

Introduction to Team-Based Learning

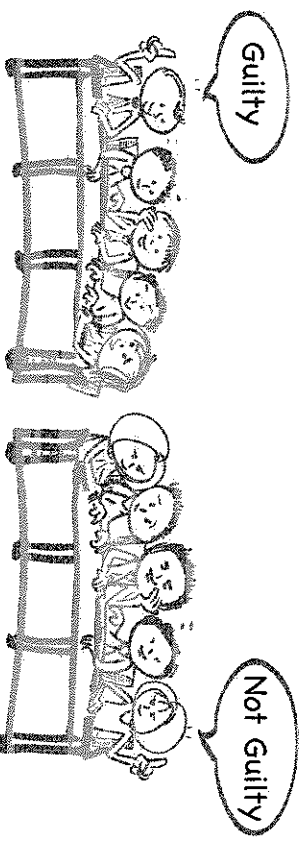
TBL is a uniquely powerful form of small group learning. It provides a complete coherent framework for building a flipped course experience.

TBL lets you achieve two important things:

1. Having students come to class prepared by using TBL's ingenious Readiness Assurance Process.
2. Having students learn how to apply the course concepts to solve interesting, authentic, real-world problems using TBL's 4-5 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.



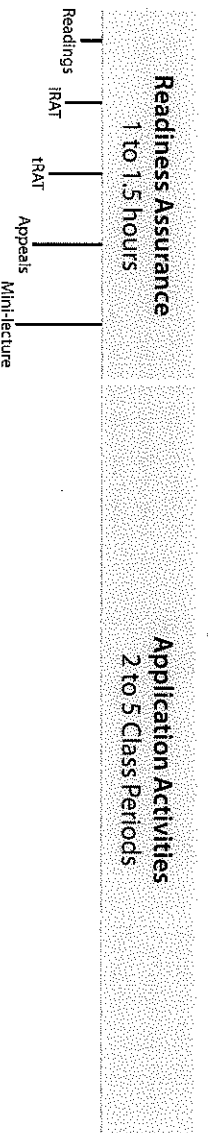
The rhythm of TBL

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. 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 Module



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THE UNIVERSITY OF BRITISH COLUMBIA
FACULTY OF APPLIED SCIENCE

CENTRE FOR INSTRUCTIONAL SUPPORT
by Jim Staley and Sophie Spiliadouff
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-Readings

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 student need to begin problem solving and not everything they need to know by module end.

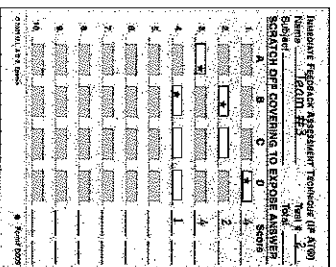
2 Individual Readiness Assurance Test

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 readings that will prepare them to begin problem-solving in subsequent class sessions. The questions are typically written at Bloom's levels: remembering, understanding and simple applying.

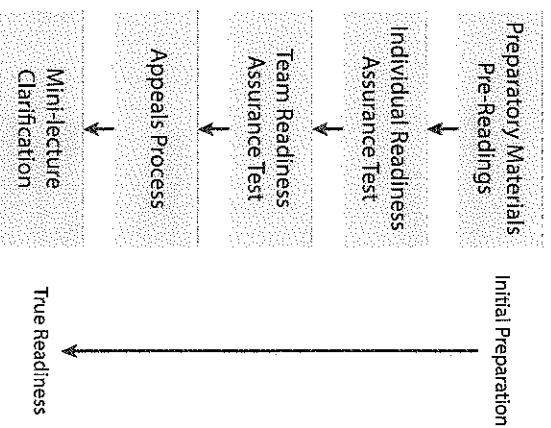
3 Team Readiness Assurance Test

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 is 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.



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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.

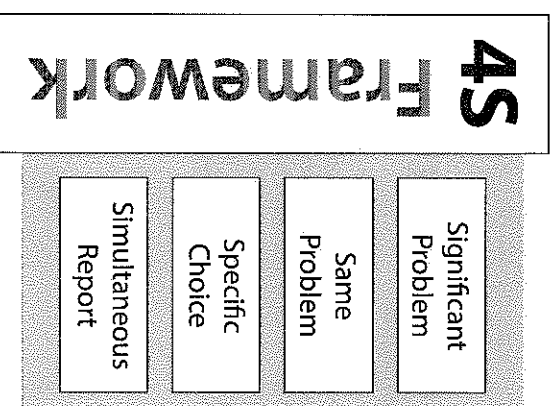
In the words of Bob Philpott at South University, “TBL helps me understand the 10-15% of the course material I really need to talk to the students about.”

In Class Activities

4S Framework

- **Significant Problems.** Teams work on significant problem.
- **Same Problem.** Teams work on same problem.
- **Specific Choice.** Teams make a specific choice.
- **Simultaneous Report.** Teams report choice simultaneously.

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.



Examples of Specific Choice

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

1 Significant Problem

Select a significant, relevant problem that captures the interest of students. The quality of the problem ultimately is the most powerful factor in influencing the effectiveness of an application activity. Problems must require students to use course concepts to solve them.

