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Medical Quiz Module to Improve Student Learning

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ABSTRACT

According to The Medical Council of India, under "Regulations on Medical Education, 1997, there is scope for trying innovative approaches. They had also observed that lectures alone are not generally adequate as a method of training. To investigate the role of quiz as a learning Tool in Medical Education and to find out whether quiz can serve as an active learning method to medical undergraduates. The present study is a Descriptive study involving First year MBBS students conducted in the department of Physiology. The response scores were expressed in the figures for both participants and for audience separately. Statistical analysis used: one way ANOVA using Graph Padprism5 software. For the participants, (91.66%) like the quiz, (91.66%) found time for the Quiz was adequate, (91.66%) found the Quiz useful for learning, (91.66%) boosted their confidence. For the audience (95.55%) like the quiz, (86.66%) found time for the Quiz was adequate, (88.89%) found the Quiz useful for learning. This approach ensured active learning with greater participation of the students in acquiring knowledge. The performance of the students and their participation was very much encouraging

Keywords: Medical Education, Physiology, Quiz, Preclinical

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INTRODUCTION

The concept of 'active learning' is gaining much momentum, especially in the field of Medicine. Lectures alone are not generally adequate as a method of training and are poor means of transferring and acquiring information, even less effective at skill development and in generating the appropriate attitudes. It is recommended that every effort should be made to encourage the use of active methods related to demonstration and on firsthand experience. New methods like Problem-based learning, Quiz to name a few, are being introduced, based on the said concept. So our objective was to study the Role of Quiz as a Teaching and Learning Tool in Medical Education. According to The Medical Council of India, under Regulations on Medical Education, 1997, there is scope for trying innovative approaches [1].

The Medical Council of India has also observed that lectures alone are not generally adequate as a method of training and are poor means of transferring / acquiring information and even less effective at skill development and in generating the appropriate attitudes. It suggests that every effort should be made to encourage the use of active methods related to demonstration and firsthand experience [2]. There is a scope for trying innovative approaches, especially in institution like ours where staff-student ratio is good. It is already reported that group discussions have been employed successfully to teach majority of the topics in Community Medicine in the pre-clinical years [3]. Some topics are taught using modern audio-visuals such as television; video-cassette recorder, slide projector with tape recorder in para-clinical years [4]; and small student research projects have been used as a tool to teach epidemiology [5]. In the present study, we wanted to investigate the role of quiz as a learning Tool in Medical Education and to find out whether quiz can serve as an active learning method to medical undergraduates.

MATERIALS AND METHODS

Subjects and Methods

This study was done in the Department of Physiology at the tertiary level teaching hospital, after the institutional ethical clearance. In this descriptive study First Year MBBS students of both the sex were included.

The Quiz competition was held on the topics covered in lectures till that date. The 12 participants were divided into 4 groups, each consisting 3 students. Rest of the students attended the competition as audience. The Quiz competition consisted of 4 rounds. In the 1st round the questions on History, Definitions & Numericals, the 2nd round was Audio-Visual round, 3rd round contained Applied Physiology Questions and 4th round was Rapid Fire Round. After the competition, a Pre-validated Questionnaire based on 5 Point Likert scale was given to students, both audience & participants for their feedback.

The performance of the individual student was assessed by the total number of marks scored. Feedback was elicited by - asking questions such as a) What did you like about the Quiz? b) What you did not like about the Quiz? And c) Any Suggestions?. The data obtained was analyzed for statistical significance using one way ANOVA. The values are expressed in percentages. P value less than 0.05 was considered the level of significance.

RESULTS

Based on the responses of students, the questionnaire was analyzed and interpreted. The response scores were expressed in the figures for participants (Fig-1-4) and for audience (Fig-5-7). For the participants, (91.66%) like the quiz, (91.66%) found time for the Quiz was adequate, (91.66%) found the Quiz useful for learning, (91.66%) boosted their confidence. For the audience (95.55%) like the quiz, (86.66%) found time for the Quiz was adequate, (88.89%) found the Quiz useful for learning.

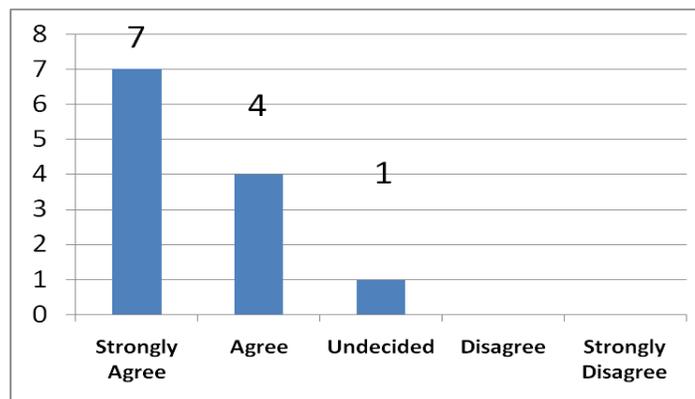


FIG-1: The response of the participants for the question, I like the Quiz. There were no response in the category of disagree and strongly disagree.

