

Original Research Article

FISH-BOWL TEACHING TECHNIQUE IN PHASE III MBBS STUDENTS: AN OBSERVATIONAL STUDY

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Abstract

Background: Medical education is in the midst of a major tectonic shift in the 21st century, with the increasing classroom size that has its inherent problem of student engagement and facilitation of learning for better outcomes. Lecture followed by fish-bowl discussion can be used as one of the strategies to reinforce the content of lecture.

Material & Methods: An observational study was conducted by taking a lecture on National Health Mission for 20 min, followed by assessment (post lecture assessment). After the lecture, fish-Bowl activity was conducted for 30 min on 60 students. Each of 30 students in each demonstration room were divided into inner and outer circle (i.e. 15 in each circle) by assigned them respective numbers as 1 & 2, all the 1 form inner circle and all 2's form outer circle. The same topic which was taught in lecture was allotted for discussion for 10 min. Discussion was guided by teachers in each demonstration room and followed by plenary presentation for 5 minutes. At the end, Post fish-bowl assessment and feedback was taken. The same activity was done in another demo-room on remaining 30 students.

Result: There was a statistical improvement in post fishbowl score (Mean=6.0) than post lecture (Mean=3.7). Lecture followed by fish bowl discussions stimulated interest in the class 86.7% of the students; 70% students were able to retain information better.

Conclusion: Combination of lecture and fish bowl is a better satisfying teaching technique for the students in some difficult topics.

Key words: Lecture, fish-bowl teaching technique, Nation Health Mission.

Introduction

Medical education is in the midst of a major tectonic shift in the 21st century, with the increasing classroom size that has its inherent problem of student engagement and facilitation of learning for better outcomes¹. Many students are not attentive and active during Lecture class in medical college. Lecture followed by fish bowl discussion can be used as one of the strategy to reinforce the content of lecture². The "Fish Bowl" is a teaching strategy that aids in active participation of students. Student-centered learning facilitates both the students and the teacher to share the focus, encourages teamwork, communication and collaboration is also learnt³. The current lacuna with the traditional didactic teaching, which is still the most prevalent technique of information transfer in the medical curriculum, is that it may not

facilitate learning as it is still considered teacher centric, with most students not being attentive, and hence, there is no scope for active learning⁴. To circumvent these problems, medical educationists have developed an array of teaching methods such as small-group teaching, seminars, tutorials, brainstorming, and so on. Teaching and learning are like two sides of a coin. There are many factors that affect student performance, of which some are in the hands of teacher. Among these, motivation is the most relevant, and other factors that foster cooperative learning are feedback and individual participatory activities⁵. Small group teaching methods that foster learning and motivate active participation are buzz groups, fishbowl structure, crossover group, circular group, and horseshoe group. Moreover, several research studies confirmed that such small group teaching methods should be an important component of undergraduate medical education^{6,7}. So the present study was conducted to analyze the utility of Fish Bowl technique of teaching along with lecture in a Medical College

OBJECTIVE:

- (1) To evaluate the effectiveness of fish bowl teaching technique with lecture in Community Medicine.
- (2) To assess the perception of students in conducting fish bowl activity.

METHODOLOGY:

The present study is an observational study conducted in the Department of Community Medicine at Mamata Academy of Medical Sciences, Hyderabad. A total of 60 phase III MBBS students were taken as per convenience sampling in September 2022. Those students who were present on the day of activity and were willing to participate were included in the study. Those students who didn't give consent were made as audience.

Fish Bowl Methods:

A teacher conducted a lecture on National Health Mission for 20 min, followed by assessment by Multiple choice questions (post lecture assessment). After the lecture, students were briefed about Fish Bowl activity. This activity was conducted for 30 min on 60 students. Total 60 students were divided into two halves in 2 separate demonstration rooms. Each of 30 students in each demonstration room were divided into inner and outer circle (i.e. 15 in each circle) by assigned them respective numbers as 1 & 2, all the 1 form inner circle and all 2's form outer circle. Inner circle was given National rural Health Mission as a topic for discussion based on lecture. They were instructed to hold a discussion with the representative members of their group. The inner fish group was further divided into 3 subgroups with participants in each subgroup as n=5. Each subgroup spoke on a subtopic allotted to them. Outer circle was asked to observe inner circle and were called the fish watchers. Fish-watchers were instructed to listen carefully to their fish and take notes on their fish's contribution to the discussion. Later the places of inner and outer circle were reversed and a National Urban Health Mission topic was given for discussion for 10 min. Discussion was guided by teachers in each demonstration room and followed by plenary presentation for 5 minutes. One student from each group was asked to report about the active participation of the other group in discussion. At the end, Post fish-bowl assessment and feedback was taken by means of a questionnaire. The same activity was done in another demo-room on remaining 30 students.

