

Research Article



**Perception of first MBBS medical students towards different teaching aids used in teaching learning process: A comparison between powerpoint versus chalkboard teaching**

**Kumud N. Harley<sup>1\*</sup>, Jayashree Jankar<sup>2</sup> and Kanchan M. Mohod<sup>3</sup>**

<sup>1</sup>Associate prof, Department Of Biochemistry, Mahatma Gandhi Institute of Medical Sciences(MGIMS), Sevagram, Wardha.

<sup>2</sup>Post Graduate student, Department Of Biochemistry, Mahatma Gandhi Institute of Medical Sciences, Sevagram, Wardha

<sup>3</sup>Assistant Prof, Department Of Biochemistry, Mahatma Gandhi Institute of Medical Sciences, Sevagram, Wardha.

\*Corresponding author

**Abstract**

**Background:** Proper use of teaching aids helps to retain more concepts permanently. Students can learn better when they are motivated properly through different teaching aids, such as chalkboards and power point presentations are commonly used to pique students' interest and demonstrate how things work, to clarify better and can facilitate the proper understanding, help to keep classroom live and active. Present study was thus conducted to investigate perception of conventional chalkboard and modern power point teaching methods among 1st M.B.B.S. students of Mahatma Gandhi Institute of Medical Sciences, Sevagram. **Methods:** 65 students (Male=32, Female=33) of 1<sup>st</sup> MBBS (2013-14 Batch) were administered with Questionnaire comprised of 10 questions. Statistical analysis was done by using chi-square test. **Results:** Total 73.85 % students preferred chalkboard as the superior teaching tool compared to Power Point presentation. Statistically significant difference of opinion observed between male and female with P value <0.0001. Students felt CB teaching better in terms of understanding topic more effectively (92.3%), provides more long term impact (89.23%). However, time consumption (70.77%) and poor handwriting of the teachers (41.53%,) are the major disadvantages of Chalkboard over Power Point Technique felt by the students. 63.08% students agreed whereas 36.92% disagreed that the visual impression of diagrams, text is excellent with Power Point Tool. Most of the students suggested that combination of both might be more effective and should be tried in lectures. **Conclusion:** The traditional chalkboard and power point presentations have their own merits and demerits. The combination of both might be more effective for the students to learn concept better, to clarify and to facilitate proper understanding with the topic contents.

**Keywords:** Chalkboard, Power Point Presentation, Teaching tools.

**Introduction**

Teaching aids are an integral component in any classroom. The many benefits of teaching aids include helping learners to improve comprehension skills, illustrating or reinforcing a skill or concept, differentiating instruction and relieving anxiety or boredom by presenting information in a new and exciting way.

Lauret A. Dalnoz (20<sup>th</sup> Century) U.S educator stated that "Good teaching rests neither in accumulating

a shelfful of knowledge nor in developing a repertoire of skills. In the end, good teaching lies in a willingness to attend and care for what happens in our students, ourselves and the space between us."

Lecturing is one of the commonest teaching approaches used as it is an economical and efficient method of conveying information to large groups of students <sup>(1, 2)</sup>. Students criticized lectures because they

may be boring, or even useless when given badly. It has also been suggested that only one tenth of what the lecturer is teaching is grasped by the students <sup>(3)</sup>. Now a day, the visual and audio multimedia technologies have become very popular instructional aids in education system <sup>(4)</sup>. In traditional classrooms, a teacher's basic instructional tools for displaying information are chalkboards, multipurpose boards <sup>(5)</sup>. A chalkboard (CB) is commonly used aid in lectures as a medium of classroom instruction. However, technological advancements of this era have revolutionized every field of life and teaching is no exception <sup>(6)</sup>. Recently the use of electronic presentations has become common and Microsoft PowerPoint (PPT) is the most popular and widely accepted method out of all electronic presentations <sup>(7)</sup>. Various studies have been conducted to know the best method from these available teaching tools for making teaching effective. Few study concluded that the audio-visual aids and group discussions in the teaching should be included while Dudley et al stated that the method of lecture delivery has no significant impact on learning outcomes <sup>(8)</sup>. So, in the view of above facts, the present study was conducted to investigate the effectiveness of different currently used teaching tools employed in first MBBS lectures.