Backwards Design can be used here to: first decide on the problem, and then trace things back to the course concepts that the students would need to solve the problem. By understanding the course concepts at play, you can then select appropriate readings and construct appropriate Readiness Assurance Tests.

2 Same Problem

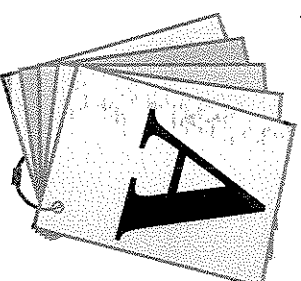
Teams work on the same problem. This ensures the comparability of team decisions and that naturally acts as a potent discussion starter. Having students work on the same problem lets you create reporting opportunities for teams to defend, challenge, discuss, and examine each other's thinking and problem-solving process. Working on the same problem, ensure 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 easy comparability that drives the rich reporting discussion as teams examine and critique other teams decisions and defend their own.

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 very 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

The first essential element is the proper use of large, diverse teams. TBL teams should have five to seven students. Teams should be created by the instructor and fairly distribute the various student assets you feel are important for team success. Teams need to be permanent so team cohesion has time to build.

Readiness Assurance to ensure preparation

The second essential element is getting students prepared using the Readiness Assurance Process (RAP). At the simplest level the RAP is a multiple choice test. First it is taken as an individual and then the same test is re-taken in teams. The magic of the RAP is that it actually builds on initial student preparation and turns it into genuine student readiness for the learning activities that follow.

The Importance of Accountability

The final essential element is accountability. There are multiple levels of accountability in TBL. There is individual accountability to the instructor from the individual Readiness Assurance Test but what is truly motivating is accountability to one's teammates, and a formal peer evaluation process is key to making this happen. Peer evaluation gives the grading scheme the teeth to motivate every student to contribute and be fairly rewarded (or not) for their level of contribution.

Learning how to apply course concepts

The third essential element of TBL is helping student learn how to use course concepts to solve problems. The 4-5 problem-solving model creates classroom events that require students to make complex decisions and then get rich, immediate and specific feedback on the quality of their decision. The give-and-take conversation that follows after teams publically report their decisions is a powerful tool to help students develop a deep understanding of the course material.

To get more information and get started
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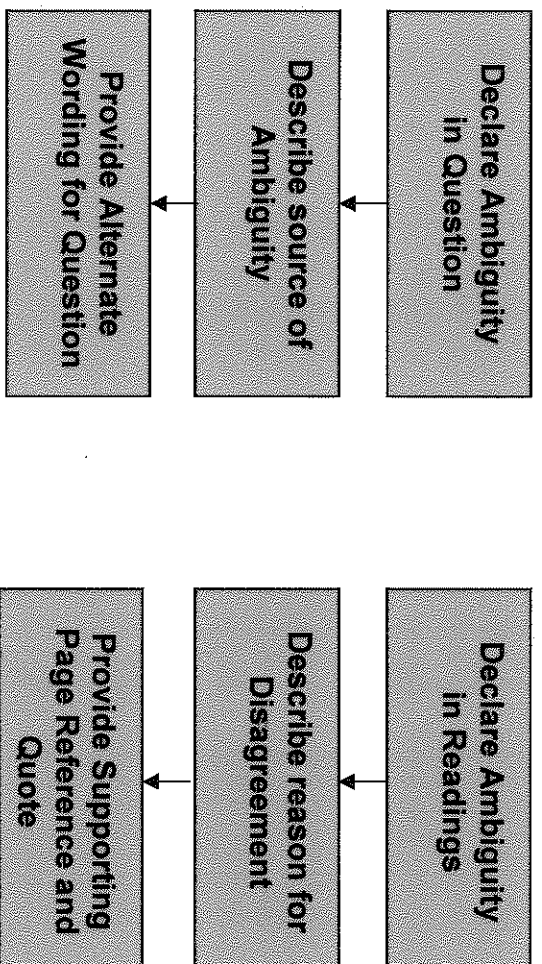
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Preparing a Successful Question Appeal

If your team feels strongly about the correctness of one of your answers that was counted wrong, your team may submit a written appeal to the instructor. This appeal process must occur immediately following a team quiz. Only teams, not individuals, may write appeals. Only teams that write successful appeals get points for that appeal, even if another team missed the same question(s).

Appeals are not simply an opportunity to dig for more points. Rather, they are an opportunity for teams to make written scholarly arguments for your collective position. All arguments must be supported by evidence from the text or lecture notes. If the appeal is based on an allegedly ambiguously phrased question, your team must suggest wording that is less ambiguous. The decision to grant or refuse an appeal will be made by the instructor between classes. All decisions are **final**.



Example of Successful Appeal

Argument: “We feel that A, rather than B, should be the correct answer to question 15.”

Evidence: “According to Table B.6, the critical r for 10 degrees of freedom, two-tailed test, and an alpha of .05 is .576, which is larger than the calculated r of .570. This would lead us to conclude that there is no relationship between shoe size and intelligence.”

Team Number:

Question Number:

Argument and Evidence to Support Appeal:

A large, empty rectangular box with a thin black border, occupying the majority of the page. It is intended for the student to write their argument and evidence to support their appeal.