Data was entered and analyzed using (IBM SPSS version 20 Armonk, NY). Mean and standard deviation was calculated for post lecture and post fish –bowl assessment scores, and analyzed by independent sample 't' test. $P \leq 0.05$ was considered statistically significant.

Each correct answer in the assessment form (total 10 questions) was given 1 mark and wrong answer as 0 mark. Perception of students regarding fish bowl activity was judged by feed - back form. Qualitative variable such as students interest, retention of content, students satisfaction, concept of the topic, better method, problems encountered was taken in the feedback form and analyzed as frequency and percentages.

The study was approved by the Institutional Ethics Committee, Mamata Academy of Medical Sciences, Bachupally, Hyderabad. In addition, written informed consent was taken from all the participants, after explaining the purpose of the study.

RESULT:

There was a statistical improvement (t=9.475, p=<0.001) in post fishbowl score(Mean=6.0±1.22) than post lecture(Mean=3.7±1.43) as per table 1.

Table 1: Comparison of the student’s performance in Pre test and Post test

| Marks | Frequency(N) | Mean±SD | t- value | p-value |
|----------------|--------------|----------|----------|---------|
| Post Lecture | 60 | 3.7±1.43 | 9.475 | <0.001 |
| Post fish bowl | 60 | 6.0±1.22 | | |

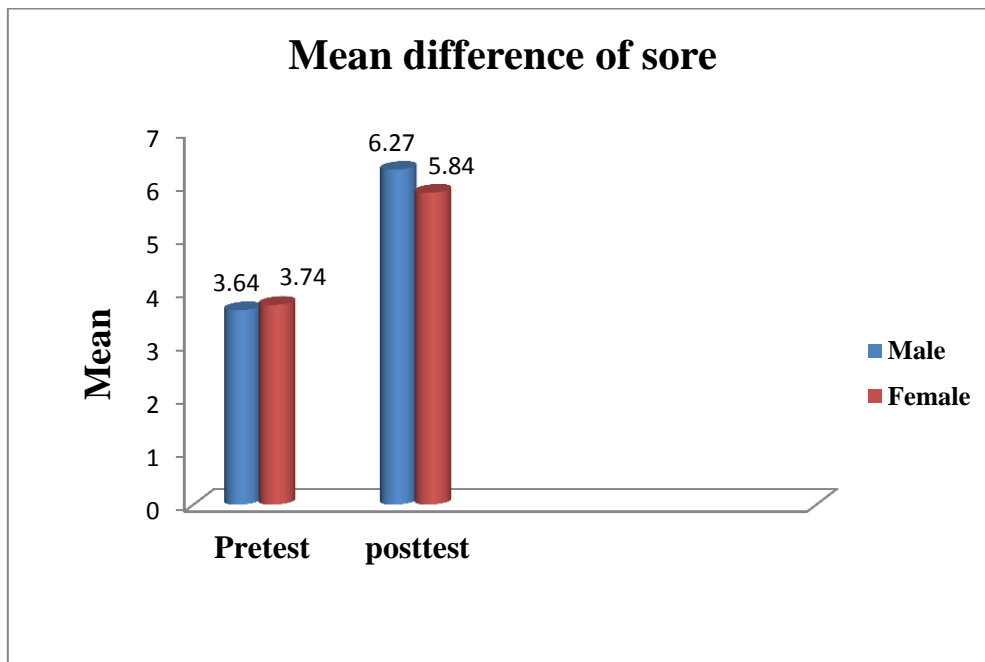


Figure 1: Mean score of pretest and post test in Male and Female

According to figure 1, the means score of post test of male (6.27±0.985) and female(5.84±1.32) students was more than that pretest score.