## Objectives of the study

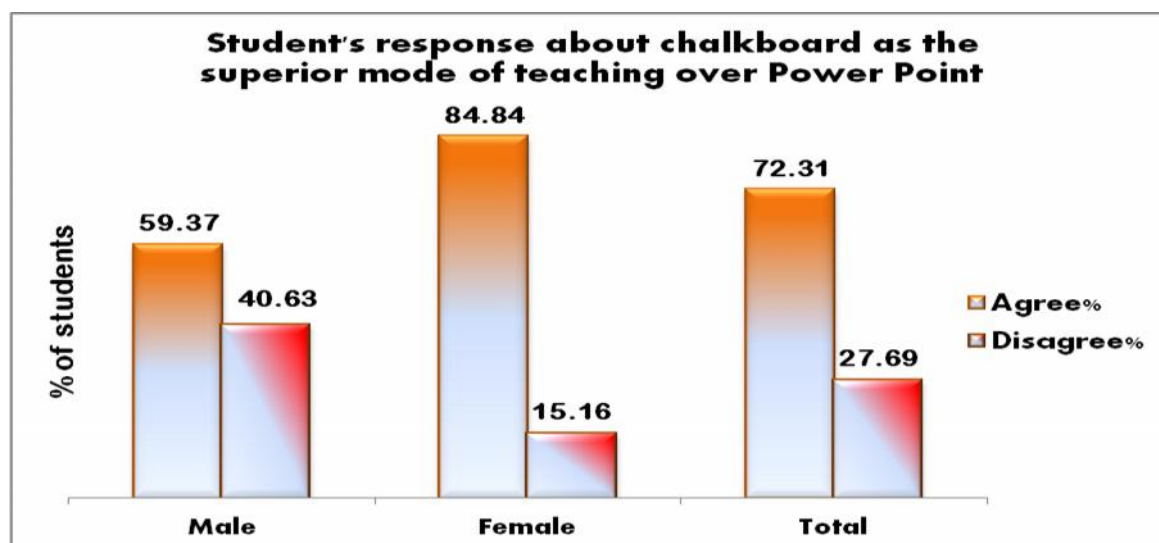
1. To explore the impact of different teaching aids on 1st MBBS medical students.
2. To know the interest and analyze the effectiveness of traditional chalkboard (CB) teaching and power point presentation (PPT) amongst 1<sup>st</sup> MBBS medical students.
3. To identify the problems faced (demerits) by medical students while using blackboard and power point presentation.

## Methods

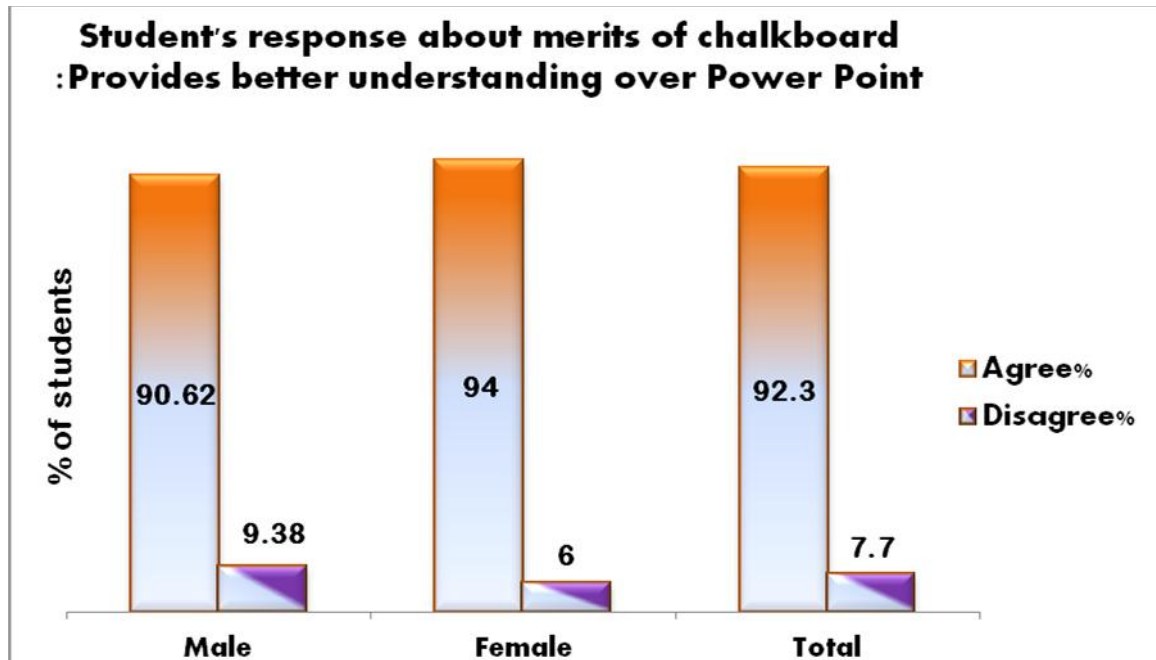
A Questionnaire based survey was conducted on 65 1<sup>st</sup> M.B.B.S. Medical students admitted in academic year 2013-2014 at Mahatma Gandhi Institute of Medical Sciences, Sevagram, Wardha (Maharashtra). Students were informed and after taking oral consent, a set of questionnaire comprised of 10 different questions in english were distributed among all 65 students to assess their feedback regarding various teaching and learning tools employed in first MBBS. Results were statistically analyzed and expressed in percentage. Level of significance (i.e Probability) P value was calculated by applying chi square test to identify gender wise opinions. P value <0.05, <0.01, <0.001 was considered as significant and P value P>0.05 was taken as non significant.

