



Research Article

TEAM BASED LEARNING - A NOVEL AND PROMISING TOOL OF COMPETENCY BASED EDUCATION

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ARTICLE INFO

Article History:

Received 10th October, 2021

Received in revised form 2nd

November, 2021

Accepted 26th December, 2021

Published online 28th January, 2022

Key words:

Team-Based Learning (TBL), problem-solving, communication skills, Interactive modules

ABSTRACT

Education is assessment and assessment is education. Both learner and teacher increase their apprehension of gaps in realization by asking and answering questions. Scholastic medicine is like a three legged stand, footing on three legs. One leg is medical management, one is research and one is education. Analytical execution and its assessments are demanding delighting professional activities. The expansion of minuscule group into a learning team is best described as transformation process. TBL (Team based learning) prompts students to engage in the learning process with a level of energy. TBL works best compared to other assessment is learning centered instructional strategy. It is successful subject to the condition that one must hold fast to the steps and principles. The Tbilisi ideal for medical education because of its emphasis on accountability, decision making and look closely.

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INTRODUCTION

Team-based learning (TBL) is progressively implemented in higher education. It promotes self-directed learning (deep learning) and enhances student adaptability in problem-solving. Deep learning upshot in greater retention of the material.

TBL is a useful tool for developing deep-learning skills in a variety of educational settings.

TBL produces close results as lecture-based formats on evaluations of short-term skills.

Team-based learning is advantageous to course designer and students. It upgrades student presentation in both weak and strong students.

Students perform better on examination with TBL.

Background: Team-Based Learning (TBL) is evidence based collaborative teaching learning method, involving small groups. If adopted, it can improve analytical, problem-solving and communication skills of students working within their teams.

Objective: To evaluate the response of students on team based learning as an important learning tool.

Methods: A cross sectional observation study was conducted in AIMSR of phase II MBBS students. Two faculty members engaged the participants for two academic sessions. They were divided into 2 equal batches of 50 each. One batch was taught topic Hypertension in traditional method and other batch was taught by TBL method. Later both batches were shuffled for a different topic Diabetes Mellitus. MCQ's of Pre & Post session evaluation and the study objectives were compared and results were tabulated.

RESULTS

Of the total 100 numbers of students, 2 from Traditional group and 5 from TBL group could not complete all the sessions. Hence the results were calculated for 93 numbers of students only. Out of total number of participants, 88.23 % of TBL Group (n=45) and 76% of the Traditional group (n=48) found that the TBL method provided scope for interaction, collaboration and team learning and strongly recommend that TBL be introduced and regularly conducted at frequent intervals. For both the groups average scores were 12/20(pre)

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16/20 (post) and 15/20(pre) 18 /20 (post) during pre and post sessions.

CONCLUSION

TBL is an effective interactive tool, well appreciated and reciprocated by the participants. It is considered an important learning tool that promotes working in teams. If adopted in the classrooms, it promotes group learning and helps in improving inter-communication skills among participants.

Background

TBL is a new pedagogy in medical education that is gaining popularity in recent years. Parmilee and colleagues quote it as “an active learning and small group instructional strategy that provides students with opportunities to apply conceptual knowledge through sequence based activities that includes individual work, teamwork and immediate feedback”. These concepts are taught in a three-step cycle. A large group of students can take part in small groups and experience active learning under a single faculty. Small group interactive teaching methods are advised and proven methods for achieving the goals of competency based education. Interactive teaching and assignments pertaining to modules encourages active participation of the students and allows for learning inside and outside the classroom.

MATERIALS AND METHODS

Sixth semester students of AIMS R participated in TBL activity. After obtaining Institutional ethical committee approval, students who volunteered to participate in this study were divided into 2 groups-1. TBL group divided into 8 teams and each consisting of 5/6 members. 2. Traditional Method-50 students were allotted to Traditional group. Didactic lectures on topic Hypertension was conducted and was followed by distribution of preparatory material for both the groups. For the next session, pre-test questionnaire was given to both the teams before the beginning of the activities. Application focussed exercise was conducted by one faculty member, who engaged the participants for the sessions in TBL team, another faculty engaged the traditional team with Seminar and discussions. TBL group and Traditional group received immediate feedback after the application and seminar exercise. Post test was conducted with the same MCQ at the end of activities. Students’ response was collected in the form of survey instrument that contained closed ended questions graded on a 5point Likert scale and results were tabulated.

