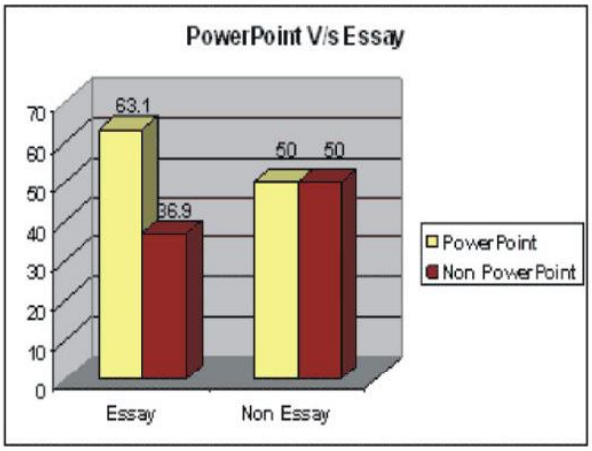
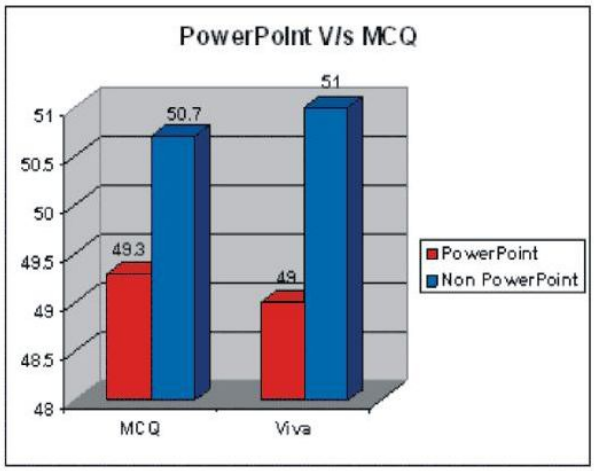


Table 6: PowerPoint Versus MCQ

	Power Point	Non PowerPoint	Total
MCQ	36 (49.3%)	37 (50.7%)	73 (100.0%)
Viva	27 (49%)	28 (51%)	55 (100.0%)
Total	63 (49.2%)	65 (50.8%)	128 (100.0%)

* Not responding in Non PowerPoint group = 7
p > 0.05 NS



rest 39 (54.2%) preferred non Power Point. The difference is 47.6% - 45.8% = 1.80% which is not significant.

Among 91 (100%) students who wanted integrated mode of teaching 41 (45%) preferred PowerPoint and 50 (55%) preferred non PowerPoint. Among 44 (100%) students who wanted system based mode of teaching 22 (50%) preferred PowerPoint and rest 22 (50%) preferred non PowerPoint. The difference is 50% - 45% = 5% which is not significant.

Among 81 (100%) students who suggested interactive sessions in teaching 30 (37%) preferred PowerPoint and rest 51 (63%) preferred non PowerPoint. Among 54 (100%) students who suggestive different non interactive ways of teaching 33 (61.1%) preferred PowerPoint and rest 21 (38.9%) preferred non PowerPoint.

The difference is 61.1% - 37.0% = 24.10% which is highly significant.

Among 57 (100%) students who wanted essays in student evaluation 36 (63.1%) preferred PowerPoint and 21 (36.9%) preferred non PowerPoint. Among 54 (100%) students who wanted other non essay methods in student evaluation programme 27 (50%) preferred PowerPoint and rest 27 (50%) preferred non PowerPoint. The difference is 63.10% - 50.00% = 13.10% which is not significant.

Among 73 (100%) students who wanted MCQ's in student evaluation programme, 36 (49.3%) preferred PowerPoint and 37 (50.7%) preferred non PowerPoint. Among 55 (100%) students who wanted viva voice in student evaluation programme 27 (49%) preferred PowerPoint and 28 (51%) preferred non PowerPoint. The difference is 49.30% - 49.00% = 00.30% which is not significant.