## Results

Graph 1

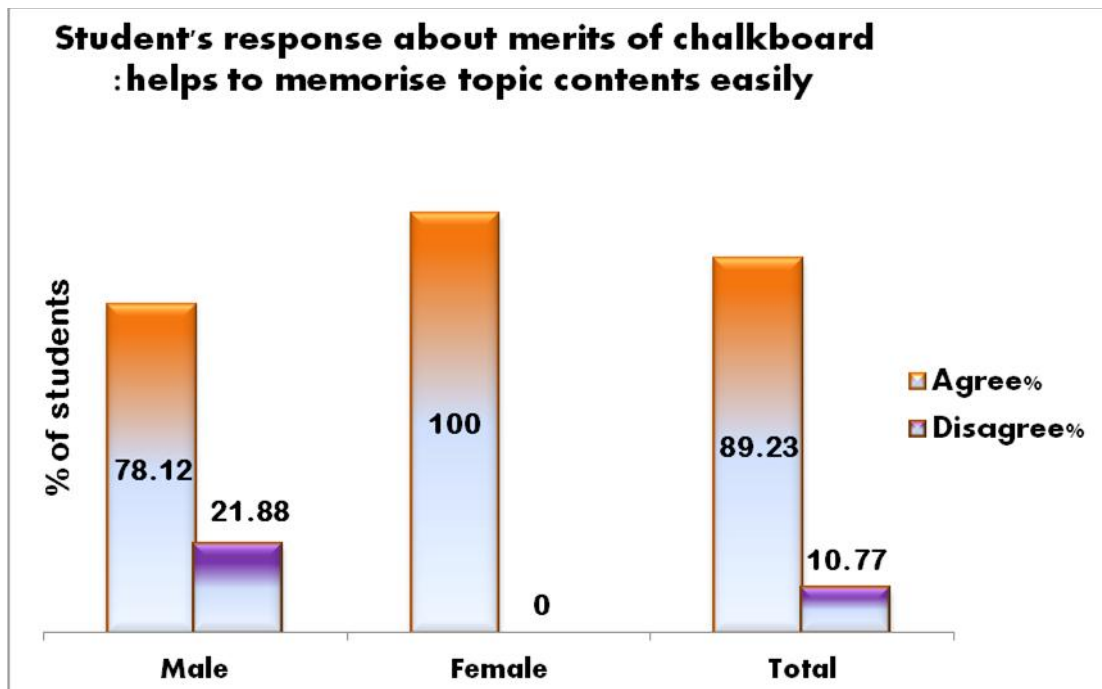


$\chi^2 = 16.77$ , two tailed P value <0.0001 (Significant association between male & Female opinion)



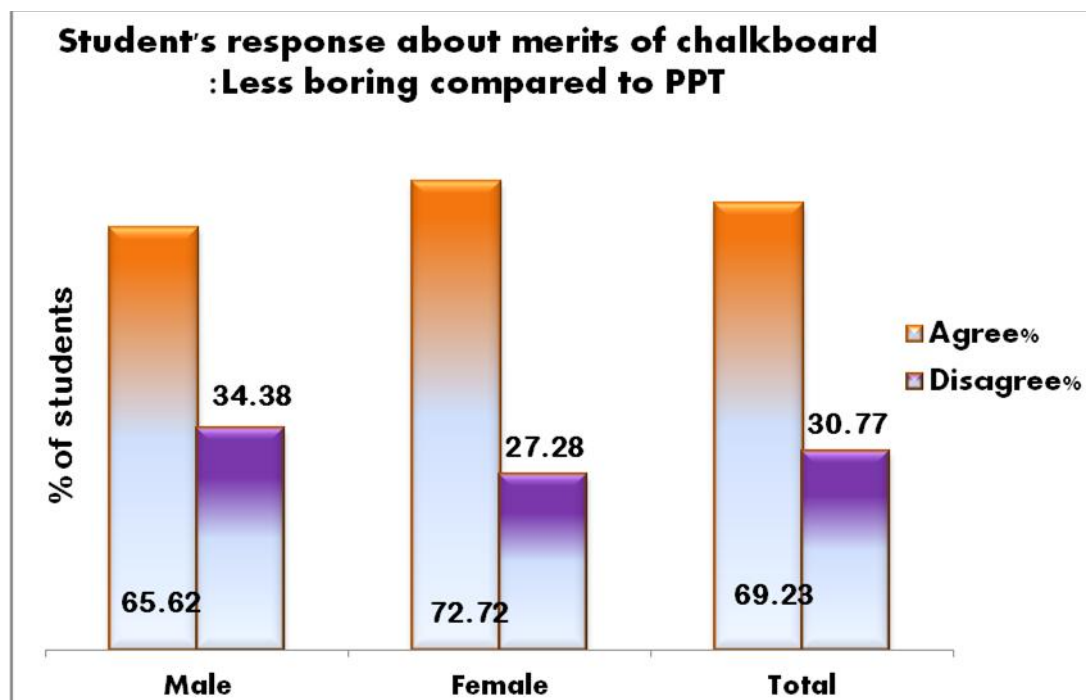
$\chi^2 = 0.64$ , two tailed P value=0.42 (Non significant association between male & Females opinion)