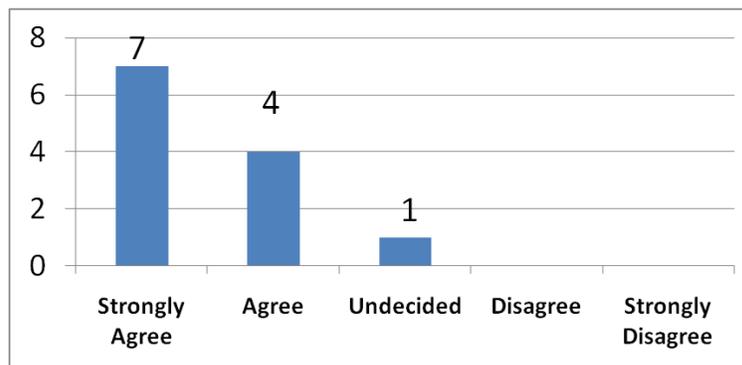


FIG-2: The response of the participants for the question, t time for the Quiz was adequate. There were no response in the category of disagree and strongly disagree.

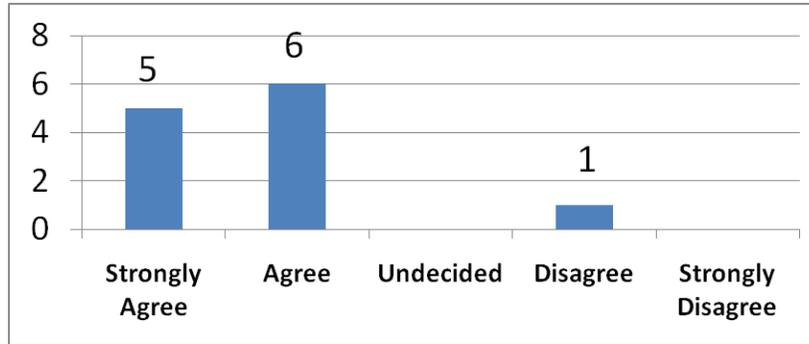


FIG-3: The response of the participants for the question, I found the Quiz useful for learning Physiology. There were no response in the category of undecided and strongly disagree.

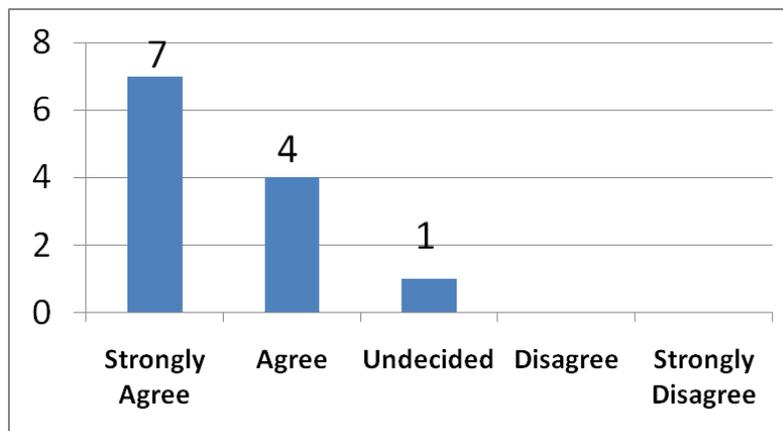


FIG-4: The response of the participants for the question, It Boosted My Confidence. There were no response in the category of disagree and strongly disagree.

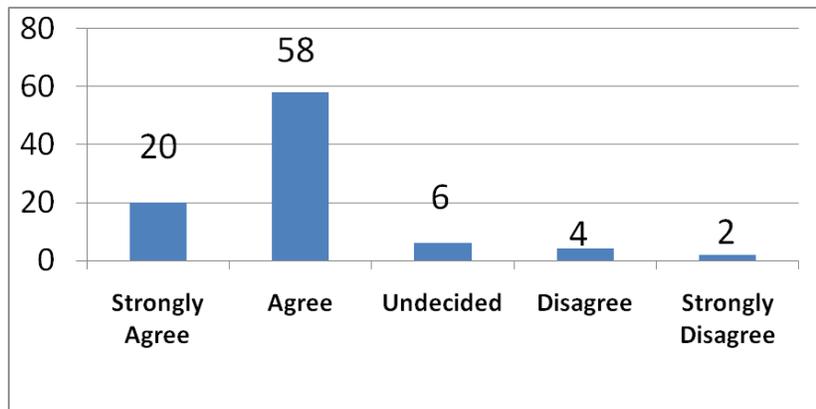


FIG-5: The response of the Audience for the question, I like the Quiz. The response in the category of undecided, disagree and strongly agree was statistically insignificant.

