

Original article

Role of small group discussion in comparison to didactic lecture in improving self directed learning among first year medical students

Dr. Manisha Chougule ¹ , Dr. Preetam Patil ²

¹Assistant Professor, Dept of Anatomy, Shri Dharmasthala Manjunatheshwara College of Medical Sciences & Hospital, Sattur, Dharwad. Karnataka, India

²Associate Professor, Dept of Radiodiagnosis. Shri Dharmasthala Manjunatheshwara College of Medical Sciences & Hospital, Sattur, Dharwad. Karnataka, India.

Corresponding author: Dr. Manisha Chougule

Abstract

Introduction: Most of the first year MBBS students try to learn anatomy by memorizing the parts and not by understanding. Student should learn how to apply and correlate knowledge of anatomy to explain various clinical conditions. For this purpose student should be motivated for self directed learning so that they will try to learn beyond lecture classes. The objective of this study is to assess whether self directed learning improves with small group discussion than the usual lecture class.

Material and method: Randomly selected first year MBBS students (n=36) were included in the small group discussion (SGD). Regular theory class was conducted and after one week with prior information SGD was conducted on the same topic. Three groups of 12 were made and each group was divided in three small groups. Pretest, posttest was conducted for each session to assess their performance. Anonymous feedback form filled by each student at the end of session.

Data was analyzed using student 't' test and p value was calculated. p value was not significant.

Result: There was improvement in post-test scoring after the discussion. Students were satisfied at the end of session. Students perceived SGD helped them to improve understanding (85%), problem solving ability (80%), for better performance in practical examination (88%) and gives encouragement for self directed learning (78%).

Conclusion: SGD help students to learn through group discussion and they are sensitized towards application of this knowledge in clinical conditions.

Keywords: Small group discussion, self directed learning

Introduction:

After completion of higher secondary school, students now enter in their professional career. Till now most of the students have definition of learning as memorize the things and reproduce in exams as it is. There is lack of application of knowledge. As they have entered in medical field, lots of changes are there, for which teachers have to prepare them to face these changes.

First thing we have to make them aware of self directed learning (SDL). Self-directed learners appear able to transfer learning, in terms of both knowledge and study skill, from one situation to another. Self-directed study can involve various activities and resources, such as self-guided reading, participation in study groups, internships, electronic dialogues, and reflective writing activities. Effective roles for teachers in self-directed learning are possible, such as

dialogue with learners, securing resources, evaluating outcomes, and promoting critical thinking. Some educational institutions are finding ways to support self-directed study through open-learning programs, individualized study options, non-traditional course offerings, and other innovative programs.¹

Over the last four decades, small-group teaching and learning has achieved an admirable position in medical education and is well-liked as a means of encouraging students and enhances the process of deep learning.² The role of self-directed learning (SDL) naturally increases in adults, for the potential possibilities of the personality are extremely great, and the formed world outlook. It will make it possible to develop one's abilities more successfully, systematically and comprehensively. This is especially true since life does not stand still and society is developing scientifically and technically. Anyone who does not engage in SDL, voluntarily or not, lags behind the demands of the time.³ Problem based learning with its group discussion approach to problem solving, was introduced in the medical curriculum in 1969 and has been endorsed as an educational strategy by the World Federation of Medical Education and the World Health Organization.^{3, 4} It is an important student centric method where the knowledge is better retained with clinical context & integration from relevant discipline.⁵

SDL skills, which are associated with lifelong learning,³ are particularly important in the medical field, where knowledge is continuously changing and advancing, and dealing with novelty is an important aspect of patient encounters.⁹ Most of the first year MBBS students try to learn anatomy by memorizing the parts and not by understanding. Student should learn how to apply and correlate knowledge of

anatomy to explain various clinical conditions. For this purpose student should be motivated for self directed learning so that they will try to learn beyond lecture classes. The objective of this study is to assess whether self directed learning improves with small group discussion than the usual lecture class.

Methodology:

Study population for our study is first year MBBS students. We randomly selected 36 students for the study. We completed this study in one month of duration. We explained the role of facilitator in the SGD to the concerned faculty. One demo class was also conducted to demonstrate the role of facilitator to the faculty.⁶

Regular theory class was taken on development of atrio-ventricular septum. After one week gap with prior notice we conducted small group discussion on the same topic. Pre-test and post-test were conducted. 3 groups were made out of 36 students, 12 in each group. Each group divided in 3 subgroups. Whole topic divided in 3 subtopics, each sub-group has got one topic. 5 min was given to study the figure given to each sub-group. Each sub-group has to explain the same figure to other two sub-groups with the help of picture projected on the screen. Role of facilitator is to direct the discussion according to the topic and avoid unnecessary discussion among the groups. Facilitator can give additional information. We also discussed some congenital heart diseases and possible reason for the defect. At the end we showed them some specimens having congenital heart defect. We asked students to fill anonymous feedback form with questionnaires. Data was analyzed using student 't' test and p value was calculated.

Result:

Median value of pre-test - 4

Median value of post-test - 9

There was improvement in post-test scoring after SGD which is statistically significant.

Table Number 1 shows the summary of the feedback.

