

Impact of Peer Participation in Learning

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ABSTRACT

Introduction: Teaching innovation aims at cultivating creative talents and realizing the heuristic method of teaching. More effective student-centric learning methods are now being utilized to encourage active student participation and creative thinking. One of these methods is peer learning, in which peers learn from one another, involving active student participation and where the student takes responsibility for their learning. **Aim and Objectives:** To study the role of participatory learning in improving the performance of third and fourth semester under graduate medical students, on improvement in scoring marks in family presentation in Community Medicine by peer participation.

Material and methods: During the clinical posting of third to fifth semester students in the dept. of Community Medicine, the student has to present four families. The methodology adopted here is that the student will present one family in the conventional manner i.e. after the class room teaching, the student will go to the field and after working up the family, will present the family to the teacher. After the completion of the workup of the second allotted family, students were divided into two groups Group A and Group B. An intervention was made in the presentation of the second family in Group B that before presenting the family to the teacher, two students discussed and presented their worked up family to each other and then presented it to the teacher. A comparison of the marks obtained in the second family will be utilized as outcome measure to compare the performance before and after intervention.

Results: A total of 48 students were participated in the study. In the presentation of the second family, the mean score attained by the Group A is 11.87 in comparison of the first presentation i.e. 10.91. The observed difference was found to be statistically significant (p value < 0.05). The mean score obtained by the Group B in second presentation was 12.9 in comparison of 11 in first presentation. This difference was more than that of group A and also was found statistically significant. The difference of the marks in the second presentation of Group B was found higher (mean difference 1.91) than that of Group A (mean difference 0.96). It was found statistically significant ($p=0.028$). It shows peer participatory learning has an impact in scoring more in this exercise.

Conclusion: Peer learning has a positive impact in the learning process. Students improved in their performance by peer learning.

Keywords: Peer Learning, Teaching innovation

INTRODUCTION

Teaching innovation aims at cultivating creative talents and realizing the heuristic method of teaching, so as to increase students' creativity and cultivate talents through creativity.¹ Innovative education unlike the traditional education is a process which helps the student to develop skills such as: Self directed learning, Problem-solving, Critical thinking, Information searching, Clinical reasoning, Continuing Education and Emotional and Social support.^{1,2} Now-a days, more efficient student-centric learning approaches

are being taken into consideration to promote active student participation and thus to endorse creative thinking.³⁻⁵ Peer learning is one of these such methods in which student takes responsibility for their learning, colleagues learn from one another along with this method involves active student participation.⁶ Peer learning is known by different interchangeable titles such as "peer coaching," "peer mentoring," "cooperative learning," "mentoring," "peer review learning," "problem-based learning," and "team learning."

This method has been utilized in education to address critical thinking, psychomotor skills, cognitive development, clinical skills and academic gains.⁷⁻¹⁰ One type of peer learning is problem-based learning (PBL) which is characterized by students learning from each other and from independently sourced information.¹¹ Alternatively peer tutoring engages individuals with similar situations helping others to learn and these sessions may occur one-on-one or as small group sessions.¹² The current study aimed to address the research question: does the participatory learning improves the performance of undergraduate medical students To study the role of participatory learning in improving the performance of third, fourth and fifth semester under graduate medical students, in family presentation in Community Medicine during their clinical posting by peer participation.

MATERIAL AND METHODS

The project was carried out with the MBBS Second Professional students: third, fourth and fifth Semester; 2014 Batch.

Yearly batch of MBBS consists of 100 students. From the point of view of clinical posting, they are divided into four batches, A,B,C,D each of 25 students. In third to fifth semester a batch of 25 students is posted for 8 weeks in the department for clinical posting. During the study period, two batches of 25 students of fresh batch and 25 students of the old batch were posted. During this clinical posting, four families are allotted to each student for the purpose of field teaching and for acquiring skills to improve family and community health. In routine, after classroom teaching, the students visit to the field in their respective allotted families and work up the family for presentation to the teacher. The methodology adopted here is that the student will present one family in the conventional manner i.e. after the class room teaching, the student will visit to the field and after working up the family, will present the family to the teacher.

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After the completion of the workup of the second allotted family, from the point of view of the study, students were divided into two groups Group A and Group B. An intervention was made in the presentation of the second family in Group B that before presenting the family to the teacher, two students discussed and presented their worked up family to each other and then presented it to the teacher. The teacher who was taking the family presentation was unaware of the information that to which group the students belong group A or B.

Group A presented the second family, without discussion among the students. Evaluation of the students had been made on the basis of the marks obtained in the presentation. A comparison had been made of the marks obtained in the second presentation of the students among Group A and Group B. The eligibility criteria to participate in the study were that each student must be present in both the presentations, both the first and second family presentation. The students who missed either first or second presentation were excluded from the study. A total of 48 students participated in the study.

Information was converted into data and data were manually tabulated and analyzed in the light of suitable statistical tests.

RESULTS

A total of 48 students were participated in the study. In the presentation of the first family, the mean score attained by Group A is 10.91 and by the Group B is 11. From the point of view of statistics, the observed difference in attaining the marks was not found to be significant.

In the presentation of the second family, the mean score attained by the Group A is 11.87 in comparison of the first presentation i.e. 10.91 (table-1 and Figure-1). The observed difference was found to be statistically significant (p value<0.05). It shows that the performance of the students increases with the repetition of the same type of exercises. The mean score obtained by the Group B in second presentation was 12.9 in comparison of 11 in first presentation, The difference again in first and second presentation of Group B was found statistically significant table-2 and Figure-2).. The difference of the marks in the second presentation of Group B was found higher (mean difference 1.91) than that of Group A (mean difference 0.96). Further, the observed difference of mean of the differences of second presentation of Group A and of Group B was again statistically significant (p=0.028). It shows peer participatory learning has an impact in scoring more in this exercise.

