

Introduction to Team-Based Learning

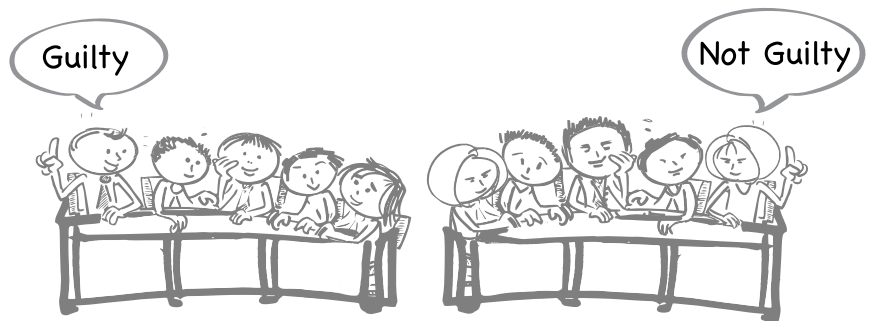
TBL is a uniquely powerful form of small group learning. It provides a complete coherent framework for building a flipped course experience.

TBL lets you achieve two important things:

1. Students come to class prepared by using TBL's ingenious Readiness Assurance Process.
2. Students learn how to apply the course concepts to solve interesting, authentic, real-world problems using TBL's 4 S framework.

It's like a courtroom jury ...

Think of a courtroom jury that sifts through large amounts of evidence, statements, and transcripts to come up with a simple decision: guilty or not guilty. Imagine your work on a jury; you rise to state the jury's verdict, but another person rises from a different jury team in the same courtroom and states a different verdict. You naturally want to talk to them; you naturally want to ask "why?" This simple comparability between decisions, and the natural tendency to ask the question "why" is at the heart of TBL. This "why" motivation provides the instructional fuel to power insightful debates between student teams.



The rhythm of TBL

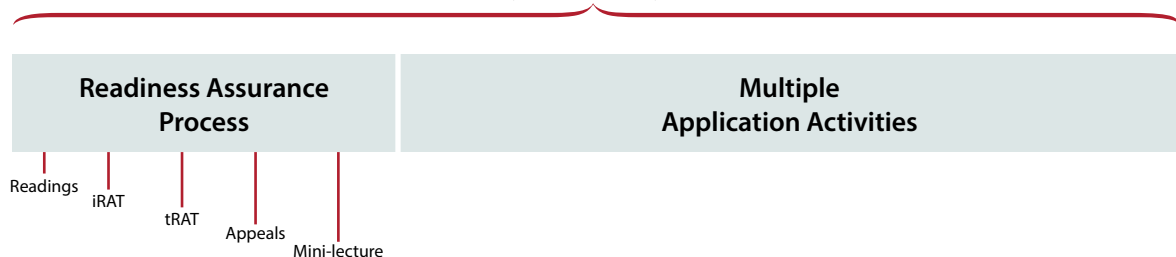
TBL courses have a recurring pattern of instruction that is typical of many flipped classrooms. Students prepare before class and then students spend the bulk of class time solving problems together. TBL gives you a straightforward whole course framework to design and implement your flipped classroom.

A typical TBL course is divided into five to seven modules. Each module has a similar rhythm, opening with the Readiness Assurance Process that prepares the

students for the activities that follow, and then moving to Application Activities that often grow in complexity and length as the module progresses. As the module is ending, you provide some closure and reinforcement. Module length varies in different contexts. In some courses an entire cycle is completed in one long session and in other courses the cycle may be spread across multiple class meetings.

As the next module begins, the familiar TBL rhythm starts to build: out-of-class preparation, the Readiness Assurance Process, followed by Application Activities.

Typical TBL Cycle



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA
FACULTY OF APPLIED SCIENCE

CENTRE FOR INSTRUCTIONAL SUPPORT
by Jim Sibley and Sophie Spiridonoff
www.teambasedlearning.org

How TBL Works

Readiness Assurance

Getting Your Students Ready

During this 5 stage process at the beginning of each module, students progress from initial preparation to true readiness to begin problem-solving.

Following the Readiness Assurance Process, the bulk of class time is spent with students applying course concepts and solving problems.

1 Pre-Class Preparation

Students are assigned preparatory materials to review before start of each module. The preparatory materials can be textbook chapters, articles, videos, or PowerPoint slides. The preparatory materials should highlight foundational vocabulary and the most important concepts the students need to begin problem solving, but not everything they need to know by module end.