Table No. 1 : Summary of feedback

SI No.	Question	Yes	Not much	Neutral
1.	Is this teaching method in anatomy helpful in better understanding	85%	6%	9%
2.	Does it helpful to change your attitude while studying	80%	12%	18%
3.	Does it improve your problem solving ability	88%	6%	6%
4.	Does CBL gives you encouragement for SDL	67%	15%	18%
5.	Does this process helpful to clear your doubts	79%	6%	15%
6.	Facilitators were helpful	85%	3%	12%
7.	Conducted in a systematic manner	85%	6%	9%
8.	Can be introduced as a new teaching learning method for next batches	85%	3%	12%
9.	Will it be helpful for better performance in practical exams	85%	6%	9%

Discussion:

Teaching methods which increase student motivation and enhance learning have evolved throughout history. However, the introduction of an interactive student-centered approach in medical education has dramatically changed the way of learning by students.⁸ In our study, we want to compare, whether small group discussion improves SDL as compared to didactic lectures.

In our study we noticed more than 80% students felt SGD helped them for better understanding, improves problem solving capacity, promotes SDL and also helped to create more interest in the learning of the subject. Doubts related to the topic were better cleared in the SGD. Limitations of our study are, one, we need lot of planning to conduct one SGD. At least

one staff should look after the planning and proper conduction of such classes. Second, unavailability of sufficient classrooms for the conduction of SGD. Third, co-operation from higher authorities and faculty members for the conduction of SGD, as we have to accommodate SGD classes in our usual time table. Last but not the least is co-operation from all students. All of them should actively take part in SGD with necessary preparation and with enthusiasm.

The focus of Garrison's (1997) model is on resource use, learning strategies use, and motivation to learn. Garrison explained that self-management involved learners taking control of the learning context to reach their learning objectives.¹¹ When self-directed learning is implemented there may be initial

reluctance and tardiness on the part of students as evidenced in the study of teachers' and students' perceptions of self-directed learning by Lunyk-Child et al., which found that students undergo a transformation that begins with negative feelings but ends with confidence and skills in self-direction, and during this transformation it is the responsibility of the teachers to provide student support.¹⁰ McKimm J. et al reported that SGT is an effective method in encouraging student for the discussion.¹² According to Chan LK et al, introduction of small group teaching in gross anatomy had a significant positive impact on the academic achievement of students in anatomy¹³, which seems to be similar as per the feedback by the students in our study where 85% of students reported that, SGT improved retention of knowledge and this was converted into better performance in practical exam. Olayemi Durosaro et al. tried teamwork exercises that utilized web based

application to teach micro anatomy. They provides a perspective on their experience integrating team work and the use of knowledge-sharing web-based portals in the first year gross and microscopic anatomy.¹⁴

Conclusion:

Small group teaching and learning sessions offer active participation of learners, increase the teamwork ability, help in retention of knowledge, increase student interest, and improve critical skills. SGT helps to develop self-motivation, deep learning, interpersonal and communication skills, and enhances student faculty and peer-peer interaction. SGT can be considered as a comprehensive tool for productive academic achievement, strategy for dynamic and collaborative learning both in basic and clinical medical science.

Acknowledgements: We are thankful to Dr. Alur, who had helped us in conduction of the classes.

References:

1. Hiemstra, R. Self-directed learning. In T. Husen & T. N. Postlethwaite (Eds.), *The International Encyclopedia of Education* (second edition), (1994) Oxford: Pergamon Press.
2. Meo SA. Basic steps in establishing effective small group teaching sessions in medical schools. *Pak J Med Sci* 2013;29(4):1071-1076.
3. Ruvinsky 1986 p. 31
4. Barrows H, Tamblyn R. *Problem-based learning: an approach to medical education*. New York: Springer; 1980 pp1-5. 3. Walton HJ, Matthews MB. *Essentials of problem based learning*. *Med Educ* 1989;23:542-558.
5. Barrows HS. Problem-based, self-directed learning. *JAMA* 1983;250:3077-3080.
6. Chandelkar U.K. Rataboli P.V. Kulkarni M.S. assessment of impact of small group teaching over didactic lectures and self-directed learning among second year BDS students in general and dental pharmacology in Goa medical college. *Pharmacology online Archives* 2014;volume 3:51-57
7. Ranabir Pal, Sumit Kar, Forhad Akhtar Zaman, et al. Assessment of impact of small group teaching among students in community medicine. *Indian J Community Med.* 2012 Jul-Sep;37(3):170-173
8. Candy PC. *Self-direction for lifelong learning: a comprehensive guide to theory and practice*. San Francisco: Jossey-Bass, 1991.

9. Lunnyk-Child OI, Crooks D, Ellis PJ, Ofosu C, O'Mara L, Rideout E. Self-directed learning: faculty and student perceptions. *J Nurs Educ.* 2001;30:116-23.
10. Brockett RG, Hiemstra R. *Self-direction in adult learning: perspectives on theory, research, and practice.* London: Routledge, 1991.
11. McKimm J, Morris C. Small group teaching. *Br J Hosp Med (Lond).* 2009;Nov 70(11):654-7.
12. Chan LK, Ganguly PK. Evaluation of small-group teaching in human gross anatomy in a Caribbean medical school. *Anat Sci Educ.* 2008;Jan 1(1):19-22.
13. Olayemi Durosaro, Nirusha Lachman, Wojciech Pawlina. Use of Knowledge-sharing Web-based Portal in Gross and Microscopic Anatomy. *Ann Acad Med Singapore* 2008;37:998-1001