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Research Article

EVALUATION OF RECEPTIVITY OF THE MEDICAL STUDENTS IN A LECTURE OF A LARGE GROUP

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ABSTRACT

Background: Lecturing is widely used teaching method in higher education. Instructors of large classes may have only option to deliver lecture to convey informations to large group students.**Aims and Objectives:** The present study was to evaluate the effectiveness/receptivity of interactive lecturing in a large group of MBBS second year students. **Material and Methods:** The present study was conducted in the well-equipped lecture theater of Dhanalakshmi Srinivasan Medical College and Hospital (DSMCH), Tamil Nadu. A fully prepared interactive lecture on the specific topic was delivered by using power point presentation for second year MBBS students. Before start to deliver the lecture, instructor distributed multiple choice 10 questionnaires to attempt within 10 minutes. After 30 minutes of delivering lecture, again instructor distributed same 10 sets of multiple choice questionnaires to attempt in 10 minutes. The topic was never disclosed to the students before to deliver the lecture. **Statistics:** We analyzed the pre-lecture & post-lecture questions of each student by applying the paired t-test formula by using www.openepi.com version 3.01 online/offline software and by using Microsoft Excel Sheet Windows 2010. **Results:** The 31 male, 80 female including 111 students of average age 18.58 years baseline (pre-lecture) receptivity mean % was 30.99 ± 14.64) and post-lecture receptivity mean % was increased upto 53.51± 19.52). The only 12 students out of 111 post-lecture receptivity values was less (mean % 25.8± 10.84) than the baseline (mean % 45± 9.05) receptive value and this reduction of receptivity was more towards negative side. **Conclusion:** In interactive lecture session with power point presentation students/learners can learn, even in large-class environments, but it should be active-learner centered.

Key words: Receptive level, Lecture, Large Group.

INTRODUCTION

The term, “Lecture is derived from Latin word "lectus past participle of legere - to read a discourse given to an audience or class for instruction". The origin of the lecture is, probably, from pre-date the printing press by centuries. Though, books were scarce and valuable, making the lecturer the gatekeeper of knowledge, which the student had to commit to memory.[1] Lecturing is widely used teaching method in higher education. Instructors of large classes may have only option to deliver lecture to convey informations to large group students.[2]We assume that, lecturing is the only way to teach a large group and to a small group.[2] The conventional style of lecture have many challenges to both teachers and learners in most of the large classes. Though a conventional lecture format may be effective for efficiently delivering a large content to a large number of students, these one-way exchanges often facilitate passive and superficial

learning and even, conventional lecture fails to encourage student motivation, confidence, and enthusiasm". [3,4] Thus, consequentially, the conventional lecture model often lead to students completing their undergraduate education without skills.[5,6] Thus, lecturing in large class environments are still a critical dimension of research that how we can change lecturing session from ineffective to more effective and what was post-lecture outcome.

Aims and Objectives: The primary objective of the study was to evaluate receptivity of the MBBS second year medical student in a lecture of large group.

MATERIAL and METHODS

After getting approval from the Institutional Ethics Committee, the present study was conducted in Dhanalakshmi Srinivasan Medical College and Hospital (DSMCH), Tamilnadu. The study subjects were MBBS 2nd year students of the DSMCH. The lecture theater was well equipped with audiovisual; air-conditioned with good seating arrangement. Before starting a lecture on the specific topic among 111 MBBS second year students, instructor distributed questionnaire of Pre-test (Pre-lecture) multiple-choice-ten-questions set to each student. Approximately10 minutes time given to attempt the questions. The pre-test questionnaires sets were re-collected from the students after the10minutes. The instructor started to deliver lecture upto 30 minutes by using power point presentation. The lecture session was interactive to make the students attentive. This lecture contents were not disclosed and even students had never attended the same topic elsewhere before the pre-test. After end of the lecture, instructor again distributed same set of post-test (post-lecture)-multiple-choice ten-questionnaires for ten minutes. After, that each paper was evaluated and analyzed by using various statistical methods. This study was conducted in the month of November 2013.The Pre-test and post-test Questionnaire sets were same.

Statistics analysis; The statistical calculation was done by applying the paired t-test formula by using www.openepi.com version3.01 online/offline software and by using Microsoft Excel Sheet Windows 2010.

RESULTS

The 111 students (including 31 male and 80 female) participated in the study and their average age was 18.58 year. The baseline (pre-test) receptivity mean % of the students was 30.99 (Standard Deviation=SD 14.64) and post-test receptivity mean% of the same students was increased upto 53.51 (SD19.52) (See table1, 2). The 8, 55, 35, 1 students post-test receptivity was 0%, 1-30%, 31-60%, 61-90% respectively. There is no one achieved 91-100% receptivity (See Fig.1). Thus, there was 22.51% mean receptivity of the students increased after the large group lecture. Only 12 students out of 111post-test receptivity values was less (mean % 25.8, SD10.84) than the baseline (mean % 45, SD9.05) receptive value, and this reduction of receptivity was more towards negative side.

