

An Introduction to Team-Based Learning

Team-based learning (TBL) is an evidence-based teaching approach which improves students' learning outcomes and retention. This guide will provide you an overview of the team-based learning methodology, its origin, and its benefits.

What is Team-Based Learning?

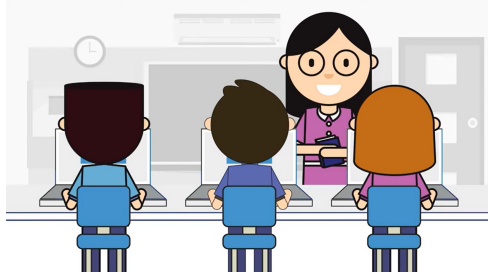
TBL is a collaborative learning teaching methodology that focuses on equipping students with complex problem-solving skills, critical thinking and team collaboration needed for today's workforce. TBL is flexible to fit various class schedules with approximately 25% of time dedicated to readiness activities and 75% for knowledge application and team problem solving. The prevalence of TBL, measured by publications has increased over 600% in the past 10 years.

Team-Based Learning Origin

TBL was founded in 1979 by Dr Larry Michaelsen, a Business Professor at the University of Oklahoma. When his class size tripled from 40 to 120 students, a major challenges he faced was engaging the large class in effective problem-solving.

Dr. Michaelsen developed an approach where students came prepared to class and were tested individually and in teams. Through a structured problem-solving method, students were deeply engaged with the content and could readily understand how to apply their learning which was reinforced through immediate feedback.

Difference Between Traditional Lecture and Team-Based Learning Approach



Traditional Lectures



Pre-Class



Preparation: Instructors often suggest readings and videos for student to review before class.



During Class



Lectures:

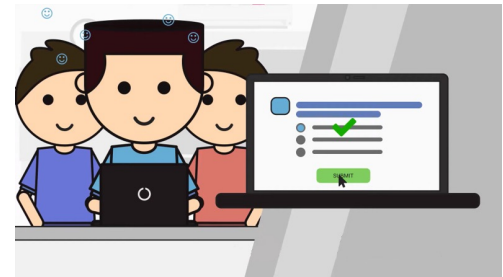
- **Instructors**
 - Deliver speeches or explanations on content using presentations.
 - Accepts questions at the end of class.
 - Intermittently test students' knowledge through quizzes and assignments.
- **Students**
 - Listen to Instructors and feverishly take notes on the content delivered.
 - Passively learn in isolation without interacting with other students or the Instructor.



Periodically



Self-Teaching: Students create study guides and review notes taken independent of the Instructor



Team-Based Learning



Pre-work: Students review preparatory material on *key concepts* before class prepared to engage with material.



Readiness Assurance Process:

- **Individual Readiness Assurance Test (iRAT)** Students complete individual quiz (5-20 MCQs) based on prework.
- **Team Readiness Assurance Test (tRAT)** Teams use consensus-decision making on the same test. Immediate feedback is provided after each submission till the preferred answer is selected.
- **Clarifications:** Unclear concepts that remain can briefly be address by the instructor:



Applications: Teams focus on applying theoretical knowledge to solve real-world questions.



Peer Evaluation: Team-members evaluate self and/or each other on contributions to the team motivating accountability.

