

Evaluation of Team Based Learning as Teaching Methodology in UG Medical Teaching in Meghalaya

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Abstract

Introduction: This study evaluates the effectiveness and student perception of Team Based Learning teaching format implemented for final year MBBS students in the Department of Obstetrics and Gynecology at North Eastern Indira Gandhi Regional Institute of Health & Medical Sciences (NEIGRIHMS), Shillong (India).

Methodology: Theoretical and clinical case-based questions were provided to students a week prior to the lecture. Students worked in groups to prepare and present answers via PowerPoint presentation. Feedback was collected through a structured Google form questionnaire and analyzed statistically.

Results: The GAP class was positively rated by 53.6% of students, with 39.3% reporting significant enhancement in content understanding. However, 35.7% found GAP less effective than traditional lectures, citing challenges with comprehensive understanding, and unequal participation within groups.

Conclusion: Overall, the findings support the integration of teaching methods like GAP to complement traditional lecture-based approaches, fostering comprehensive understanding and preparation of medical students for clinical practice.

Keywords: Active Learning, Team Based Learning, Problem Based Learning

Introduction

The shift from teacher-centric to student-centric teaching methods in medical education, as per new Competency Based Medical Education principles, aligns with the SPICES model, which emphasizes Student-oriented, Problem-based, Integrated, Community-based, and Evaluation-based, Systematic learning strategies (Harden *et al.*, 1984).

Again, Team Based learning (TBL) and collaborative learning strategies have been shown to enhance knowledge retention and critical thinking in medical education. Parmelee *et al.* (2012) demonstrated that TBL fosters a cooperative learning environment, leading to improved student engagement and higher levels of understanding.

This study evaluates a student centric TBL teaching learning methodology with students collaborating in small teams to research, prepare, and present assigned questions or case scenarios.

The objective of this study is to evaluate the effectiveness of Team Based Learning (TBL)

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methodology in enhancing comprehensive understanding, concept clarification, and collaborative learning among final year MBBS students. Specifically, the study aims to assess student perceptions of this method compared to traditional lecture-based teaching, identify strengths and weaknesses, and gather suggestions for improvement.

Methodology

This cross-sectional study aimed to evaluate the effectiveness of Team Based Learning (TBL) methodology in an Obstetrics & Gynaecology class on "Preeclampsia-eclampsia". Class included 50 final-year (8th semester) MBBS students at NEIGRIHMS, out of whom 28 students participated in this study by submitting response to the feedback questionnaire.

The class of 50 students was divided into 4 groups labelled A, B, C, and D- A and B with 12 students each and C and D with 13 students each. The Professor formulated 4 sets of questions A, B, C, and D which were sent to the class representative, a week before the scheduled date of lecture. The class representative disseminated it to all students, with instructions that Group A students should sit together, and consulting textbooks and other educational resources, prepare answers to A set of questions. Similarly, B, C, and D groups were supposed to find answers to B, C, and D question sets respectively. Also, each group of students was to make one PowerPoint presentation with the answers to set of questions allotted to the group, and present the same on the day of lecture. On the day of lecture, the Professor asked one student from each group to present in front of the class. At the end of class, a structured feedback questionnaire Google form was provided to all 50 students to assess this teaching learning method. The authors developed the structured feedback questionnaire by drawing inspiration from relevant literature. It included questions on group dynamics, content understanding, comparison with traditional lectures, presentation effectiveness, class

discussions and doubt clarification, overall experience, and suggestions for improvement.

Feedback submission was voluntary. Out of 50 students, 28 chose to submit their response, this data was used for analysis. The results are compiled below.

It is to be mentioned that a traditional lecture based class on the same topic was taken for these 50 students in a previous semester (6th 7th semester).

Results

Feedback indicated that 64.3% of students found TBL effective for collaboration, and 60.7% felt moderately engaged. While 39.3% noted significant content understanding, only 7.1% found presentations highly effective for concept clarity. TBL was preferred by 25% of students over traditional lectures, while 35.7% rated it less effective. Unequal participation was frequently cited as a concern. Overall, 53.6% rated the experience as good or excellent.

Many students found traditional lectures more effective for overall concept clarity, whereas TBL was useful for specific topics but less effective for comprehensive understanding. This preference likely stemmed from students' reluctance to engage in self-directed learning required for TBL. Unequal participation within groups was a recurring issue, and students suggested incorporating summaries and strategies to improve group collaboration and accountability.

Discussion

The feedback from students shows both the strengths and limitations of the TBL methodology.

While the TBL approach fostered collaboration, peer learning, and engagement, a significant portion of students complained of unequal participation, and found TBL less effective than traditional lectures in providing a comprehensive understanding of the material.

Unequal participation within groups was a recurring complaint, which is similar to findings by Dolmans *et al.* (2001), who noted that group work often suffers from unequal contribution, leading to a disproportionate workload on certain students. This issue, if not addressed, can undermine the collaborative learning experience intended by methodologies like TBL.

Oakley *et al.* (2004) proposed structured group management techniques, such as peer assessment and clearly defined roles, to mitigate the issue of unequal participation. These strategies could be incorporated into TBL to ensure accountability within the group and to encourage more balanced participation.

Challenges also remain in translating active participation into deeper conceptual understanding. 35.7% of participants, which is a significant number, felt that TBL was less effective than traditional lectures in delivering a comprehensive understanding.

This data may be skewed, as it is impossible to verify how many students contributed to the group assignment. Passive students may not benefit from interactive methods like TBL, which aim to enhance understanding and analytical skills.

A hybrid approach combining traditional lectures with TBL could address these concerns and optimize learning outcomes, as suggested by Thompson *et al.* (2007), who demonstrated the benefits of integrating team-based learning with conventional methods.

It is to be mentioned that a traditional lecture on the topic covered in this study was conducted with the same students in a previous semester. It is possible that students would have preferred if the traditional class and TBL were closer together, rather than in different semesters, allowing them to build on their foundational knowledge more effectively.

Conclusion

TBL is a promising student-centered teaching strategy, but modifications are necessary to address its limitations. By integrating structured group management and combining it with traditional methods, TBL can become a valuable tool for medical education.

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