2 Individual Readiness Assurance Test

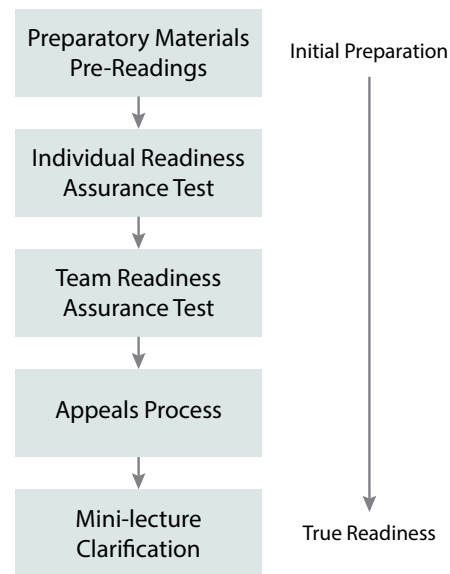
To begin the classroom portion of the RAP process, students complete a 15-20 multiple-choice question test. They first complete the test individually (iRAT), and then repeat the same exact test with their team (tRAT). The iRAT holds students accountable for acquiring important foundational knowledge from the preparatory materials that will prepare them to begin problem-solving. The questions are typically written at Bloom's levels: remembering, understanding and simple applying.

3 Team Readiness Assurance Test

The Team Readiness Assurance Process Test (tRAT) is the exact same test as the iRAT. A special type of scoring card known as an IF-AT should be used (scratch and win style testing). With IF-AT's, the teams must negotiate which answer to choose, they then scratch off an opaque coating over their answer choice, hoping to find a star that indicates a correct answer. If the team does not discover a star, they continue to discuss the question and sequentially select other choices. The tRATs are high energy learning events.

Question	A	B	C	D	Score
1.				★	4
2.		★			2
3.	★				4
4.		★			1
5.					
6.					
7.					
8.					
9.					
10.					

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4 Appeals

During the closing of the team test, the instructor circulates around the room and encourages teams to consider creating a written appeal for questions they got incorrect. This forces students back into the reading material exactly where they are still having difficulty. The team then researches the "right" answer and may choose to complete the appeals form with their rationale and defense for their alternate answer. The appeal must consist of (a) a clear statement of argument, and (b) evidence cited from the preparation materials. The instructor collects these forms and considers them after class.

5 Mini-lecture

To conclude the Readiness Assurance Process, the instructor focuses a short mini-lecture only on the concepts that are still problematic for the students.

In the words of Bob Philpot at South University, "TBL helps me understand the 10-15% of the course material I really need to talk to the students about."

In Class Activities

4S Problem-Solving Framework

- **Significant Problems**
- **Same Problem**
- **Specific Choice**
- **Simultaneous Report**

In the TBL classroom, the bulk of class time is spent having student teams solve, report, and discuss solutions to relevant, significant problems. Structuring the problems using TBL's 4S Framework lets you leverage the power of team processing without many of the problems that are inherent in other forms of small-group learning. The structure of the TBL activities gives individuals, and teams, many opportunities to make decisions and get timely feedback on the quality of their thinking and their process for arriving at their answer.

1 Significant Problem

Examples of Significant Problem

- A historian reconciles conflicting sources.
- A doctor decides the best course of action.
- A businessperson picks the best location for a business.
- A writer identifies the most powerful passage or best example.

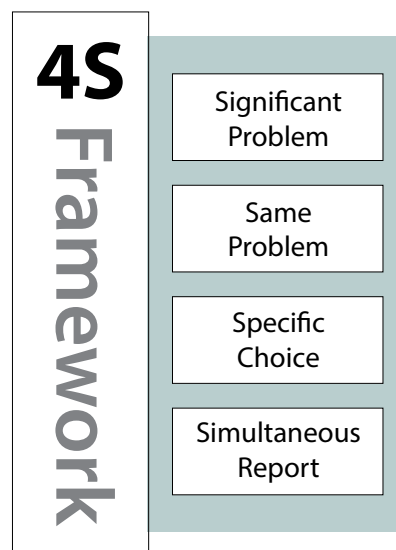
You must use a significant, relevant problem that captures the interest of students. The quality of the problem ultimately controls the effectiveness of an application activity. Problems must require students to use course concepts to solve them.

2 Same Problem

Teams work on the same problem. This ensures the comparability of team solutions and this naturally acts as a potent discussion starter. Having students work on the same problem lets you create reporting opportunities for teams to defend, challenge, discuss, and examine each other's thinking and problem-solving process. Working on the same problem, ensures that students are interested in what other teams decided.

