Original Article

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Active Learning in Undergraduate Students by Seminars

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Abstract

Background: The subject of Anatomy is taught to undergraduate students primarily using traditional teaching learning methods like lectures and small group tutorials. These methods do not involve the students actively in the teaching learning process to a very great extent. Seminars prepared and presented by students are an example of collaborative learning which is student centred and promotes active learning leading to a better comprehension of the subject. *Aim:* The present study was undertaken with the aim of promoting the practice of active learning in undergraduate medical students. *Methodology*: Groups of students presented seminars in the presence of the entire class and faculty with help of using audiovisual media, models, charts, videos and skits. *Observations*: Student feedback was gathered taken pertaining to various aspects of seminars using a questionnaire having a 3 point Likert scale and by asking open ended questions. *Conclusions*: The findings of this project suggest that group seminars presented by students are an effective way to inculcate the practice of active learning amongst students. Besides motivating students towards self directed study, seminars also improve other desirable attributes like communication skills, teamwork, improved use of audiovisual aids and lead to a better student teacher interaction.

Keywords: Active Learning; Seminars.

Introduction

The purpose of teaching is to facilitate learning and to encourage the learners to learn more effectively. It means not merely dispensing information, but to develop skills and attitudes also. It is said that "*To teach is to learn twice*". Learning is more effective with an active involvement of the learner in the process [1]. If skills in independent, self-directed education are not developed in medical school it is unlikely that they will be developed when the graduate is confronted with the pressures and demands of medical practice [2]. Group learning motivates each member of the group to learn and also allows to build on each others' knowledge [1]. One of the principles of learning is that active involvement is more effective than uninvolved one [2]. In the syndicate method of learning a topic is divided into sections and each section is presented by a group of students [2]. The student presentation can include techniques to encourage discussion during or after the presentation [2]. In medical education, collaborative learning can be regarded as a term which includes a range of teaching and learning techniques generally encompassing small group work and learning from each other. Collaborative learning techniques offer an effective way of delivering medical education with several advantages over traditional didactic teaching methods. Group learning facilitates not only acquisition of knowledge but also several other desirable attributes such as communication skills, teamwork, problem solving, independent responsibility for learning, sharing of information and respect for others. Acquired at an early stage, the generic skills associated with active, collaborative learning in small groups are of immense value for students moving forward into postgraduate and continuing

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education and in their clinical careers. The role of the teacher in collaborative learning is that of a facilitator. He/she provide academic support by acting as a resource person when necessary [1].

The teacher's task shifts from taking responsibility for expounding the whole subject to providing sufficient input for students to become self-learners [2].

Use of different resource materials from teacher or fellow students are welcome [1]. The community of learners method for collaborative learning mentions that students work using range of learning resources, communicate regularly. The tutor provides expert assistance and progress monitoring for the group [3].

Context of the Study

The subject of Anatomy is taught to undergraduate students primarily using traditional teaching learning methods like lectures and small group tutorials. These methods do not involve the students actively in the teaching learning process to a very great extent. Seminars prepared and presented by students are an example of collaborative learning [3] which is student centred and promotes active learning leading to a better comprehension of the subject. It will motivate students towards self directed learning, encourage them to try different audiovisual methods of teaching learning and stimulate them to visualize and create their own charts, models, etc as teaching aids. Further it will train them to gather research material for their topic. Self assessment of their own participation can help students develop awareness of their skills in a group [4].

Aim

To promote the practice of active learning in 1st year MBBS students.

Objectives

1. To motivate undergraduate students towards self directed learning by participating in seminars.
2. To assess students' perceptions of the on the influence of seminars on their problem solving skills, communication skills, team work, time management, use of audiovisual aids and student teacher interaction.
3. To gather suggestions from students on how to improve seminars as a teaching learning method.

Material and Methods

This project was implemented on 120 1st MBBS students in the department of Anatomy.

Permissions of the Dean of the Institute and the Head of the Department of Anatomy were obtained. A list of seminar topics was prepared from 1st MBBS Anatomy curriculum by discussions with faculty members. Topics for the seminars were announced to the 1st MBBS class one month in advance. Each group (about 10 students) was assigned to a teacher who acted as a facilitator for that group. Students presented the seminars in the presence of the entire class and faculty using audiovisual media, models, charts, videos, skits within the stipulated time. Student feedback was taken pertaining to various aspects of seminars using a questionnaire having a 3 point Likert scale and by asking open ended questions. Data was tabulated using Microsoft Excel and was analysed.

Results

Students were administered anonymised questionnaires with 10 closed ended (3 point Likert scale) and 4 open ended questions at the end of seminars for their feedback on the various aspects of seminars. Their responses were analysed.