As per table 2, lecture followed by fish bowl discussions stimulated interest in the class amongst 86.7% of the students. The retention of study subject was more (70%) in in lecture with fish bowl discussion.

During fish bowl activity, 71.6% students did not face any problem during discussion of the topic. 83.3% students perceived that fish bowl activity covered important concept (table 3).

Table 2: Feed back of the participants regarding fish-bowl & Lecture

| S.NO | Feed back | Lecture Alone (%) | Lecture with Fish bowl Discussion |
|------|---|-------------------|-----------------------------------|
| 1 | Which method stimulated interest? | 13.3 | 86.7 |
| 2 | Which method was able to retain more information? | 30 | 70 |
| 3 | Student satisfaction was more with which method? | 26.7 | 73.3 |
| 4 | Which method is better? | 33.3 | 66.7 |

Table 3: Feed back of the participants regarding fish bowl

| S.NO | Feed back | Yes (%) | No (%) |
|------|--|---------|--------|
| 1 | Did you face any problem during discussion of the topic? | 28.3 | 71.6 |
| 2 | Did the discussion advance the understanding of the group? | 70 | 30 |
| 3 | Did the Fish-bowl cover important concept? | 83.3 | 16.7 |

Discussion:

The common and greatest challenge faced by the teacher in a Medical College is attentiveness of students and their involvement and participation in the classes⁸. Average attention span of an adult is 15-20 minutes which can be augmented only, by the implementation of small Group Teaching methods. Small Group Teaching helps to achieve skill by contribution of both teacher and students, it is differed from the traditional passive method which relay on sole effect of the lecturers. Moreover the tough curriculum in a Medical College need to be made interesting by the implementation of new teaching learning strategies⁹. Fish bowl discussion followed by lecture was one of SGT method.

The present study was done to observe the effectiveness of Fish-bowl method followed by lecture. Moreover, lecture with fish bowl is more student-centered, while lecture alone is more teacher centered¹⁰. In our study there was a statistical improvement in post fishbowl score than post lecture. Our study findings were supported by shivalingiah J et al¹¹ in their study it is documented that post fish –bowl score was statistically significant.

In our study, lecture with fish-bowl discussion inculcated interest in the students was 86.7%, which was similar to study done by Kundoor N et al¹². However study done by Pavani G et al.² found that 95% students showed interest in fish bowl method. Lecture followed by discussion have always inculcated interest in students as seen by baetty et al¹³ which was in collaboration with our study. In addition to that in present study, 70% students were able to retain information better with fish-bowl compared to lecture alone. Our findings are in concurrence with Kundoor N et al¹² Whereas Pavani G et al² reported 90% students were able to retained knowledge better after discussion. Moreover, the retention of knowledge in memory in the end- result of any teaching method.

In the present study, student satisfaction was more with lecture along with fish –bowl (73.3%) when compared with lecture alone which is in agreement with the study done by Kundoor N et al¹².

In our study (66.7%) students were agreeing to have combination of teaching methods which is similar to a study done by Chaudhary et al¹⁴ that reported 67.1% students favoured combination of teaching methods. Another study done by Pavani G et al² showed combination of teaching methods was liked by majority (90%) students rather than a single method. Combination teaching method is most satisfied teaching method because the inherent deficiency of one method is compensated by the other¹⁵.

CONCLUSION:

The present study has proven the educational effectiveness of fish-bowl teaching method. The students prefer to be more active in teaching methods rather than passively listening to didactic lectures. Methods such as fish bowl activity helps learner to think critically, increase curiosity and interest, aids better retention and give confidence to ask questions and express their views on controversial topics.

RECOMMENDATION:

The use of fish bowl technique as one of the method for short group discussion in medical curriculum is rare. This may be recommended for incorporation in the curriculum of all educational institutions. Fish bowl technique will promote self directed learning by instant resolution of confusion helping students with the art of holistic learning. It is recommended to train the faculty for different types of small group teaching methods.

LIMITATION OF STUDY:

The present study should be replicated in different medical colleges and other educational institutions to approve this method as a better teaching-learning method.

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