International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Impact Factor (2012): 3.358

Perception of Medical Students on an Activity Done to Promote Interaction in Large Classes

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Abstract: ***Current trends in medical education require a focus on active learning, critical thinking, collaborative learning and problem solving which are fostered by an interactive learning environment. However, as the number of students per class increase creating interactive environments has become a challenge in the 21st century. The objective of the study was to determine student perceptions on an activity done to promote interaction in a class with a large number of students. Two semi-interactive teaching learning activities were conducted and feedback was obtained using a self-administered questionnaire. Analysis revealed that the students have a positive perception on the activity. Logistical issues such as guidance for group work and maintaining effective channels of communication needs to be addressed when conducting such activities. Student's complaints regarding inadequate timefor preparation for such activity may indicate that the curriculum is overcrowded.***

Keywords: Large classes, Interactive activities, Medical education, Student perceptions.

1. Introduction

As the demand for higher education increases so do the number of students per class. Teaching classrooms with large numbers of students have become a challenge in the 21st century. Current trends in medical education require a focus on independent learning, critical thinking and problem solving. Didactic lectures to large classrooms are known to be less effective when instructional goals involve the application of information or facts, the development of thinking skills or the modification of attitudes. Maximizing interaction in class (with the role of the 'teacher' as a 'mentor'- the one that directs learning rather than one that imparts knowledge) is known to promote active learning, heighten attention, provide feedback to the teacher/student, encourage higher level of thinking, and increase satisfaction for both teacher and the student [1]. These factors in conjunction leave the teacher in a quandary as to the most effective way of 'teaching' students in the 21st century.

According to Steinert & Snell [1] a lecture may become interactive due to a two-way interaction between the presenter and the participants, discussion among participants or by the involvement of students with the material or the content of a lecture. It does not necessarily mean that the audience has to do all of the talking. In all cases, however, interactive lecturing implies active involvement and participation by the audience so that students are no longer passive in the learning process. However it is noted that attempts at promoting interaction with large groups of students result in most students sitting silently while a few make weak attempts at responding. Most often the students have no questions at the end of a lecture and when asked for an explanation of a concept they avoid eye contact.

Currently, practice is not informed by anything other than experience in higher education. Therefore it is necessary to document innovative teaching learning methods and their success in order to promote evidence based practice in teaching in higher education. It is also equally important to be sensitive to how comfortable the students are with such methods in order to implement innovative teaching learning activities.

This study was designed to determine student perceptions on an activity done to promote interaction in large classes.

2. Methods

This cross-sectional study was conducted on the 2011/12 intake of medical students to the Faculty of Medicine, University of Peradeniya, Sri Lanka. These students are mainly exposed to traditional teacher centred lectures. A lecture topic was identified for the purpose of this intervention. Time allocated for the lecture was 2 hours; two separate one hour sessions. The student group was divided in to 6 sub-groups of 40 students according to the registration number. Three thought provoking statements, within the scope of the lecture were provided to the students via an e-notice in the faculty web and a hard copy on the student notice board, one week prior to the lecture. Two student groups were allocated a single topic. Each group was requested to prepare a 10 minute Power Point presentation on the topic allocated, to be presented during the lecture. While one member was requested to make the presentation the other members were requested to prepare for a discussion on their allocated topic.

The hall arrangement was front facing with 20 chairs in each row, with free lecturing space and a multimedia projector in front. During the lecture the students of a particular group were requested to sit together. Of the two groups allocated for one topic, one group was selected randomly by the lecturer and invited to make their presentation. Once the presentation was complete the lecturer provided a feedback on the presentation and a discussion was initiated with the entire student body. Subsequently the lecturer made a presentation on what the students were expected to learn from the experience. The same process was followed for all three statements.

Five days prior to the second session an article from a journal related to the topic of discussion was uploaded to the Faculty e learning platform; the Modular Object-Oriented Dynamic Learning Environment as additional reading for the students. The students were requested to read the article prior to attending the lecture. This was communicated to the students via a hard copy on the student notice board and through the Faculty web site. The article was discussed during the lecture.

At the end of the second session, the 164 students present in-class were requested to provide feedback on the 2 hour Teaching/learning activity using a self-administered questionnaire.

Anonymity of the responses were ensured and all students were informed that responding to the questionnaire is purely voluntary and that if they do not wish to participate they may return an unfilled questionnaire. Getting student response on a teaching learning activity is a part of quality assurance process within the faculty. Therefore formal ethical approval was not sought.

The questionnaire consisted of 5 questions prepared by the authors; 3 best response questions, one question with 10 yes/no responses, and one open comment.

Quantitative data analysis was done using Microsoft Office Excel. The open comments were categorised based on thematic analysis.