Activity of teams



| S.NO | Activity | Traditional Method | TBL |
|------|-----------------------------------|--------------------|-----|
| 1. | Didactic lecture | Yes | Yes |
| 2. | Handouts, home assignments | Yes | Yes |
| 3. | Class room discussion /seminar | Yes | No |
| 4. | Team activity and problem solving | No | Yes |
| 5. | Pre and Post Test | Yes | Yes |
| 6. | Immediate Feedback | Yes | Yes |

RESULTS

The following are the tabulated results based on above-mentioned methodology

- 88.23 % found that the TBL sessions were very engaging and assessment was topic specific, 9.2% opined as engaging and 2.57% opined as not engaging.
- 78.4% considered TBL as very useful tool to work in teams. 18.3 % considered useful and 3.3% had a neutral opinion.
- 45.09% recommended this session to be conducted monthly.
- 29.41% opined it should be conducted bimonthly.
- 1.37% opined it should be conducted quarterly.

Also it was found that students who worked in teams, developed inter communication, collaboration, analytical and problem solving skills. The mean scores of the tests of both teams were analyzed by using chi square method. The difference between the pre & post test scores of both the teams was compared and found not significant.

The following is the tabulated results based on the scored marks for 20 MCQ’s. Both groups and has average scores of 12/20, 16/20 (traditional group) and 15/20, 18 /20 (TBL group) during pre and post sessions.

| | Pre test | Post test | Marginal Row Totals |
|-------------------------------|-------------------|-------------------|---------------------|
| TBL | 15 (14.61) [0.01] | 18 (18.39) [0.01] | 33 |
| T M | 12 (12.39) [0.01] | 16 (15.61) [0.01] | 28 |
| Marginal Column Totals | 27 | 34 | 61 (Grand Total) |

The chi-square statistic is 0.0414. The p-value is .838724. This result is not significant at $p < .05$.

The chi-square statistic with Yates correction is 0.003. The p-value is .956042. Not significant at $p < .05$.

DISCUSSION

Changes in both curricula and pedagogy are needed to prepare students for demands to the increasingly complex healthcare systems. The practice of medicine is both team- oriented, and inter-professional, requiring co-ordinate efforts from a number of disciplines to provide the best outcomes for patients. The TBL format provides an opportunity for students to develop competencies relevant to health care education namely teamwork abilities and critical thinking skills. The key steps of

TBL are formation of teams with 5-7 students, testing them for their comprehensive skills through IRAT (Individual Readiness Assurance Test) and TRAT (Team Readiness Assurance Test) and providing immediate feedback. Higher order thinking skills like critical analysis, professionalism, leadership, collaboration and teamwork are assessed during application exercises. Stepwise introduction of concepts, MCQ'S, discussion during application exercises, providing immediate feedback as the structure of TBL, engages the students interest and instills a sense of responsibility. Assessments at each level encourages the student to evaluate learning and team work promotes leadership, prepares them to take up the challenges of critical analysis and decision making skills. Trained faculty and facilities to conduct small group teaching, accepting change and adapting to the challenges ahead are the influencing factors going forward in implementing new teaching learning methods. Nevertheless experimentation and practice can prove the success and limitations of the novel methods.

Advantages of Team Based Learning

1. Individual as well as team scoring.
2. Critical analysis and application of knowledge
3. Immediate feedback from the faculty.

Challenges

1. Faculty skills and resources.
2. Administrative commitment to provide space and resources.

Limitations of this study

No significant changes in scores favoring either method. Study population is limited to one-semester students from only one Institute.

CONCLUSION

Based on the above analysis, the students of traditional group and TBL group scored almost equally in pre and post MCQ'S suggesting that there is no impact on scores but the methodology taught them different aspects of learning, approach towards a given problem and communication skills. TBL is an effective interactive tool for learning and well appreciated & reciprocated by the students. It is a novel method of blended learning and enables the student to learn the subject both inside and outside the classroom. It inculcates problem solving and effective communication skills and instills teamwork amongst students.

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How to cite this article:

Aruna Kumari Badam *et al* (2022) 'Team Based Learning - A Novel and Promising Tool of Competency Based Education', *International Journal of Current Advanced Research*, 11(01), pp. 57-59. DOI: <http://dx.doi.org/10.24327/ijcar.2022.59.0012>