DISCUSSION

The term “peer” refers to individuals who have comparable skills or a harmony of experiences.¹³ Both these definitions suit the concept of peer learning and were applied in the present study.

The purpose of this project was to answer the question whether undergraduate medical students benefit from peer learning or not. The statistically significant difference between the presentation of the second family of the two groups shows definitely the performance of the students improves with the peer learning participation as indicated by the outcome measure. Peer learning was associated with increased levels of knowledge in a number of areas such as problem solving and communication.^{14,15} Tiwari et al.¹⁶ showed that critical thinking

Sr. No. of Student	In first presentation	in second presentation
1	12	13
2	13	13
3	14	15
4	10	8
5	11	12
6	11	13
7	12	13
8	8	10
9	10	12
10	12	13
11	11	12
12	10	10
13	9	7
14	13	14
15	10	12
16	11	12
17	14	15
18	10	12
19	7	10
20	11	12
21	10	11
22	10	10
23	10	12
24	13	14
Mean	10.91	11.87
t=.00068	P value	.00025

Table-1: Marks Obtained in Family presentation by students of group A

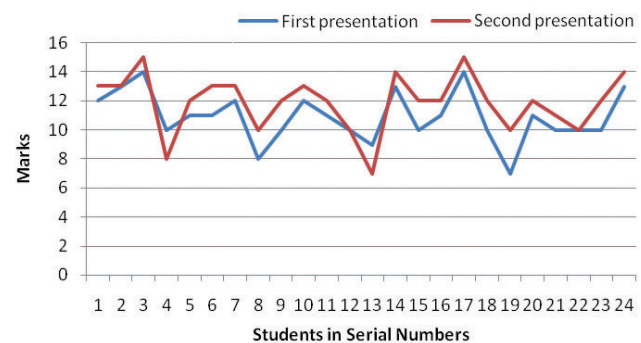


Figure-1: Marks Obtained in Family presentation by students of group A

was improved in students using PBL ($P = 0.0048$) whilst Daley et al.¹⁴ reported that students showed improvement in cognitive and motor skills.

Johnson KA¹⁷ evaluated the peer effect on academic achievement among public elementary school students and found that the peer effect is a strong influence on academic achievement. The peer effect is independent of other factors such as race, ethnicity, gender, income, and other background variables. Mulder RA et al¹⁸ evaluated students perceptions before and after participation in peer review process and reported high satisfaction levels with the peer-review process and its positive impact on their learning, and particularly showed an enhanced appreciation of the influence of review writing on learning. Ravanipour M et al¹⁹ evaluated nursing students for peer learning and reported general satisfaction as the method helps in extensive learning with little or no stress than conventional learning methods.

Sr. No. of Student	In first presentation	in second presentation
1	11	13
2	12	13
3	11	14
4	10	14
5	10	13
6	13	14
7	11	12
8	11	15
9	12	13
10	11	13
11	13	14
12	10	13
13	9	12
14	11	12
15	13	14
16	11	13
17	12	13
18	12	12
19	12	14
20	11	13
21	10	13
22	10	12
23	10	11
24	8	10
Mean	11	12.9
t= .000	P value	<.0001

Table-2: Marks Obtained in Family presentation by students of group B

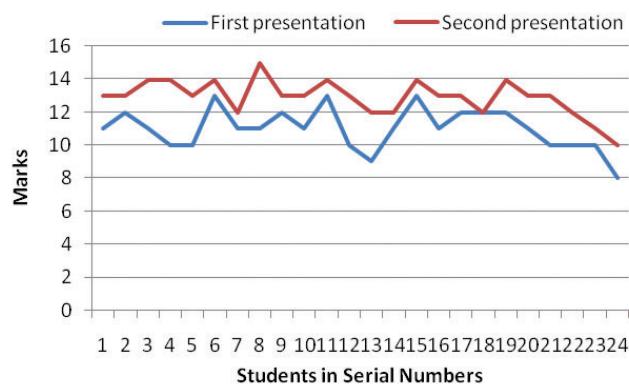


Figure-2: Marks Obtained in Family presentation by students of group B

Thus, peer learning is a constructive and helpful method for professional students for learning the clinical skills before they get a job.

Peer teaching is a type of cooperative learning in which both teacher and learner mutually benefit from their interactions. Medical students serving as peer teachers in a laboratory setting reported improved study habits and better attitudes towards the subject matter. The peer teachers also benefited from a review of material, improved their communication skills, and increased their self-confidence. Medical students serving as Clinical Skills Teaching Assistants (CSTA) reported enjoying their roles as peer teachers and becoming more comfortable giving and receiving feedback on clinical performance. Learners cited benefits as well, stating that peer assisted learning experiences reinforced

self-confidence, enhanced clinical skills and acquisition of new information, reinforced previously learned information and techniques, and improved ability to accept feedback. Learners reported feeling comfortable with their peer teachers and thought they provided useful and non-threatening feedback.²⁰⁻²¹

CONCLUSION

Peer learning has a positive impact in the learning process. Students improved in their performance by peer learning. This study shows that under graduate medical students could benefit from peer learning, with an increase in confidence and a decrease in anxiety.

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