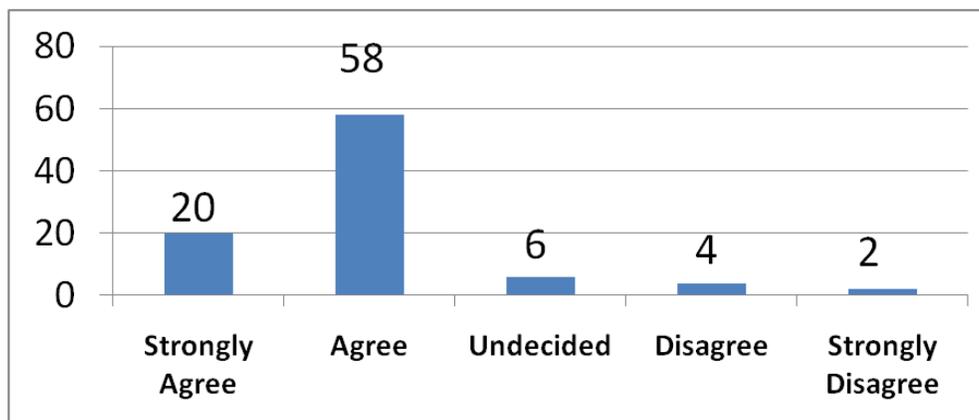


FIG-6: The response of the Audience for the question, Time for the Quiz was adequate. The response in the category of undecided, disagree and strongly agree was statistically insignificant.

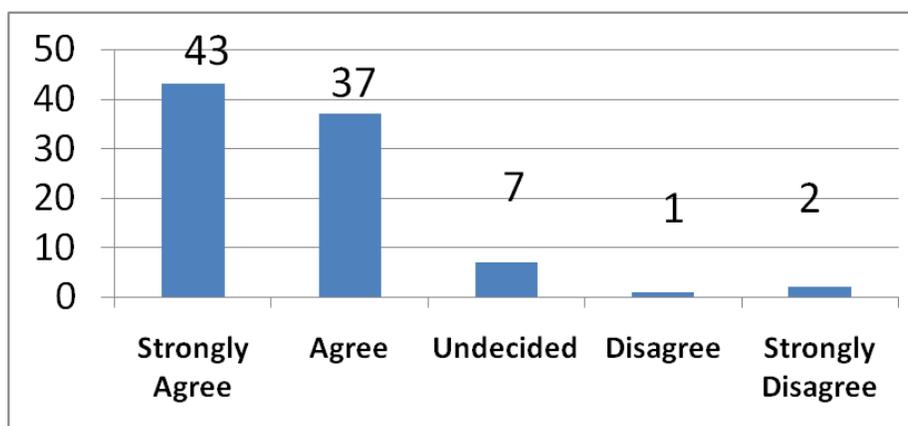


FIG-7: The response of the Audience for the question, I found the Quiz useful for learning Physiology. The response in the category of undecided, disagree and strongly agree was statistically insignificant.

DISCUSSION

In the present study, we wanted to investigate the role of quiz as a learning Tool in Medical Education and to find out whether quiz can serve as an active learning method to medical undergraduates. Through this method we wanted to increase the awareness and interest in the topic. This was made possible in our institute because of good staff-student ratio. We got the encouraging result. We found that found the quizzes were very useful for learning and it also boosted their confidence.

Similar result was shown by some authors [5, 7]. In a study from Michigan, U.S.A., interactive video disc units were used for teaching pathology laboratory cases. Each of these units had case studies followed by a quiz. These units were extremely valuable supplemental tools for students (5). In another study from Australia, case study was used as a novel teaching/learning format. The learning experience consisted of a quiz followed by a class discussion. This approach ensured greater participation of the students in the teaching/learning

process. This format was beneficial both to the students and the teacher. It also served as an additional option for teaching/learning methods acceptable to students (7).

However, these methods also had some disadvantage. Most important problem which we faced that it was very much time consuming. Much of the time was devoted mainly for framing the questions in quiz. So they cannot be organized frequently specially in the colleges where student staff ration is less. Also all audience cannot participate actively inspite of our much motivational efforts. But this method is found to be very useful for participants [8].

To conclude, this approach ensured active learning with greater participation of the students in acquiring knowledge. The performance of the students and their participation was very much encouraging. This approach ensures greater participation of the students in the teaching/learning process. Suitable balance can be brought about between this technique of Active Learning and the older ones to suit the needs of the students.

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