Graph 3



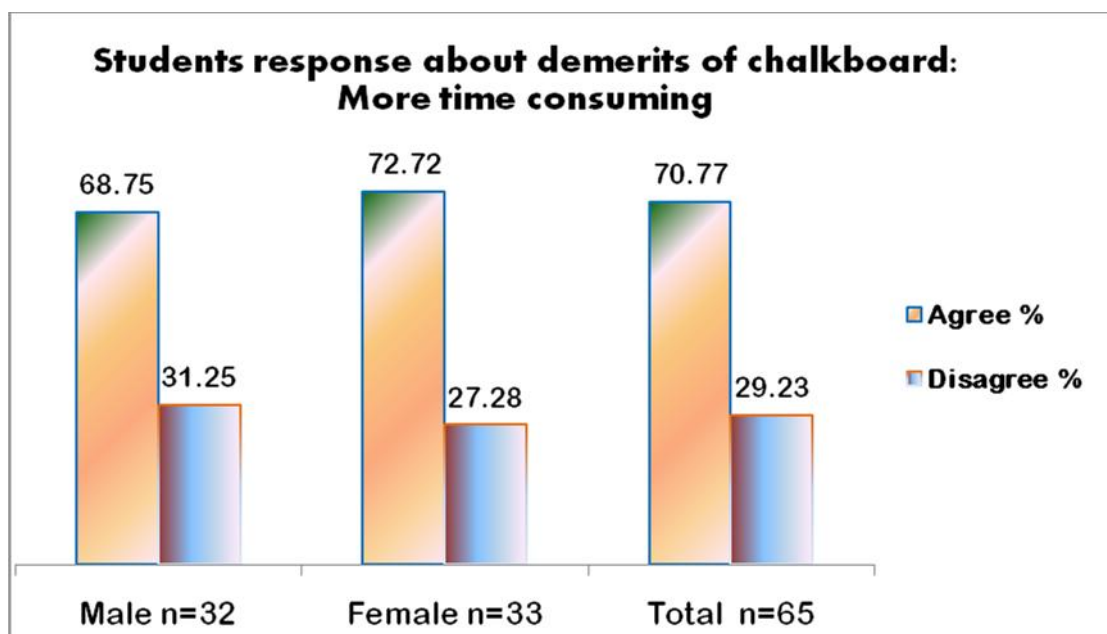
$\chi^2 = 24.72$ , two tailed P value=<0.0001 (Significant association between male & Female opinion)

Graph 4



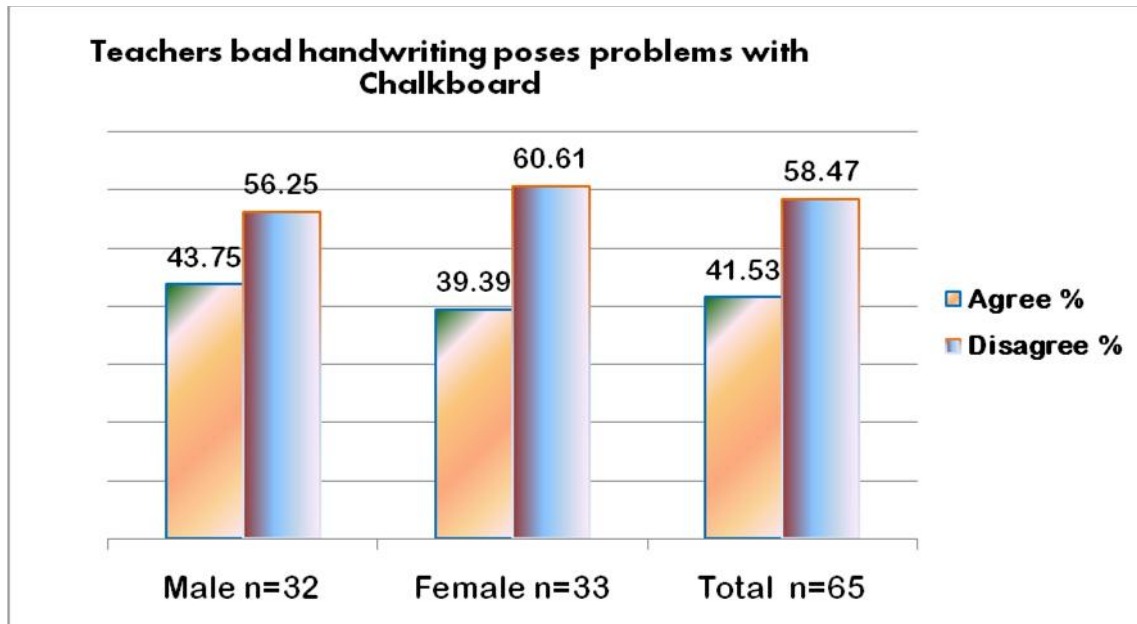
$\chi^2 = 1.15$ , two tailed P value=0.28 (Non Significant association between male& Female opinion)