3 Specific Choice

Teams select the best choice from a limited list of options. This ensures that teams can easily compare their final decisions to the decisions of other teams. It is this comparability that drives the rich reporting discussion as



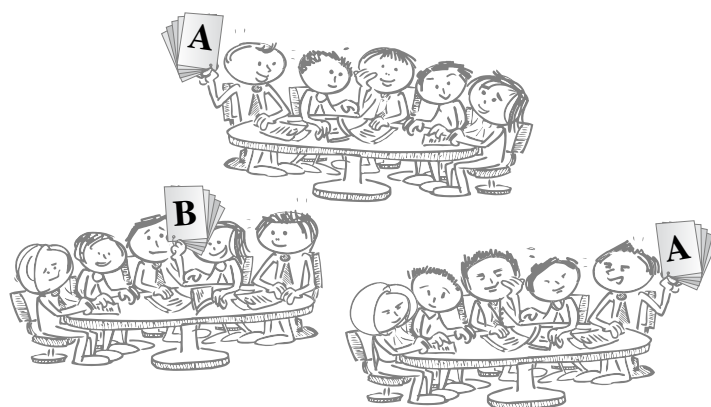
teams examine and critique other teams decisions and defend their own.

Examples of Specific Choice

- Which of these is the **best** example of X?
- **Most** important piece of evidence in support of Y?
- Which statement would the author **most** agree with?

4 Simultaneously Report

Simultaneous reporting is most simply accomplished with holding up of a coloured card indicating a particular choice. When a team sees that another team has made a different decision, they naturally want to challenge the other teams' decision. In the ensuing conversation, the teams challenge each other and defend their own thinking. The reporting requires teams to articulate their thinking to other teams – putting their thoughts into words. This helps cognitively with the process of creating enduring, deep understanding. The feedback from their peers is immediate and focused on "how did you arrive at your decision" and not "which is the right answer."



4 Essential Elements of TBL

Teams must be properly formed and managed

TBL works best with large, diverse teams. TBL teams should have 5-7 students. Teams should be created by instructor and uniformly distribute the student assets you feel are important for team success. Teams need to be permanent so team cohesion has time to build.

Getting Students Ready

The magic of the Readiness Assurance Process is that it builds on the initial preparation, changing it into true readiness to begin problem-solving. At the simplest level, the RAP is a series of multiple-choice tests. First the test is taken individually, and then the same test is immediately retaken in teams.

For more information on how to get started.

Visit
www.teambasedlearning.org

Classroom materials, books, videos, workshop schedules and more!

Teachers Say It Works!

The enthusiasm and energy of students. It's just so much fun!

*Larry Michaelsen
University of Central Missouri*

Students excited about learning and faculty falling in love with teaching. The way learning should be.

*Holly Bender
Iowa State University*

Students are so engaged in conversation with each other and the task that, literally, they don't know I am there. My favorite days are when I have to tell them to leave.

*Laura Madson
New Mexico State University*

I think the genius of TBL is that it maximizes the advantages of group learning while minimizing the disadvantages.

*Brent MacLaine
University of Prince Edward Island*

Applying course concepts

Use the 4 S problem-solving framework to have students make complex decisions and then get rich, immediate, and specific feedback on the quality of their decisions. The give-and-take discussions that follows after teams publically report their decisions is a powerful opportunity deepen students understanding.

Making students accountable

Making students truly accountable is key. There is individual accountability from the iRAT, but what is most motivating is the accountability to teammates during the tRAT's and Application Activities. Peer evaluation is key to giving the grading scheme enough teeth to motivate students.

The Literature Says It Works!

Students are more engaged

Students reported higher level of engagement in TBL courses (Chung et al., 2009; Clark et al., 2008; Kelly et al., 2005; Levine et al., 2004).

Increased excitement in the TBL classroom

Teachers report increased excitement and engagement in their classrooms (Andersen et al., 2011; Dana, 2007; Jacobson, 2011; Letassy et al., 2008; Nicoll-Senft, 2009).

Teams outperform best members

The worst team typically outperforms the best student. In 20 years of results Michaelsen (1989) found that 99.95% of teams outperformed their best member by an average of 14%.

Students perform better on final and standardized exams

TBL students outperform non-TBL students on examinations (Grady, 2011; Letassy et al., 2008; Persky, 2012; Zingone et al., 2011; Koles et al., 2005; Koles et al., 2010; Thomas & Bowen, 2011).

A large class can be an asset

Michaelsen, Knight, Fink (2002) found that students actually perceived a larger class size as beneficial to their learning with TBL.



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