Transforming Your Classroom with Team-Based Learning: Bringing Deep Engagement and the Joy of Learning to Your Students

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Knowledge focused curricula

Simple content covering

Significant learning

Mastery of content in order to apply it

Knowledge focused curricula

Conveying course contents by the instructor

Significant learning

Application of course concepts by students teams

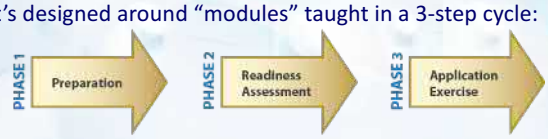
Rationale

- To shift focus from learning key concepts to using concepts
- To replace lecture format with a more "hands on" experience (engagement and joy)
- To encourage students to come to class prepared

Team Based Learning (TBL)

TBL is a powerful form of small group learning which focuses on application of knowledge through an active learning strategy

It's designed around "modules" taught in a 3-step cycle:

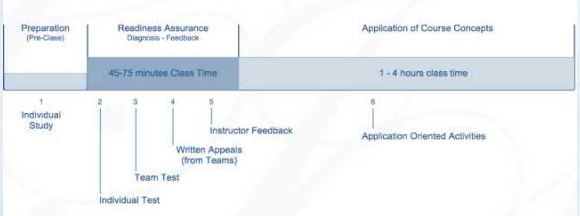


How is it different from regular group work?

- Teams
- Accountability (readiness assurance)
- Assignment design
- Peer evaluation and feedback

Sequence of Learning Activities in TBL

Covering one major topic in 2-3 weeks block of time



40% 50% 60% 70% 80-100%

Approximate Level of Content Understanding at Each Phase

Pre-class Reading

- Guided reading enables students to learn basic concepts and necessary background with the teacher's support

Readiness Assessment Process

This is an MCQ test (10-20 questions) on key concepts from the readings

It is first taken individually (Individual readiness assessment test - IRAT, feedback by scantron)

Readiness Assurance Test (RAT)

- Questions correlate with learning objectives
- Questions focus on major content, not trivia
- Questions are of appropriate difficulty (average score 70-80%)
- Multiple-choice questions intentionally have single best answer
- Test requires 10-20 minutes, depending on length of advance assignment

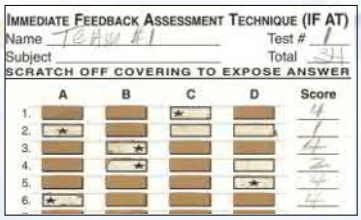
Sample RAT

- Which of the following is not a derivative of cholesterol?

a) Glucocorticoids
b) Vitamin E
c) Bile salts
d) Vitamin D
e) Sex steroids

Readiness Assessment Process

After IRAT, the test is then immediately re-taken as a team (Group readiness assessment test - GRAT, feedback by IFAT's)


IMMEDIATE FEEDBACK ASSESSMENT TECHNIQUE (IF AT)
Name TBAW #1 Test # 1
Subject Total 34
SCRATCH OFF COVERING TO EXPOSE ANSWER

	A	B	C	D	Score
1.			★		4
2.	★				4
3.		★			4
4.		★			3
5.				★	4
6.	★				4

Appeals & Corrective Instruction

Application Exercises-4S

- **Significant Problem.** Teams work on relevant, interesting and complex problems.
- **Same Problem**. Individuals/groups work on the same problem, case or question.
- **Specific Choice.** Individuals/groups must use course concepts to make a specific choice.
- **Simultaneous Report.** Individuals/groups report their choices simultaneously (visibility of student thinking).