Graph 5



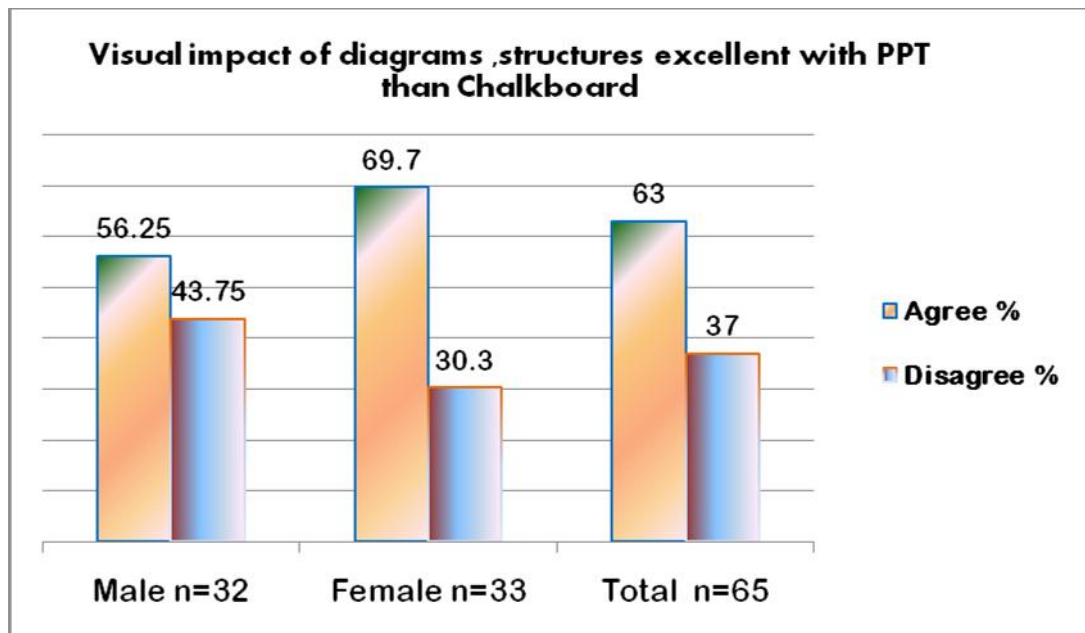
$\chi^2 = 0.38$ , two tailed P value=0.53 (Non Significant association between male & Female opinion)

Graph 6

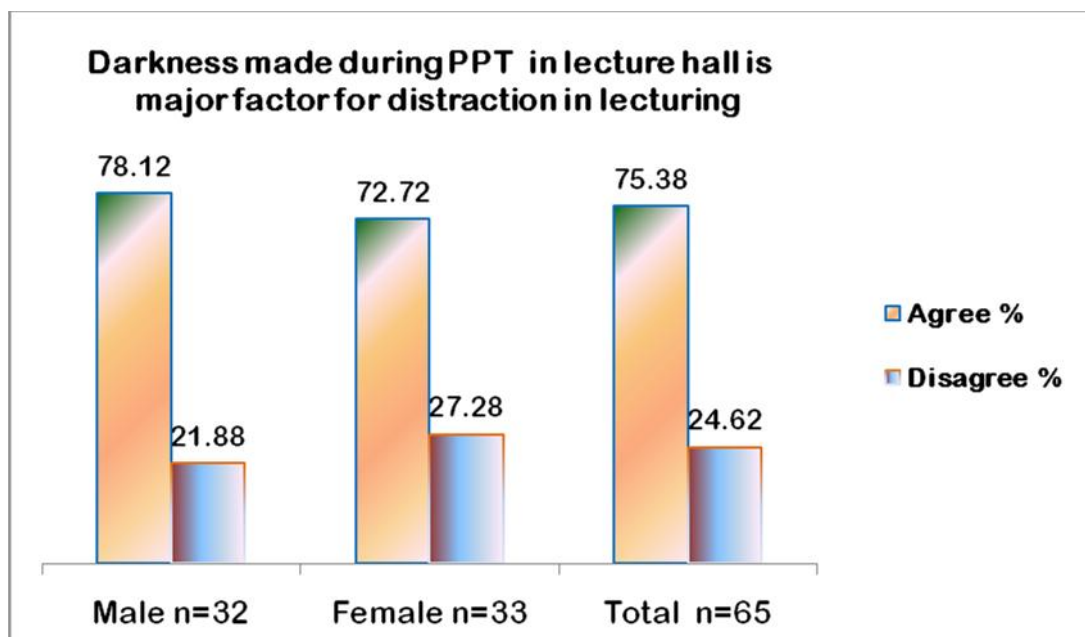


$\chi^2 = 0.51$ , two tailed P value=0.47 (Non Significant association between male & Female opinion)