Student Responses to Open Ended Questions

1. How has Participating in and Attending Seminars Benefitted you?

Most of the students opined that seminars are an effective way study Anatomy, for revision and for better conceptual understanding of a topic. Seminars motivated them to self study, improved their teamwork, self confidence, communication skills, interaction with teachers and colleagues.

2. Which Aspects of the Seminars did you like?

Students especially liked the skits, mnemonics, charts, models, other audiovisual aids prepared by students and the interactive sessions during and following the seminars. They found seminars to be a fun filled and stimulating way to study Anatomy.

3. Give your Suggestions to Improve the Effectiveness of Seminars.

Students suggested that Seminars should be conducted more frequently, more audiovisuals aids

should be included, more time allocation should be there, and that there should be an award for the best seminar.

4. Are you Satisfied with the Guidance you Received from your Teacher in charge?

All students were satisfied with the guidance they received from their in charge teacher.

Table 1: Student responses to questionnaire on 3 point Likert scale

Sr. No.	Concept	Agree %	Disagree %	Not sure %
1.	Seminars are an effective way to study Anatomy.	52	26	22
2.	Seminars have motivated you towards self study.	58	24	18
3.	Participating in Seminars improves communication skills.	93	3	4
4.	Participating in Seminars enhances teamwork amongst students	88	2	10
5.	Participating in Seminars helps you to develop time management skills.	40	30	30
6.	Participating in seminars has increased your problem solving skills	42	22	36
7.	Participating in seminars has helped you to use audiovisual aids more effectively.	67	17	16
7.	Seminars increase student teacher interaction.	90	4	6
8.	Seminars should be continued in the forthcoming years.	77	11	12
9.	Seminars should be incorporated in the university curriculum	48	24	28

Discussion

In this education innovation project 1st MBBS students presented group seminars in Anatomy following which were asked to give feedback on various aspects pertaining to these seminars.

93% of the students opined that seminars helped them to improve their communication skills, 88% said that seminars led to a better teamwork, 67% reported that seminars helped them in their use of audiovisual aids, 90% reported that seminars led to enhanced student teacher interaction and 77% suggested that seminars should be continued in the forthcoming years.

52% of students found seminars to be an effective way to study Anatomy and 58% said that seminars motivated them towards self study.

However, only 40% students felt that seminars helped them in their time management skills, 42% felt that seminars improved their problem solving skills, while 48% felt that seminars should be incorporated in the university curriculum.

Verma Vivek et al [5] in 2009 carried out a similar study on 40, 1st year MBBS students. They carried out pre and post seminar tests and analysed student feedback following seminars. Post seminar test scores were significantly higher than pre seminar scores. Assessing students response for motivation due to seminars to self directed learning, 5% students showed very high, 50% showed high, 42.5% moderate, and 2.5% showed very low motivation. Most students agreed that group seminars increased their interest in learning in context with actual clinical situations, improved self learning skills and increased their confidence in expressing knowledge.

Kothari Ruchi et al [6] in 2012 in their study on students' perceptions towards seminars found that 94% of students found seminars to be informative, 89% found them to be a good source of extra knowledge, 90% found them to be a good method for revision, 62% were in favour of introducing seminars in the curriculum and 88% reported that participating in seminars diminished their fear of public speaking.

Minhas PS[7] et al in 2012 reported that a majority of students (68.8%) preferred a method that contained peer-led seminars and instructor-led lectures, they suggested that integration of active and passive learning into undergraduate courses may have greater benefit in terms of student preference and performance than either method alone. Brunton [8] et al in 2000 concluded that in the opinion of the students, seminars were a more effective way of learning, more relevant to self-development and more interactive. Seminar-based learning was considered to be more amenable to self-direction than formal didactic lectures.

Shankar PR [9] in 2011, found that seminars help students revise the organ system covered and understand its clinical importance, promote teamwork and organization, and support active learning.

Kadmon [10] et al in 2011, concluded that competent implementation of integrative didactical

methods is more important to successful teaching and the subjective gain of knowledge than knowledge transfer by traditional classroom teaching. They found that small group tutorials lead to greater satisfaction but not to better learning results. Interactive learning in large groups might be might be an effective alternative to small group tutorials in some cases and be offered as an option.

De Jon [11] et al, 2010 mentioned that interactive learning in large groups might be might be an effective alternative to small group tutorials and be offered as an option.

Sprujit A [12] et al in 2012 found that the didactic approach and facilitating methods used by the teachers, the group composition, size and atmosphere, the amount of active student participation and interaction and assessment influenced seminar learning.

Conclusion

The findings of this project suggest that group seminars presented by students are an effective way to inculcate the practice of active learning amongst students.

Besides motivating students towards self directed study, seminars also improve other desirable attributes like communication skills, teamwork, improved use of audiovisual aids and lead to a better student teacher interaction. Seminars can be used in combination with other teaching formats to generate a more stimulating and challenging educational environment.

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