Team-Based Learning - TBL (Michaelsen, Knight & Fink, 2002) dramatically shifts the focus of classroom time from conveying course concepts by the instructor to application of course concepts by student groups. In the TBL process, students acquire their initial exposure to the content through readings and are held accountable for their preparation using a Readiness Assessment Process (RAP). Following the RAP, they practice in-class learning how to apply the content using a series of team application exercises.

**Shift in Paradigm**

1. Primary learning objectives shift from knowing to using and applying the course concepts.
2. Role and function of the teacher shifts from a 'sage on the stage' to a 'guide on the side'.
3. Role and function of students shifts from being passive recipients of information to being responsible for the acquisition of information and then learning to apply the information in a variety of contexts and to variety of problems.

**Four Key Principles for Success in TBL**

**Group Formation**
- Groups must be properly formed and managed. Instructors should:
  - Separate subgroups
  - Create teams with diverse skills and abilities
  - Make groups that are fairly large (5 to 7 members)
  - Make groups that are permanent

**Accountability**
- Students must be made accountable for:
  - Individual pre-class preparation
  - Contributions to team assignments
  - Contributions to team functioning
- This can be ensured by using a grading system that encourages accountability.

**Assignment Quality**
- Good assignments promote learning and team development.
  - Effective TBL assignments require teams to make complex, multi-faceted decisions and report in simple form.
  - Most “problems” are the result of inappropriate assignments that don’t require group interaction.

**Timely Feedback**
- Students must have frequent and timely performance feedback.
  - The RAP informs individuals and groups on their quality of preparation.
  - Intra and Inter-team discussions during application exercises provide rich opportunities for feedback.

For more information visit [www.teambasedlearning.org](http://www.teambasedlearning.org)
Instructional Sequence for Team-Based Learning

Readiness Assessment Process

The RAP occurs at the beginning of each major instructional unit. RAP ensures that students have completed pre-class reading assignments and are prepared for in-class team work. The process consists of a multiple choice test (15-20 questions) on key concepts from the readings. It is first taken individually and then immediately re-taken as a team. RAP typically consists of five elements:

1. Assigned Readings
2. Individual Testing and Feedback (Scantron)
3. Team Testing and Feedback (IF-AT sheets)
4. Discussions and Appeals
5. Mini-lecture/Instructor Feedback

In-Class Application Exercises (3 S’s)

- **Same Problem**: Individuals/groups work on the same problem, case or question.
- **Specific Choice**: Individuals/groups must known and use course concepts to make a specific choice.
- **Simultaneous Report**: Individuals/groups report their choices simultaneously. This makes the results of student thinking highly visible and provides opportunities to discuss contrasts in decision making and thinking.

Important Considerations for Effective TBL Exercises

1. Production of a **tangible output**
2. Impossible to complete without **comprehension** of course concepts
3. Sufficiently **difficult** to eliminate completion by an individual member
4. Majority of **time engaged** in activities
5. Applicable to real world issues or problems (**pragmatic/applied**)
6. Interesting and **fun** (**ENERGY** is the acid test for good exercises)

Contact
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Jim Sibley at 604.822.9241 or jim.sibley@ubc.ca

This document is based on the work and writings of Larry Michaelsen, Dee Fink, and Arletta Bauman Knight
Short Guide for Writing Good Questions for Team Based Learning (TBL)
(prepared by Office of Learning and Teaching, E&B)

**Aim:** The key for the in-class Readiness Tests is to prepare students for applying their newly gained knowledge. This is best done by making sure students clearly understand key concepts and terminology, the structure and logic of key theories, and comprehend how the knowledge could be applied.

**Structure:** 5-20 multiple choice questions. The number of questions is dependent partially on resources, time available for the process, and the type of subject. The aim is for students (who have prepared) to get 60-70% correct. TBL Readiness Tests can be either open or closed book – questions need to reflect the choice with easier and simpler questions as suitable for closed book Readiness Tests.