Graph 7

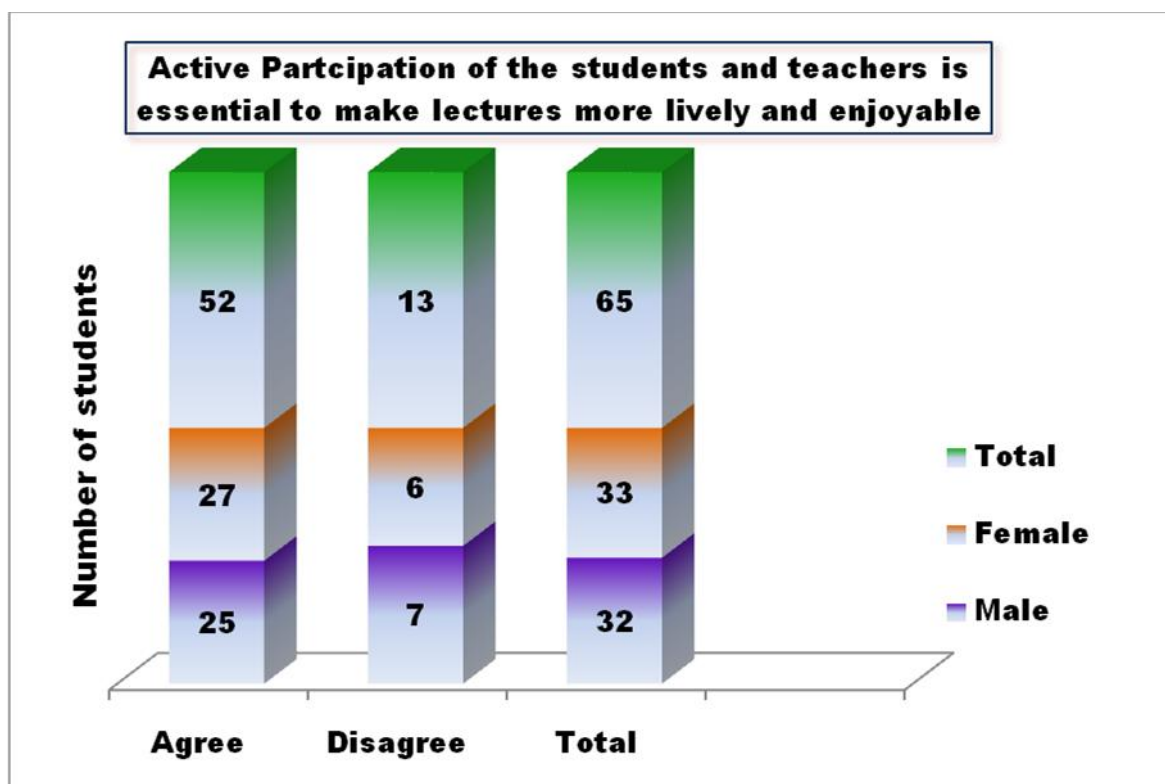


$\chi^2 = 4.20$ , two tailed P value=0.04 (Significant association between male & Female opinion)

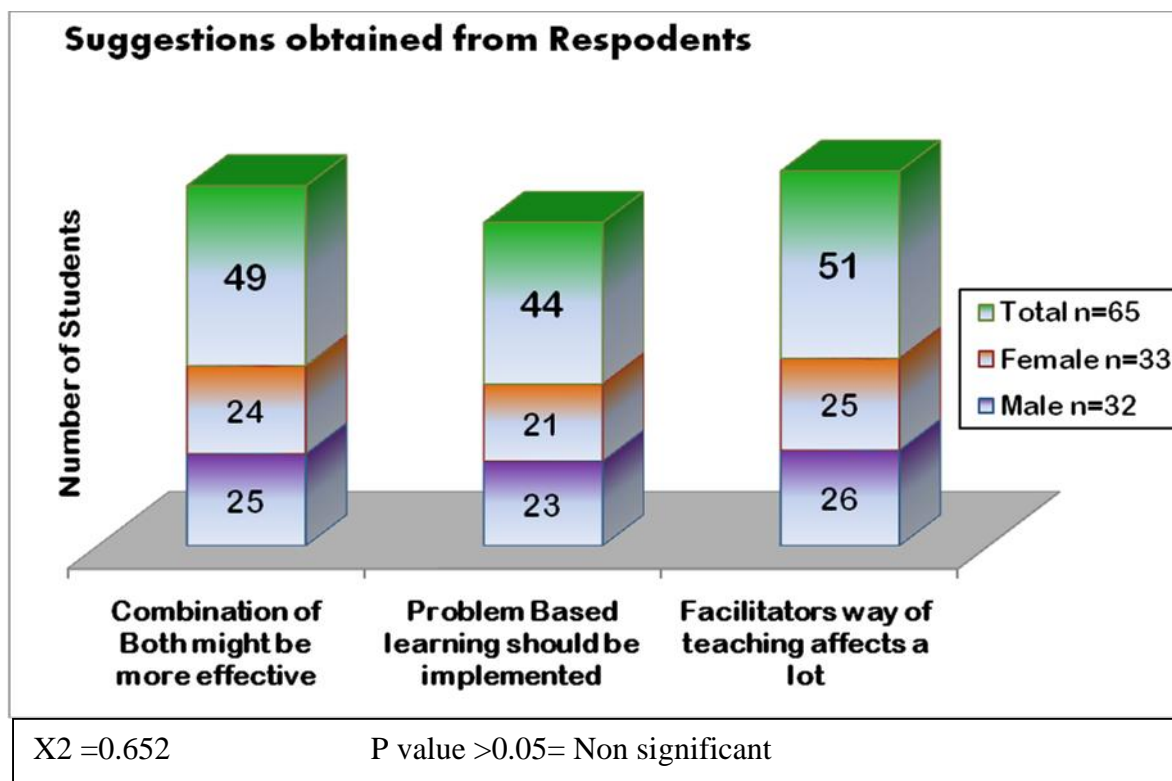


$\chi^2 = 0.67$ , two tailed P value=0.41 (Non significant association between male & Female opinion)

Graph 9



$\chi^2 = 0.004$ , two tailed P value=0.9505 (Non Significant association between male & Female opinion)



## Discussion

Learning is the processes where learners acquire the professional and ethical values, the bio medical, behavioral and clinical knowledge, reasoning and psychomotor skills necessary for professional competence.