Application Exercises

- **"Make a list"**
  - Not very challenging
  - Low cognitive skills
  - Team members are not sufficiently engaged
  - Low accountability
- **"Make a specific choice"**
  - Focuses on 'why?'
  - Higher cognitive skills
  - Necessitates whole power of the team
  - Higher accountability/cohesiveness

Application Exercise Sample

Mr. Brown's MRI scan of the brain with contrast is illustrated on the monitors. What is the most accurate interpretation of the anatomic changes at this time?

a) Cerebral atrophy, diagnostic of Alzheimer disease
b) Cerebral atrophy, diagnostic of Pick disease
c) Cerebral atrophy, diagnostic of diffuse Lewy body disease
d) Cerebral atrophy, consistent with Alzheimer disease
e) Cerebral atrophy, consistent with Pick disease

Application Exercise Sample

Histologic sections from which circled area would be most likely to demonstrate all 5 characteristic features of AD? (neuritic plaques, neurofibrillary tangles, amyloid angiopathy, granulovacuolar degeneration, and Hirano bodies)

a)Red circle b) black circle
c) blue circle d) green circle
e) white circle f) yellow circle

Application Exercise Sample

Upon completion of the history, physical, neurologic, and mental status exams, Dr. DD elects to order a limited number of laboratory tests to evaluate for possible reversible causes of cognitive impairment. Which two lab tests would be most appropriate?

a) Serum B6 and B12
b) Serum B6 and potassium
c) Serum B6 and free thyroxine
d) Serum B12 and potassium
e) Serum B12 and free thyroxine
f) Serum potassium and free thyroxine

Simultaneous Reporting

Peer-evaluation

Simple Peer Evaluation
2-3 Times per Semester
"Something I appreciate about this person is…."
"Something I would like to request of this person is…."

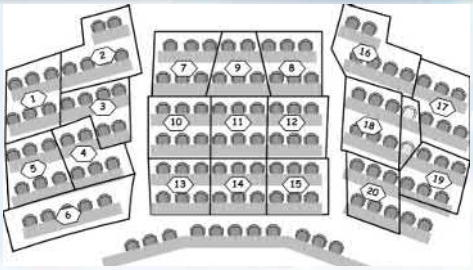
Student Completes Evaluation
↓
Instructor receives by Email and Collates
↓
Student Receives Anonimized Feedback

Instructor Only Review for Grade Adjustment Requests

When NOT to Use TBL

- Lack necessary content mastery
- Not sure HOW students will use the content
- Unwilling to change your role as an instructor (move from sage on stage to guide on side)
- Insufficient resources (e.g., time, IF-AT, scantron, facilitation skills)

TBL Logistics



TBL is possible in large theater-style classrooms with fixed seats

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.

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

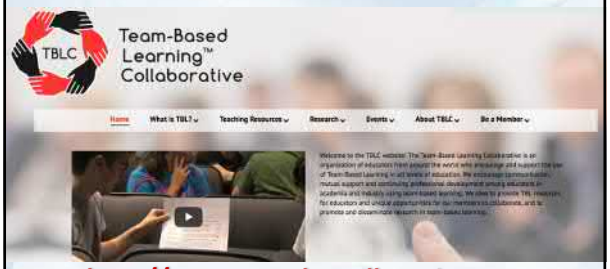
I think the genius of TBL is that it maximizes the advantages of group learning while minimizing the disadvantages.

Brent Maclaine
University of Prince Edward Island

Team Based Learning

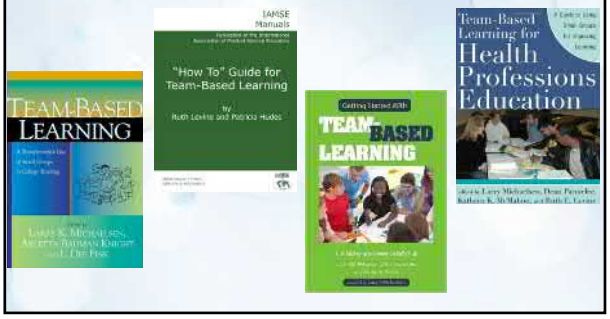
- Transforms large classes into learning teams without expanding faculty resources
- Requires learners to apply knowledge rather than cover content
- Helps students develop the important professional competencies of communication, interpersonal skills, giving and receiving feedback from peers, and teamwork skills

Resources



http://www.teambasedlearning.org
http://www.teambasedlearning.org/listserv

Resources



Special thanks to…

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