

**Editorial:**

**Team Based Learning: Sponsoring Small Group Benefits in Large Group Setting.**

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**Team Based Learning: Sponsoring Small Group Benefits in Large Group Setting.**

Team-based learning (TBL) is an innovative small group teaching-learning method in a large group class<sup>1,2</sup>. TBL initiates with the students' homework, during which they study an advance task or assignment allocated by the lecturer and then take part in the readiness assurance test (RAT) to determine their knowledge on the assigned task. The RAT comprises of an individual readiness assurance test (IRAT), followed by the same test among multiple groups as group readiness assurance test (GRAT), with immediate feedback and the opportunity to change answer options of individual test questions. After the RAT, discussions are done on the difficult materials and also on the rest of the subject by the lecturer. TBL implies active learning process that promote students' higher-level cognitive skills in addition to learning of factual material<sup>3,4,5</sup>. This paper briefly determines the students' expression on TBL following the attendance of a TBL session in a Malaysian private university. The paper may be of help to get thought to initiate TBL in educational institutions.

A TBL session was conducted as a preliminary transformative process from traditional lecture to innovative TBL at Widad University College (WUC), Malaysia in June 2023. A cross-sectional study was conducted among all 21 First year, Semester-2 undergraduate medical students who attended the TBL session. It was a class of

pharmacology on the topic titled 'Antibiotic'. The relevant teaching materials were sent few days before the scheduled lecture class by the assigned lecturer to all students for an understanding of the topic. On the scheduled class-day at the beginning of class, an individual readiness assurance test (IRAT) was carried out utilising one-best answer questions (OBA) on different aspects of the topic 'antibiotic'. After completion of IRAT, all the 21 students were divided into five groups comprising four to five students in each group. The same IRAT was then used as group readiness assurance test (GRAT) among the groups and students appealed and changed the answer options of the same test after discussion with team members. After GRAT, clarification was given on difficult materials that were poorly understand by the students and immediate feedback to the students was provided by the assigned lecturer.

At the end, the TBL session was evaluated by administering a simple questionnaire containing different aspects of TBL, rated by a 5-point Likert scale ranging 1 as poor and 5 as very good, along with open ended questions about their liking, disliking and suggestion for improvement.

Among 21 participants, 20 students responded, giving a response rate of 95%; where all the participants rated good to very good on different aspects of TBL ranging 5-15% as good and 85-100% as very good (Section-A, Table-1). Analysis of the results of IRAT and GRAT revealed that there were some corrections made by some of the

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students after discussion in GRAT and there were improvements of students' performance. This finding has similarity with previous studies<sup>1,6,7</sup>, where weaker students benefited more from the TBL.

In response to open ended questions such as their liking, disliking and suggestion for future improvement, it is revealed that students like the TBL session very much, as the session was

interesting to them and help them to have a great understanding on the subject. Students perceived that they learn from mistake with the help of the team mates. Learning from mistake is one of the principles of learning. Students like the team work in discussing and solving questions and they suggested to add more questions, so that the team members can share their ideas on how to solve the questions. —

**Table-1: Perspectives of Students about TBL at WUC, n=20**

Section-A: Aspects of TBL	Poor-1	Satisfactory-2	Unsure-3	Good-4	Very good-5
	n (%)	n (%)	n (%)	n (%)	n (%)
<b>General Aspect</b>					
Introductory session	-	-	-	3 (15)	17 (85)
Individual readiness assurance test	-	-	-	2 (10)	18 (90)
Group readiness assurance test	-	-	-	1 (5)	19 (95)
Team activities	-	-	-	-	20 (100)
Teaching materials	-	-	-	-	20 (100)
<b>Attitudinal Aspect</b>					
Desire to have more TBL session	-	-	-	2 (10)	18 (90)
<b>Usefulness Aspect</b>					
Overall usefulness of the TBL class	-	-	-	2 (10)	18 (90)
<b>Section-B: Open Ended Questions and Responses</b>					
<b>What did you like on the TBL session you attended?</b>					
<ul style="list-style-type: none"> <li>- Giving space by sitting in group helps us to share our ideas about the topic.</li> <li>- Team working between members helps in fixing misunderstanding and solving questions.</li> <li>- Moving to be more interested in subject; boosting understanding; learning from mistake.</li> <li>- Helping to understand the topic much better; realising how deep I understand the topic.</li> <li>- An eye-opener and a good way to learn new stuffs or re-learn some topics.</li> </ul>					
<b>What did you dislike on the TBL session you attended?</b>					
<ul style="list-style-type: none"> <li>- If we don't continue this TBL as soon as feasible, it would be unfortunate.</li> <li>- Discomfort regarding late notice for TBL grouping.</li> <li>- Working in team, its normal that some feels not good in the subject and tend to stay quiet.</li> <li>- Nothing to be dislike, so far.</li> </ul>					
<b>Any suggestion for improvement of TBL in future?</b>					
<ul style="list-style-type: none"> <li>- To increase the number of questions and by that we can discuss more about it among us and increase our knowledge together.</li> <li>- Questions format must not only be in One best answer.</li> <li>- It should be nice if we are able to have this program in longer period of time.</li> <li>- To further promote ongoing comfortability with one another, groups can be formed and broken by the students themselves and it would be great if we can shuffle it for next TBL.</li> <li>- TBL should be conducted for all of the subject.</li> </ul>					

The TBL is an educational tool to be practiced in making the teaching more interactive, collaborative and interesting aimed to increase learners' efficiency. TBL differs from problem-based learning (PBL) where there is no need of multiple faculty and multiple rooms for TBL<sup>3</sup>. The four crucial principles in TBL are: (i) teams/groups must be rightly formed, (ii) students must be made liable for their individual and group activities, (iii) group works must promote both learning and team development, and (iv) students must have immediate feedback<sup>3</sup>. TBL is a new way to teach students in general, and medical students in

particular to make it more collaborative, interactive and interesting and more learners directed with lecturers' guidance aimed to develop higher order cognitive skills among future human capital<sup>3</sup>.

21st century is a time of rapid development in science and technology which leads people striving to continuously improve upon themselves and gain more knowledge and skills<sup>8</sup>. Teaching is an interaction between a teacher and learners in order to provide opportunities for learning<sup>9</sup>. The roles of teachers are now changing from deliverer of materials to a more creative, designer and facilitator of learning<sup>10</sup>. This paper offers

a window to the teachers' family around the globe in developing a transformative progression from traditional lecture to innovative TBL skills and thereby sponsoring benefits of small group teaching in a large group setting. The ultimate aim is to produce competent and confident future leader or human capital. Educational manager should implement TBL in medical schools in order to produce competent and confident human capital.

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The authors declared no conflicts of interest.

#### Authors' Contribution

Both the authors conceptualised, designed, analysed, drafted and finalised this paper and approved for submission to the Journal for publication.

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