4S's

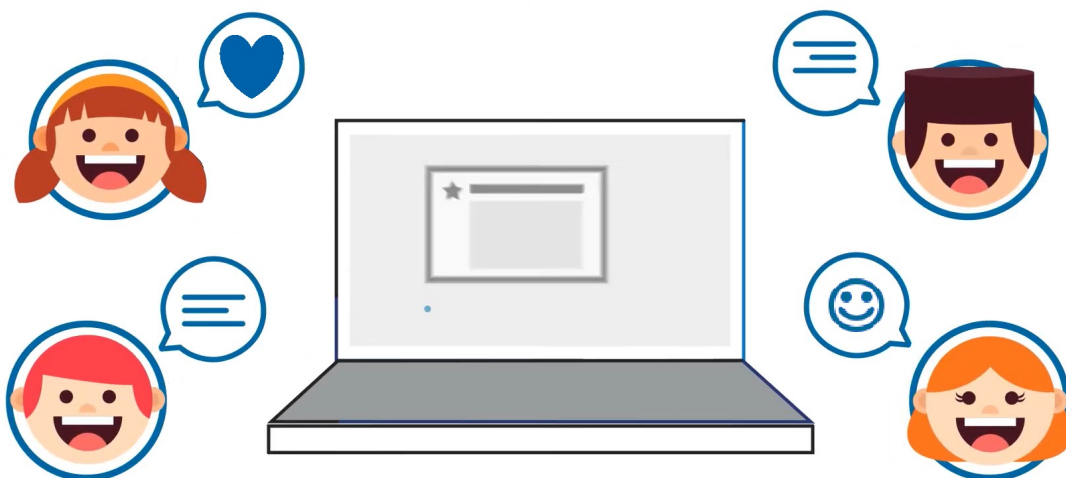
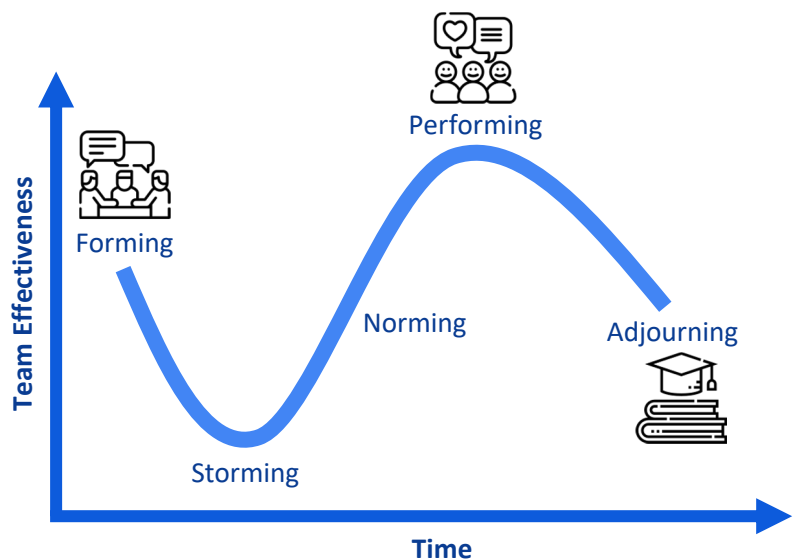
As the majority of class time is spent working on application exercises, it is imperative to design well constructed problems that are of higher orders of thinking that are not easily found in search able resources. Applications are most effective when applying the 4S's:

4S

- **Same Problem:** All teams work on the same problem, question, or case study.
- **Significant Problem:** Relevance of the problem is significant and apparent to the student.
- **Specific Choice:** Teams apply knowledge, come to a consensus, and make a specific choice.
- **Simultaneous Report:** Teams report specific choices simultaneously.

Team Formation

It takes time for groups to transform into teams. Generally, it takes approximately three-to-six weeks for groups to become effective, thus keeping groups together for an entire term is recommended. This is to allow teams to transition through Tuckman's Stages (on right). As a rule of thumb, Instructors should use transparent attributes to form groups 5-7 students per group with diverse backgrounds to distribute resources.



Benefits of Team-Based Learning

- ✓ **TBL makes classes more fun, engaging, and interactive, even in an online environment.** TBL approach shifts the focus from instructor-led teaching to students becoming more active in the learning process. Students come prepared to the class, thus fostering enriching class discussions and deepened learning for all.
- ✓ **TBL's immediate feedback approach improves students' learning retention.** Students receive immediate feedback during TRAT. This allows teams to discuss and clarify among themselves to arrive at a consensual answer choice.
- ✓ **TBL prepares students for the workforce.** Application cases during a TBL class allows students to apply theoretical knowledge to real-world scenarios. Students develop skills such as complex problem-solving, teamwork, collaboration, and time management, thus preparing them to be accountable and perform better in teams.
- ✓ **TBL can be implemented for small and large class-sizes.** Educators can easily teach TBL class sizes of 250-300 students, even in an online and hybrid setting as it is easier to manage teams than individual students. This also reduces the admin workload.
- ✓ **Consistent TBL process allows for institution-wide adoption.** TBL tools, such as InteDashboard, allow administrators to streamline the TBL process consistently across all classes, thus ensuring that students have a similar learning experience.
- ✓ **The data collected from TBL can help optimize learning outcomes.** Using online technologies (such as InteDashboard) provides educators with analytics on how students and teams are performing. This data can be used to measure the success of the unit, as well as to figure out how the unit can be improved to ensure learning needs of students is met.

Essentials of TBL

- ❑ **Educator formed teams.** Transparent distribution of resources amongst teams of 5-7 members in face-to-face classes or 3-4 members in virtual teams created by the educator is imperative. Keeping teams for a full term is necessary for teams to transition through Tuckman's stages.
- ❑ **4S constructed application exercises.** Well constructed applications that follow the 4S's will provide students with the tools to apply core concepts to solve real-world problems and fosters dynamic discussions that increases problem solving and critical thinking skills.
- ❑ **Immediate Feedback.** Timely, consistent feedback is imperative to learning. Feedback is known to be motivating, confidence building, and improve learning performance and retention.
- ❑ **Student accountability.** Following the prescriptive sequence of TBL promotes individual accountability in the iRAT and team accountability through the tRAT and applications. Also motivating students to be accountable, are peer evaluations which can be integrated into a grading system.