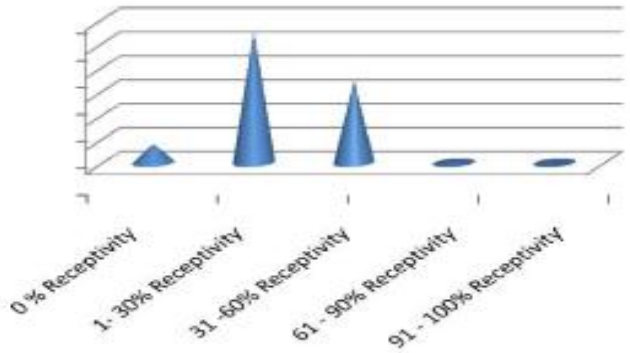

Fig1: Number of Students showed Receptivity

Table 1: Pre-test, Post-test Receptivity Mean % and its p-value

Sample size		**Mean± SD (Receptivity %)**		**Mean Difference**	**95% CI Lower limit**	**95% CI Upper Limit**
Pre-test	111	30.99±14.64				
Post-test	111	53.51±19.52				
Result	***t* statistics**	***df***	**p-value[1]**			
Equal variance	-9.72389	220	<0.0000001	-22.52	-27.0842	-17.9558
Unequal variance	-9.72389	204	<0.0000001	-22.52	-27.0863	-17.9537
		F statistics	**df(numerator, denominator)**		**Pvalue[1]**	
Test for equality of variance[2]		1.77778	110,110		0.002789	

[1]p-value (two-tailed), [2]Hartley's *f* test for equality of variance.

Results from OpenEpi, Version3, open source calculator-t_test mean

Table2: Pre-test, Post-test Receptivity Mean % and its Differences Mean % of the only 12 Students who scored less than Baseline Receptive level

Sample size		**Mean ± SD (Receptivity %)**				
Pre-test	12	45±9.05				
Post-test	12	25.8±10.84				
Result	**t statistics**	**df**	**p-value[1]**	**Mean Difference**	**95% CI Lower limit**	**95% CI Upper Limit**
Equal variance	4.71	22	0.0001066	19.2	10.746	27.654
Unequal variance	4.71	21	0.0001192	19.2	10.7226	27.6774
		F statistics	**df(numerator, denominator)**		**p-value[1]**	
Test for equality of variance[2]			11,11		0.5595	

[1]p-value (two-tailed), [2]Hartley's f test for equality of variance

Results from OpenEpi, Version3, open source calculator-t_test mean

DISCUSSION

Theory is nothing but the statements that connect the things and their purpose".[7] "When theory does not helpful for the answer, then the theory can be turned into a provocative question that will helpful to learn by organize & applying present data that should be relevant with field – work experience".[8] In the present study we were interested to activate knowledge processing in learners by giving informative questioning method. We asked 10 questions (Appendix1; Fig.1) based on the lecture content, before and after the lecture, each question given four multiple- choice options. Asked all students to attempt the correct option, after evaluation of each set of questionnaire, analyzed the obtained marks by using paired t-test. When we give multiple-choice Questions to attempt the correct options, the students select the relevant informations, by organize the knowledge material and integrate it mentally to choose the correct option. So, in the present study we evaluated receptivity of the students with test questions on a variety of kinds of knowledge covered in the lecture content. In the present study baseline (pre-test) and post-test receptivity mean % of the students was 30.99, 53.51 respectively. So, the improvement of the receptivity of the students was only 22.51 %mean ($p<0.0000001$); obviously this improvement was more. We already know that lectures as a rule have little educational value. People learn by doing, not by watching and listening. The only 12 students out of 111post-test receptivity values was less (mean % 25.8, SD 10.84) than the baseline (mean % 45, SD 9.05) receptive value. Probably, it could be possible that students, who were not attentive during lecture session and at the time of attempting the questions, scored less marks. Apart from 12 students, another eight (8) student of the study receptive levels were 0% percent; i.e.; their pre-test receptive level were same as post-test, probably they could not be attentive or they were not taking much interest to listen the lecture or they were not understanding the contents of the lecture or could be possibility that instructor not explained properly. Even, " Phillip Wankat wrote, that anything you can do in a large class you can do better in a small one"[9] The lecture was interactive to make students more attentive in the present study and "even, (Bloom, 1984) reported that, the best formats for teaching is one-to-one interaction between an teacher and learner. In this setting, teacher can easily take possible feedback and providing the student to work at his/her own pace and level and the teacher to guide the lesson as per the needs of the students. Close interaction among the teacher and learner also helps to engage learners and stimulates them to become an active learner in the learning process".[10]

CONCLUSION

So, our main conclusion of this study is interactive lecture session with power point presentation students/learners can learn, even in large-class environments. It is true that, large group classes with lecture-centered give limited opportunities for students to interact with the instructor. It is possible to deliver lecture effectively and needs more effort in large group class, even if you're not a big-league entertainer. It is necessary to make logistical arrangements far enough in advance, provide plenty

of active learning experiences in the classroom instead of depending on straight lecturing.

Limitations of the study: In the large group lecture within one hour, it is impractical to interactevery student in–terms of knowing their understanding ability. Thus, it is difficult to justify, why the post-test receptivity was less than the baseline receptive value of few (12 students in this study) students of this study, it could be possible that students who were not attentive during lecture session and at the time of attempting the questions. Apart from 12 students, another eight (8) student of the study receptive levels were 0% percent; i.e.; their pre-test receptive level were same as post-test, probably they could not be attentive or they were not taking much interest to listen the lecture or they were not understanding the contents of the lecture or could be possibility that instructor not explained properly.

Conflict of the interest: None.

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