**Types of questions:**

It is a good idea to have three types of questions, which can be identified when you read the text as the key elements you wish your students to learn:

- **What questions** i.e. the most important concepts or facts in the text. These are simpler knowledge and recognition questions (*What is…? Who is…*?). These questions usually align with the Graduate Attribute of Research and Inquiry and the learning outcome would be: Ability to understand key concepts.

- **How questions** i.e. the most important causal links or correlations you want students to understand. (*How this relates to that…?*, *Which facts or ideas show…?*, *What is the relationship between…? What would result if…?* *how is an argument constructed…?*, *how did something come about…?*). These questions usually align with the Graduate Attribute of Information literacy and learning outcome could be: Critical evaluation of theories and key concepts.

- **Why questions** i.e questions which require application/analysis questions. These are the most difficult questions and there should be less of them than the others. (*What conclusions can you draw…? What is the function of…? Why is X important…?*). These questions usually align with the Graduate attribute or Ethical, Professional and Social Understanding and the Learning could be: Application of key concepts.
Checklist for writing clear and effective questions¹:

1. Each question measures only important learning outcomes. Before starting question writing it is helpful to write down the key learning aims and aim to write a question for each.

2. Use simple sentences. Avoid complex sentences and embedded clauses. Use complete punctuation and common terms.

3. Do not repeat words in the answers that could be incorporated into the question stem.

4. The question stem is in the positive form whenever possible.

5. Negative word is emphasized whenever it is used in the stem.

6. Make all choices plausible. Carefully choose the wrong answers to test common misconceptions, understanding of relationships and limits of knowledge.

7. It should be possible to understand the question without reading the alternatives.

8. The question contains no clues like answer length, font or key words to help learner select the correct answer or eliminate an incorrect answer.

9. “All of the above” is not used as an alternative. “None of the above” is used with extreme caution.

10. Grouping items under headings can improve student performance.

¹ Modified by OLT in Economics & Business from University of British Columbia checklist available at: http://ipeer.apsc.ubc.ca/wiki/images/e/e2/Question_Writing_Checklist.doc
1. The key benefits from team-based learning (TBL) include all of the following **EXCEPT**:
   a. other students’ experiences provide ‘entertainment’
   b. working in teams enables learning-benefits from professional and personal experience as well as from ‘formal’ sources
   c. learning of core concepts is strongly encouraged and supported
   d. learning is facilitated through the use of concepts in applied problem-solving
   **ANSWER A**

2. One of the key elements of Team-Based Learning is the double assessment via readiness test questions: first as an individual and then again as a team. While this may seem to be increase the time spent on assessment without any great learning benefit, there are sound reasons for this process. How does this benefit the learning process?
   a) It makes students responsible for pre-preparation enabling more effective peer learning.
   b) It acts as a way of making sure all students arrive in class on-time.
   c) Free-riding becomes impossible.
   d) It provides a way for lecturers to assess students throughout the semester.
   **ANSWER: A**

3. Team-Based Learning is a fundamentally different way of running units of study from the standard lecture format. The benefits of this change are underpinned with a particular understanding of learning as a constructive process. The primary course objective is therefore:
   a) Transmission of teacher-specified knowledge
   b) Student-directed learning goals
   c) Understanding course concepts
   d) Learning how to use and apply course concepts
   **ANSWER: D**

4. In a study by Scott and Yates’ (2002) professional (5 year out) graduate engineers identified personal emotional intelligence as the most important professional competence ahead of intellectual knowledge, profession-specific skills, generic skills and educational quality. Which of the following assessment types most strongly enable the development of personal emotional intelligence?
   a) An examination
   b) An essay that explores and critiques the concept of emotional intelligence
   c) A partnered assignment with another student
   d) An application exercise undertaken with a student team
   **ANSWER = D**
# TEAMWORK STANDARDS

Adapted from the AAC&U VALUE Rubrics and acknowledged with thanks. See Assuring Graduate Capabilities

**Definition:** Teamwork is behaviors under the control of individual team members (effort they put into team tasks, their manner of interacting with others on team, and the quantity and quality of contributions they make to team discussions.)