Teaching learning aids assists in and supports student in learning, understanding the topic which the teacher teaches them. Additionally, teaching learning resources helps the teacher to test whether the students have improved their understanding of the subject or not<sup>(8)</sup>.

There are various teaching aids by which teaching learning process (T-L) can be made effective. Chalkboard (CB) is most popular type of visual aid as it has easy access and relatively simple to use. It doesn't required special equipment except for chalk, board and duster which are easily affordable. However, specialized device and power supply is utmost important in using recently popular teaching tool like Power point presentation (PPT).

In the present study 65 first MBBS student (Total students=65; Male = 32 & Females = 33) were administered with questionnaire to investigate their opinions about the various teaching tools used in teaching learning process.

## Response obtained from the students regarding which technique is superior?

### Power Point Presentation (PPT) Vs Chalkboard (CB): - (Graph 1 & Table 1)

Total 72.31 % students (males= 59.37% & females=84.84%) preferred that chalkboard is the superior mode of teaching over PPT. When gender wise opinion was assessed, statistically significant difference of opinion was observed between male and female with P value  $< 0.0001$ . However, total 27.69% students (males=40.63% & females=15.16%) were disagreed with the opinion that CB is better teaching aid as compared to PPT.



**TABLE 1 : STUDENT'S RESPONSE TO QUESTIONNAIRE**

STUDENT'S RESPONSE TO QUESTIONNAIRE	NUMBER OF STUDENTS AGREE		NUMBER OF STUDENTS DISAGREE		TOTAL STUDENTS (N=65) ( M=32; F=33)	
	MALE Nos.&%	FEMALE Nos.&%	MALE Nos.&%	FEMALE Nos.&%	AGREE Nos.&%	DISAGREE Nos.&%
Q1. Which of the following teaching aids according to you is best for taking lecture? i) Chalk board ii) Power point presentation	19 (59.37%)	28 (84.84%)	13 (40.63%)	05 (15.15%)	47 (72.31%)	18 (27.69%)
Q2. Chalk board teaching helps in understanding the topic more effectively? i) Agree ii) Disagree	29 (90.62%)	31 (94%)	03 (9.38%)	02 (6%)	60 (92.3%)	05 (7.7%)
Q3. Which teaching aids according to you provides more long term impact of the topic and thus helps to retain content easily? i) Chalk board ii) Power point presentation	25 (78.12%)	33 (100%)	07 (21.88%)	00	58 (89.23%)	07 (10.77%)
Q4. What is your opinion regarding chalkboard technique: a) Is more interactive, informative and less boring as compared to PPT? i) Agree ii) Disagree	21 (65.62%)	24 (72.72%)	11 (34.38%)	09 (27.28%)	45 (69.77%)	20 (30.77%)
Q5. Which are the problems faced by you while chalkboard was used as mode of teaching: a) Is it time consuming: i) Agree ii) Disagree	22 (68.75%)	24 (72.72%)	10 (31.25%)	09 (27.28%)	46 (70.77%)	19 (29.23%)
Q6. Is bad handwriting of teachers poses problem when chalkboard was used as mode of teaching? i) Agree ii) Disagree	14 (43.75%)	13 (39.39%)	18 (56.25%)	20 (60.61%)	27 (41.53%)	38 (58.47%)
Q7. According to you what are the merits (advantages) of PPT over chalkboard : a) Do you think visual impact of diagrams in PPT is better than CB i) Agree ii) Disagree	18 (56.25%)	23 (69.7%)	14 (43.75%)	10 (30.3%)	41 (63%)	24 (37%)
Q8. Darkness made during PPT in lecture hall is major factor for distraction in lecturing? i) Agree ii) Disagree	25 (78.12%)	24 (72.72%)	07 (21.88%)	09 (27.28%)	49 (75.38%)	16 (24.62%)
Q9. . Do you think participation of both facilitator and learner is important to make lectures more lively and effective? i) Yes ii) No	25 (78.12%)	27 (81.82%)	07 (21.88%)	06 (18.18%)	52 (80%)	13 (20%)
Q10. Suggestions & recommendations obtained: i) Combination of both techniques might be more effective (n=49) ii) Cases based learning will be useful(n=44) iii) Students also quoted those teachers teaching style is more important rather than the teaching aids used in lecturing. (n=51)	MALE (Nos. & %)		FEMALE (Nos. & %)			
	25 (78.12%)		24 (72.12%)			
	23 (71.87%)		21 (63.63%)			
	26 (81.25%)		25 (75.76%)			



### Response of the students regarding advantages (merits) of Chalkboard

(Graph 2, 3 & Table 1)

Total 92.3% students (males=90.62% & females=94%) felt that CB teaching not only helps them to understand topic more effectively but also provides more long term impact with topic contents. In addition, 89.23% students (males=78.12% & females=100%) felt that it also assists them in memorizing the topic content longer. Significant difference of opinion among male and female students were observed with P value<0.0001. However 7.7% and 10.77 % students respectively disagreed that it neither helps in better understanding and nor assists them in retaining subject content for longer.

