

Comparison of PowerPoint Versus Blackboard in Teaching Informed Consent to Second MBBS Students

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Abstract

Introduction: Informed consent taking is one of the important skill required by a doctor prior to giving medical or surgical treatment to patients. Skills of informed taking are not upto the mark. So to impart these skills amongst various methods of teaching to large group, authors intend to find whether PowerPoint or blackboard is better to teach informed consent procedure. **Methods:** A cross-sectional study at PES Institute of Medical Sciences & Research (PESIMSR), Kuppam for 2 months involving 100 medical students belonging to Second Professional MBBS. Black board, projector, pre and post questionnaires relating to perception of teaching method and performance in the topic taught. After randomization, one group was taught with blackboard and the other group was taught using PowerPoint and assessed. **Results:** There was no statistically significant difference between the post-test results of PowerPoint class and black board class. Students gave better ratings for blackboard teaching. **Conclusions:** The students in blackboard classes however scored higher (5.38) than in PowerPoint classes (4.76), but the t test for difference of means was not statistically significant. Students liked blackboard better.

Key words: PowerPoint teaching, blackboard teaching, student performance, student preference

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Introduction and Background

Informed consent taking is one of the important skill required by a doctor prior to giving medical or surgical treatment to patients. Most of the time the task of obtaining informed consent is taken by doctors in their unit. Hence it is very important for the interns to know about procedure of informed consent taking. Current scenario is very poor with respect to informed consent taking where printed forms are filled out and given to patients to sign with minimal or no understanding of what is going to happen. Intentionally or unintentionally this is paternalism which is unethical and against the principle of informed consent^{1,2}. Informed

consent is taught in Forensic Medicine in second year MBBS and applied after three years during internship and beyond. After this time gap the students hardly remember anything. But due to lack of adequate faculty resources and also minimal time given for internship orientation programme, small group discussions or problem based learning methods are not practical. Large lecture group is feasible. So amongst various methods of teaching to large group, authors intend to find whether PowerPoint or blackboard is better to teach informed consent procedure^{3,4,5,6}.

Materials and Methods

Study design: Cross-sectional study
Study setting: PES Institute of Medical Sciences & Research (PESIMSR), Kuppam.
Study period: 2 months
Study population: 100 medical students belonging to Second Professional MBBS and consenting for the study

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Sampling method: Purposive sampling

Sample size: 100 students

Inclusion Criteria: Second Professional MBBS students belonging to PESIMSR, Kuppam were included in the study.

Study tools: Black board, projector, pre and post questionnaires relating to perception of teaching method and performance in the topic taught. Informed consent was taken.

Method of collection of data: Students were divided into two groups odd number roll numbers and even number roll numbers of 50 each. One group was taught with blackboard and the other group was taught using PowerPoint. Both the groups pre and post questionnaires was given with MCQ's relating to the content of the teaching method and feedback of what was being taught. The scores received was analyzed with respect to perception and performance of the students.

Statistical Analysis of data: Data of this study was tabulated using Microsoft Excel 2007 software and the results was analyzed at www.vassarstats.com. Statistical significance of the difference of means was tested by t- test and $p < 0.05$ was taken as statistically significant.

Results and Discussion:

There was statistically significant improvement in the performance when pre-test and post-test of blackboard and PowerPoint classes were analysed separately. However, there was no statistically significant difference between the post-test results of PowerPoint class and black board class. The students in blackboard classes however scored higher (5.38) than in PowerPoint classes (4.76), but the t test for difference of means was not statistically significant. But students rated blackboard class better than PowerPoint class (Table No.2).

The results were similar to studies conducted by deSa SB et al³ and Waheeda et al⁴. The results of deSa SB et al³ were statistically significant ($p < 0.001$) and 67.5% students preferred chalkboard teaching in their study. The results of Waheeda et al⁴ were also statistically significant ($p < 0.05$).

Conclusion:

The performance of the students was almost same in both blackboard and PowerPoint classes. However, students perceived and rated blackboard classes better than PowerPoint classes.

Conflict of Interest: None declared

Ethical Clearance: Obtained from Institutional Human Ethical Committee, PESIMSR, Kuppam

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Table No.1 : Student Ratings of PowerPoint (PPT) and Blackboard (BBD)												
PowerPoint classes ratings				Questions	Blackboard Classes ratings							
1	2	3	4		1	2	3	4				
0	5	29	9	I learnt a lot through lecture method	3	5	25	14				
1	11	25	6	I remember much of what I learnt through the lecture method	0	8	22	18				
3	9	25	6	The lecture is the best method for teaching	3	7	16	22				
4	8	21	10	I relied on the lecture to learn what i need to know	3	12	17	16				
14	13	12	4	The lecture makes me avoid responsibility for my own learning	13	13	14	7				
8	11	17	7	The learning makes learning relatively superficial	13	7	15	13				
16	16	9	1	I have low tolerance for challenge because of lecture method	21	12	8	6				
4	16	14	8	I have to figure out what was important to write during the lecture	8	10	16	11				
8	9	18	8	The lecture requires that I work very hard for good grades	5	11	19	11				
4	6	22	11	The lecture increases student participation	2	10	14	21				
0	3	11	28	Lecturers who use the lecture method know the subject very well	2	1	13	32				
2	5	22	14	The lecture prepares me very well for the test	5	3	24	16				
2	5	22	14	The lectures are excellent for transmitting large amount of information	1	6	18	23				
3	4	15	21	Appropriate for presenting materials that are too complex for students to understand	3	10	11	24				
Ratings scale: 1-Not Agree, 2 Agree Little, 3- Agree Moderately, 4- Agree Fully												

Table No.2: Descriptive Statistics of the test scores					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	ppt_pretest	3.92	37	1.441	0.237
	ppt_posttest	4.76	37	1.588	0.261
Pair 2	bbd_pretest	3.88	40	1.713	0.271
	bbd_posttest	5.38	40	1.904	0.301
Pair 3	ppt_posttest	4.76	37	1.588	0.261
	bbd_posttest	5.35	37	1.947	0.32
Pair 4	diff_ppttests	0.84	37	2.141	0.352
	diff_bbdtests	1.51	37	1.924	0.316

Table No. 3: Paired sample t test between various groups of test scores									
		Paired Differences			t	df	Sig. (2-tailed)		
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	ppt_pretest - ppt_posttest	-0.838	2.141	0.352	-1.552	-0.124	-2.38	36	0.023
Pair 2	bbd_pretest - bbd_posttest	-1.5	1.881	0.297	-2.102	-0.898	-5.043	39	0
Pair 3	ppt_posttest - bbd_posttest	-0.595	2.743	0.451	-1.509	0.32	-1.318	36	0.196
Pair 4	diff_ppttests - diff bbdtests	-0.676	2.759	0.454	-1.596	0.244	-1.489	36	0.145