Discussion

The present study based on feedback of 135 medical students, Bhosale UA *et al* studied on 148 second year medical students on learning and teaching methodology & evaluation methods. Their study observed there is a need of conducting few microteaching sessions along with MCQ based revisions according to the students.[3] Laura McCann & Michael Burton did a study on "Estimating determinants of student evaluation scores to improve teaching". Done in 3 years over 80 student's. student evaluations to be used for both formative and summative assessment of teachers and overall effectiveness of teaching. Conclusion; overall analysis of determinants of effectiveness may help teachers more efficiently to allocate efforts to areas that are most important. No matter how effective a teaching method is, it can be enhanced.[4] The lines of this study matches with the present study. Jennifer M. Apperson, *et al* did a study on "The impact of presentation graphics on students experience in the classroom", in dept of pscychology. On 4000 students in 2 semesters using chalk n board and PowerPoint.[5] Organisation, clarity, Professor Likeability were enhanced with PowerPoint, & majority of them preferring PowerPoint mode of teaching.The conclusion of this study differs with the present study where majority of students preferred the classical chalk & board method of teaching. Elizando-Omana R.E. *et al* did a "Comparative study between traditional learning and traditional learning supported by computer assisted learning".[6] And their

final grades were compared. Where the averages were significantly higher in modified traditional method with computer assisted learning support. This matches with the present study's recommendation where the classical method and the PowerPoint where advised to be used judgmentally mixed for better learning.

In, 2005 Richard M. Felder, Rebecca Brent conducted a study on Death by Powerpoint .Their observation was a decline in attendance & attention of students when using PowerPoint lectures compared to full participation and attendance for classical method of chalk & board lectures [7] which matches with the analysed opinion of the students in the present study. Dana.J. Jamero, *et al* "Compared computer instruction versus lecture mediated instruction of pain management among doctor of pharmacy students".[8] This study was done on 68 students for lecture mediated instruction and 49 for computer mediated instruction & observed the efficiency and students perception of learning was significantly higher in computer mediated learning group which differs with the present study where significant number of student's opined retention was better with classical method of teaching than PowerPoint method of teaching. Vikas Seth, *et al* did a study on "PowerPoint or chalk and talk: Perceptions of medical students versus dental students in a medical college in India" .[9] This study was done on 100 medical and 60 dental students, where medical students preferred PowerPoint over chalk& board and Overhead Projector and dental students preferred classical methods of chalk & board over PowerPoint. Which differs with the present study where majority of medical students preferred the classical method chalk & talk and OHP teaching. Olabiyi OO, *et al* did a study on " Students' view of a learning method: opinions of first year medical and dental students in the School of Basic Medical Sciences of University of Lagos , about problem based learning.[10] Their study observed that PBL (problem based learning) was rated high by students and need to be implemented in view of reproducible benefits. Nandi PL, *et al* performed a study on "Undergraduate medical education: comparison of problem-based learning and conventional teaching" and concluded that a combination of both the conventional and newer curricula may provide the most effective training for undergraduate medical students.[11]

With the above discussion it could be said that there is no prescribed method of teaching, but to enhance the learning and break the monotony. No matter how effective a teaching method is, it can be enhanced.

Conclusion

As per the students opinion conclusions are as follows:

- Higher retention was said in Non PowerPoint group of students and the difference is significant.
- Students opined that their ability to recall was same in both PowerPoint & non-PowerPoint modes of teaching.
- Integrated and system based teaching were equally preferred by PowerPoint & Non PowerPoint groups.
- Interactive mode is liked by significantly higher proportion of students preferring the PowerPoint.
- The liking for essay mode of student evaluation was seen to be almost same in PowerPoint and Non PowerPoint groups.
- Both PowerPoint and Non PowerPoint groups preferred MCQ mode of student evaluation in almost equal proportions.
- Since the 2 groups were not evaluated separately a comparison of their performances cannot be made. However separate evaluation methods are to be planned to be taken up in the future study.

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