<table>
<thead>
<tr>
<th>Novice to Expert categories</th>
<th>Expert</th>
<th>Proficient</th>
<th>Competent</th>
<th>Novice</th>
<th>Beginner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduates as experienced professionals can</td>
<td>Graduates as new professionals can</td>
<td>Graduates of this course can</td>
<td>Students in the middle stages can</td>
<td>Students in the early stages can</td>
<td></td>
</tr>
<tr>
<td><strong>Contributes to Team Meetings</strong> [add text]</td>
<td>Helps the team move forward by articulating the merits of alternative ideas or proposals. Supports a constructive team climate by doing any of the following:</td>
<td>Offers alternative solutions or courses of action that build on the ideas of others. Supports a constructive team climate by doing any of the following:</td>
<td>Offers new suggestions to advance the work of the group. Supports a constructive team climate by doing any of the following:</td>
<td>Shares ideas but does not advance the work of the group.</td>
<td></td>
</tr>
<tr>
<td><strong>Facilitates the Contributions of Team Members</strong> [add text]</td>
<td>Engages team members in ways that facilitate their contributions to meetings by both constructively building upon or synthesizing the contributions of others as well as noticing when someone is not participating and inviting them to engage. Supports a constructive team climate by doing any of the following:</td>
<td>Engages team members in ways that facilitate their contributions to meetings by constructively building upon or synthesizing the contributions of others. Supports a constructive team climate by doing any of the following:</td>
<td>Engages team members in ways that facilitate their contributions to meetings by restating the views of other team members and/or asking questions for clarification. Supports a constructive team climate by doing any of the following:</td>
<td>Engages team members by taking turns and listening to others without interrupting.</td>
<td></td>
</tr>
<tr>
<td><strong>Individual Contributions Outside of Team Meetings</strong> [add text]</td>
<td>Completes all assigned tasks by deadline; work accomplished is thorough, comprehensive, and advances the project. Proactively helps other team members complete their assigned tasks to a similar level of excellence. Supports a constructive team climate by doing any of the following:</td>
<td>Completes all assigned tasks by deadline; work accomplished is thorough, comprehensive, and advances the project. Supports a constructive team climate by doing any of the following:</td>
<td>Completes all assigned tasks by deadline; work accomplished advances the project. Supports a constructive team climate by doing any of the following:</td>
<td>Completes all assigned tasks by deadline.</td>
<td></td>
</tr>
<tr>
<td><strong>Fosters Constructive Team Climate</strong> [add text]</td>
<td>Supports a constructive team climate by doing any of the following:</td>
<td>Supports a constructive team climate by doing any of the following:</td>
<td>Supports a constructive team climate by doing any of the following:</td>
<td>Supports a constructive team climate by doing any of the following:</td>
<td></td>
</tr>
<tr>
<td><strong>Responds to Conflict</strong> [add text]</td>
<td>Addresses destructive conflict directly and constructively, helping to manage/resolve it in a way that strengthens overall team cohesiveness and future effectiveness. Identifies and acknowledges conflict and stays engaged with it.</td>
<td>Redirecting focus toward common ground, toward task at hand (away from conflict). Passively accepts alternate viewpoints/ideas/opinions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Contributes to Team Meetings</strong> [add text]</td>
<td>Helps the team move forward by articulating the merits of alternative ideas or proposals.</td>
<td>Offers alternative solutions or courses of action that build on the ideas of others.</td>
<td>Offers new suggestions to advance the work of the group.</td>
<td>Shares ideas but does not advance the work of the group.</td>
<td></td>
</tr>
</tbody>
</table>

**Exemplars**

[add text, image, audio, video] [add text, image, audio, video] [add text, image, audio, video] [add text, image, audio, video] [add text, image, audio, video]