

Original article:

Study of effectiveness of test in lectures (SETIL study)

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Abstract

Present medical teaching is challenging for teacher as teacher should be aware of all aspects about the particular subject including recent advances. Present teachers use various modules during lectures. This study was undertaken for the first MBBS students in learning histology. Pre- lecture test and post lecture test helps teacher to identify intelligence capacity, understanding and alertness of student in class during lecture. It also helps teachers to self assess the topic. With this aim eight theory classes on histology , for fifty 1st year undergraduate medical student were conducted. At the beginning of each class the students were administered for pre lecture test and post lecture test. Paired t-test were used to check for the significant differences. The mean score in the pre and post – lecture test for each student over the eight classes were used in analysis.

In all eight classes the mean post lecture test scores were significantly greater than the mean pre lecture test scores. Paired t- tests was performed to check the statistical significance. Tests incorporated into didactic lectures may be useful method.

Keywords:, Pre-test, Post-test, Self-assessment.

Introduction

Nowadays because of challenges in ever changing medical teaching learning styles as well as changes in assessment philosophy & methods and tools,conventional teaching shifts towards innovative modules.[1] Lecture method is common and effective method for large group teaching in medical colleges[2]. There are very limited studies to establish the evaluation of lecture by pre and post-test. This study was undertaken to identify intelligence capacity, understanding and alertness of student in class during lecture. It also helps teachers to self assess the topic.

Aims & Objectives

1. To help learning of medical students
2. To assess the medical teacher
3. To assess the memory of the students.

Material & Methods

The study was conducted on first MBBS students (50 students batch) in the department of Anatomy (histology)l. The study group of eight lectures including topics of tongue,oesophagus&stomach,excretory system,respiratory system,gastrointestinal system,nervous system,female reproductive system,liver & gall bladder.

The students were asked to come prepared for the topic from prescribed books as well as from handouts given by department. At the beginning of each class after the attendance a pre – lecture test was taken. It had pre – lecture test consisted of five questions prepared by another faculty. The topic was then covered with the help of the power point presentation displayed through a LCD projector.

This lecture went on for forty to forty five, minutes after which post- lecture test was administered with identical questions as the pre – lecture test. No answer were released to students. The pre and post – lecture test were designed in such a manner that they followed the learning objectives of the lecture with specific topics. . At the end of the eighth lecture a questionnaire was distributed to the class asking them whether they found the pre and post lecture tests were useful (feedback). A five points Likert scale was used to elicit their responses, with higher scores indicating that they found the tests were useful.

Statistical Analysis

The mean and standard deviation of the pre and post lectures test scores for each of the eight classes were calculated. Paired t - tests was performed to check the statistically significant differences in the pre and post – lecture test scores for each classes. The paired t-test was utilized to look for the means of the pre and post lecture tests scores respectively. The mean and standard deviation of the subjective scores on the Likert scale were also calculated. A ‘P’ value less than or equal to 0.05 was considered statistically significant.

Observations & Results

In all eight sessions it was evident that the post – test scores were increased compared to pre – test scores and it was statistically significant ($p < 0.05$)

Sessions	Attendance	Mean +/- SD	P-value
I	43	Pre 4.23 +/- 1.58 Post 8.28 +/- 1.56	P<0.05
II	44	Pre 4.58 +/- 1.30 Post 8.94 + 1.03	P<0.05
III	41	Pre 4.5 +/- 1.6 Post 8.16 +/- 1.3	P<0.05
IV	48	Pre 4.6 + 1.3 post 7.8 + 1.7	P<0.05
V	47	Pre 4 +/- 1.42 Post 8.5 +/- 1.2	P<0.05
VI	45	Pre 4.12 +/- 1.6 post 7.34 +/- 1.4	P<0.05
VII	44	Pre 4.7 + 1.43 Post-8.2 +/- 1.44	P<0.05
VIII	46	Pre 4.68 + 1.6 Post-8.7 + 1.2	P<0.05

In all eight classes the mean post – test scores were significantly greater than the mean pre – test scores. This indicated that all students found the tests was beneficial.

The teachers felt that tests were beneficial to assess their skills and also self-assessment.

Discussion

Didactic lectures are important method of teaching which has advantages and disadvantages [3]. In many countries, there has been a option of active learning methods such as problem based learning (PBL) and team based learning (TBL). Last et al 2001, prince et al 2003 documented that there is a comparable level of knowledge in students, who studied through PBL method and conventional lecture based method. However others studies have shown that students in a conventional curriculum have a significantly higher level of knowledge. [4, 5, 6]

Nayak et al 2006 are of the opinion that hybrid method, incorporating feature of both methods, would be the most suitable method for teaching pathology [7].

In this study, the teacher attending the classes did not prepare the questions. Therefore the teacher was not biased about the student’s performance and knowledge. In this study, we noticed that presenting the

students with the topic and analyzing them before and after the lecture classes actually improves the outcome. Another objective of this study was to see the performance of the students in the pre and post-test which may have good outcome performance in the examination.[9,10]. The understanding the topic checked by conducting the post – test. The results of this study showed significant improvement in the post – test mean scores compared to the pre – test mean scores (Table 1). It was noticed that students with a higher level of baseline knowledge are likely to score better in post – lecture test, Lukic et al 2001, Krasno et al 2006 studies have who shown that students scores in formative assessments correlated well with their scores in the summative examinations[11,12]. A limitation of the present study was that long term outcome was not assessed.

Conclusion

Study showed the importance of tests into lectures may be useful method to improve students understanding and performance in examinations. It is also useful for the self-assessment of the teachers.

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