3. Results

The response rate was 100%

3.1 Comparison of Teaching/Learning Activity with Traditional Lecture

Response	*Percentage of students who agreed*
Different but not sure whether it helped to learn more	22
Could have been better if it was in the traditional way	06
Was not different from other lectures	01
Helped gain more knowledge	24
Helped gain more knowledge and stimulated thinking	47

Inference:
Majority perceived that this activity helped gain more knowledge and stimulated thinking than a traditional lecture

3.2 Time spent in preparation for lecture

Table 2: Time spent in preparation for lecture

Response	*Percentage of students who agreed*
Missed other work	08
Managed with difficulty	26
Could manage	38
Time spent was beneficial	17
Enjoyed preparing for the lecture	09

Inference:
Majority claimed that they managed to spend time in preparation for the lecture but a significant number managed with difficulty. However only a few felt that the time spent was beneficial or enjoyable

3.3 Perception of students regarding the preparatory session

Table 3: Perception of students regarding the preparatory session

Response	*Percentage of students who agreed*
Was enthusiastic for discussion	56
Felt encouraged to discuss	61
Had enough time for discussion	36
Was useful and clarified doubts	54
Emphasized the relevance to medical practice	69

Inference:
During the discussion in preparation for the activity a majority of students had been enthusiastic and encouraged and had clarified their doubts and identified the relevance to medical practice. However a majority felt that they did not have enough time during the preparatory period, for discussion.

3.4 Perception of students regarding the in-class session

Table 4: Perception of students regarding the in-class session

Response	*Percentage of students who agreed*
Was enthusiastic for the discussion	74
Felt encouraged to discuss	66
Had enough time for discussion	51
Was useful and clarified my doubts	79
Emphasized the relevance to medical practice	85

Inference
The aspects of enthusiasm, encouragement, clarification of doubts and identifying the relevance to medical practice had been further enhanced during classroom sessions. However a majority felt that they did not have enough time during the lecture for discussion.

3.5 Provision of teaching /learning material

Table 5: Provision of teaching /learning material

Response	*Percentage of students who agreed*
Did not know about it	59
Was aware about it but couldn't go through it	13
Read it anyway	05
It stimulated my thinking	13
It stimulated my thinking and stimulated reading more	09

Inference:
Majority were not aware of extra reading material provided

3.6 Thematic analysis

Thematic analysis of the comments section revealed 3 main themes

1. That the activity was better than a traditional lecture
2. That it was stimulating
3. Logistical issues such as inadequate time for preparation, active participation of only few and inadequate guidance needs to be addressed.

4. Discussion

Constructive controversies were used as a means of developing a discussion during this activity. It is encouraging to note that the majority of students had perceived this intervention as more beneficial than a traditional lecture. Students appreciated the fact that it stimulated their thinking. However, literature reveals that students prefer activities that are a mixture of traditional lecturing and cooperative learning tasks [2] Even though majority had been enthusiastic and encouraged during preparation for the lecture it was significant that their overall perception of the beneficial aspects of the teaching learning activity was more during the lecture than during preparation for the activity. Even though a majority perceived that the preparatory phase helped gain more knowledge and stimulated thinking few felt that the time spent was beneficial or enjoyable. It may be important to identify at this stage whether working with peers diminished the value of the activity in their eyes. Availability of time appeared to be a problem since a majority felt that they did not have enough time in preparation or during the lecture for discussion. This may either be as a result of inadequate time management skills among students or overcrowded curricula. It may be prudent at this stage to emphasizes the importance of self-study among students while ensuring manageable curricula which leaves adequate time and provides motivation for such activities.

It may be important to question at this moment the way in which students conduct group activities. Determination of students' insight into the benefits of collaborative learning and group work is important. Some guidance to maximize the time and efficiency of group work, developing mechanisms (eg. rubrics) for peer assessment to grade individual contributions by the other group members may be useful to enhance the productivity of such sessions. Ensuring fluidity of membership in groups maybe considered to promote participation by individuals as when groups contain strangers the members are known to be in their best behavior.

However it was disappointing to note that despite utilizing different methods to inform students of the reading material majority were unaware of it. This reflects the importance of preparing students for their role in interactive lectures and establishing and maintaining proper channels of communication during interactive programs in order to ensure that students engaged in activities assigned. The student-teacher communication gap may partly be responsible for the discontinuity in the lines of communication. Apart from classic notice boards and e notices familiar to the teacher it may now be timely to explore opportunities of communicating via social network such as Face Book and Twitter which may be more popular among students [3], [4].

It is also noteworthy that a minority were aware of the reading material provided but had not gone through it. This may reflect problems in attitude as well as language issues which require students to spend long periods of time in reading understanding assigned material. As teachers, we cannot assume that students will know the importance of interactive activities, how to participate in a particular activity or what behavior is appropriate. Machemer & Crawford query whether students understand why faculty members work so hard to get them engaged with course material [5]. It is important for students to understand that involvement and deep, lasting learning go hand in hand. Accustomed to being passive, students must be trained to become active participants in the process of learning. It may be important to be explicit about the benefits of such activities, set rules at the beginning of the activity on what is expected and outline how the session will be conducted. It is equally important to present this in writing in order to prepare and make student accountable for taking an active role in the process of learning [6].

Even though studies have shown that there is a positive correlation between examination performance and interactive teaching learning activities [7] we are of the opinion that this type of activity cannot be evaluated on examination performance alone.

5. Conclusions

Overall the students have a positive perception on the activity done to promote interaction in large classrooms. . However logistical issues such as ensuring adequate time for discussion in-class and in preparation, guidance for group work and maintaining effective channels of communication with the students need to be addressed when conducting such activities.

6. Future Scope

A comparison of this type of semi-interactive teaching learning activity with a traditional approach may be useful

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