Furthermore, as shown in Graph 4: Total 69.23 % students (males =65.62% & females=72.72) thought, CB aid as more informative and less boring aid as compared to PPT. However, Total 30.77% students (males=34.38% & females= 27.28%) were disagreed with the same. Although the proportion of agreed female students have been identified more as compared to male students but not statistically significant (P value=0.28).

### Response of the students regarding disadvantages (demerits) of Chalkboard (CB)

Graph 5, 6 and table 1:

Total 70.77% students ( males= 68.75% & females =72.72 % ) and total 41.53% students ( males= 43.75% & females =72.72% ) respectively felt that CB is more time consuming and teacher's bad handwriting is again major demerit related with Chalkboard as compared to PPT. Whereas, total 29.23% and 58.47% respectively not in accordance with the same.

Present results are in accordance with studies carried out earlier where authors noted the similar disadvantages of Chalkboard when compared with PPT<sup>(9,10)</sup>.

### Response of the students regarding advantages (merits) and disadvantages (demerits) of (PPT) over Chalkboard teaching.

Graph 7,8 and table 1:

63% students agreed (males=56.25% & females=69.7%) whereas, 37% (males=43.75% & females =30.3%) disagreed that the visual impression of diagrams is excellent with PPT as compared to CB which is in accordance with study carried out by earlier workers<sup>(10)</sup>. Furthermore significant association (P value =0.04) was observed between male and female student's opinions.

When we look at the reason behind the less attentiveness and distractions related with the PPT as compared to CB: 75.38% student (males=78.12% & 27.27%) said that the darkness created during PPT in the lecture hall is the major distractive factor and eventually responsible for less attentiveness in lectures. However, no statistically significant association is observed between male and female student's opinion (P value=0.41).

In addition, as shown in Graph 9 & Table 1: Out of 65 students, 52 students (male=25 & females=27) thought that the active participation of both learners and facilitators is more crucial factor and important reason to make teaching more effective irrespective of teaching aid used by teachers for delivering lectures.

### Suggestions obtained from students Ⓢ(Table 1)-

- 1.Total 49 students (male=25 & females=24) gave suggestions that the combination of both aids might be more effective and should be tried.
- 2.Total 44 (male=23 & females=21) recommended that case base learning should be implemented to improve clinical knowledge and comprehension skills.
- 3.Total 51 students (male=26 & females=25) thought that the teacher's teaching style is Most important rather than the aids used in lecturing.

### Conclusion

Teaching and learning is the two way process where active participation of both the teacher and learners is very important. Both Conventional chalk board and modern techniques such as PPT teaching have their own merits and demerits. Combination of conventional aid with modern techniques should be tried to deliver the content of lecture so as to make lectures effective, interesting and less boring and thus,

learners can be benefited more. Regardless of the teaching modes used by teachers, teacher's teaching style may play a key role in making lectures interesting and more effective. So, frequent feedbacks from the students will definitely help teachers to update and improvise themselves in teaching.

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## References

1. Joorabchi B. Construct and use a problem-based programmed lecture. *Med Teach* .1982;4:6-9
2. Georgiev G, Macpherson C, Rooney PJ. A novel extension of problem-based learning: Problem-based lecture presentation by students. *Med Educ* .1995;29(e.g. 2):255-256
3. McLaughlin K, Mandin H. A schematic approach to diagnosing and resolving lecturalgia. *Med Educ* .2001;35():1135-1142
4. Glenda C. Rakes . Open Book Testing in Online Learning Environments. *Journal of Interactive Online Learning* .2008;7(1):1-7
5. Baxi SN, Shah CJ, Parmar RD, Parmar D, Tripathi CB. Students' perception towards different teaching aids in a Medical college. *African Journal of Health Professions Education* .2009;(1):15-16
6. Prasad S, Roy B, Smith M.. The art and science of presentation: Electronic presentations. *J Postgrad. Med* .2000;46:193–198
7. Florence Lalvarwami, Sarada Ningthoujam, Uttam, Naithok, Manoj Mishra. Perception of postgraduate students on teaching aids. *J of Medical Society* .2013;27(1):36-38
8. Hanmant S. Amane, Shilpa N. Kaore, Suresh V Vasvani. Evaluation of Existing Teaching Methods Used For Lecture Classes In Pharmacology. *Int J Pharm Bio Sci* .2013 Jan;4(1):193 – 198
9. Dr. Hitesh Mishra, Dr. Vipin Kumar, Dr. Pankaj Kumar Modi. Comparison of different teaching methodologies in a Medical college in North India. *Journal of Basic & Applied Medical Research* .March 2013;2(6):464-469
10. A Garg, PV Rataboli, and KMuchandi. Students' opinion on the prevailing teaching methods in pharmacology and changes recommended. *Indian J Pharmacol* .2004;36(3):155-158