

Team-Based Learning (TBL): A Practical Strategy for Harnessing the **Power** of Self-Managed Learning Teams

1. Identify the most negative experience you have had in relation to a learning group.
2. What was the negative outcome?
3. What was the main "product" that determined the grade for the group's work?

What strategy did the group use to complete the assignment?

- 1) Divide-and-Conquer
- 2) Work together in class
- 3) Something else

What was the main "product" that was used to determine the grade for the group you picked as most negative?

- 1) A group paper
- 2) A group presentation
- 3) Both a paper & a presentation
- 4) Something else

Is what you will see:

- A good thing?
- A bad thing?
- Not sure?



Was what you saw:

- A good thing?
- A bad thing?
- Not sure?

What do you think the students were doing?

Problems with Learning Groups

- Using class time for group work limits content coverage.
- Grading group work results in:
 - Better students doing most of the work.
 - Less motivated and/or less able students becoming “free-riders.”
- Using group assignments requires the instructor to:
 - Spend time resolving conflicts in groups.
 - Teach students how to work in groups.

Team-Based Learning™ (TBL)

A comprehensive strategy for using learning groups in a way that:

1. Harnesses the power of **Teams**.
2. Avoids potential problems.
3. Is effective in any course in which:
 - Content coverage is important.
 - The instructor is **Serious** about developing students ability to apply the content.

My Course Objectives

Students should:

- Master course content.
- Be able to apply course content.
- Develop interpersonal and group interaction skills.
- Become life-long learners.
- Enjoy the course.

Traditional Teaching vs. TBL Strategy for Developing

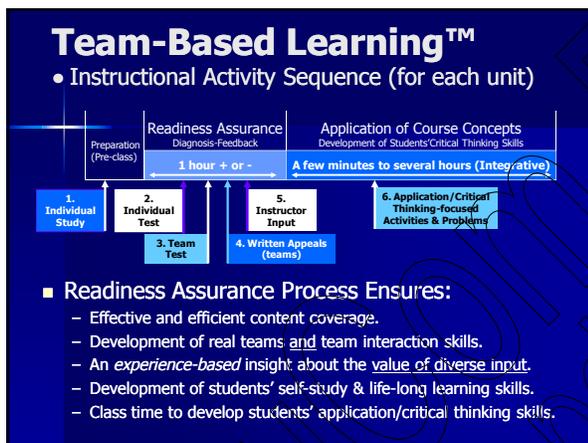
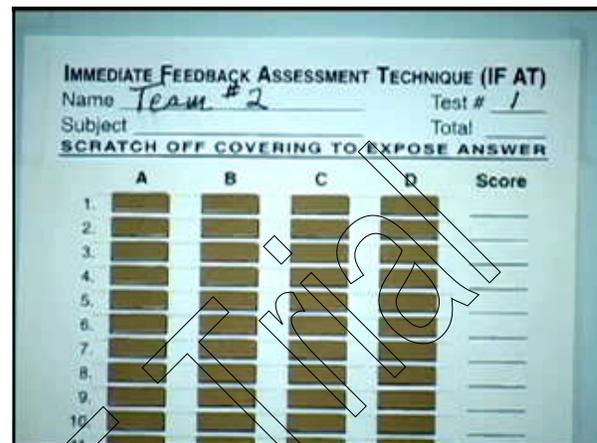
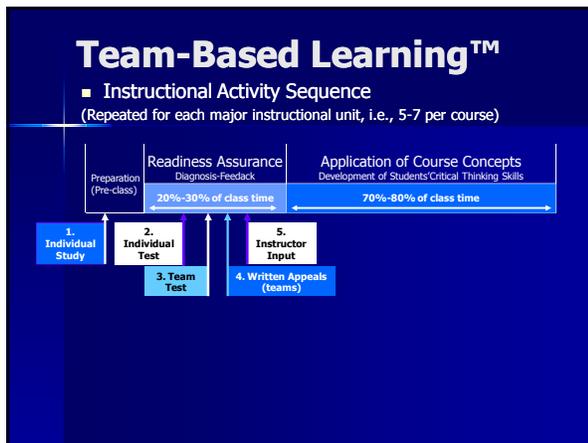
Concept Mastery:

Traditional Teaching

- Lecture/Discussion
- Individual study
(pre-class or post-class?)

Team-Based Learning

- Individual study
(PRE-class)
- Readiness Assurance Process



Which of the Following outcomes is LEAST important?

1. Effective and efficient content coverage.
2. Development of real teams and students' interpersonal and teamwork skills.
3. Students gaining an *experience-based* insight about the value of diverse input.
4. Development of students' self-study and life-long learning skills.
5. Class time for developing students' application/critical thinking skills.

Traditional Teaching vs. TBL Strategy for Developing

Concept Application Skills:

<p><u>Traditional Teaching</u></p> <ul style="list-style-type: none"> ■ Class discussion? ■ Individual papers and/or projects ■ Group papers and/or projects (outside of class) 	<p><u>Team-Based Learning</u></p> <ul style="list-style-type: none"> ■ IN-CLASS Team Work ■ Specific choice tasks—to create discussion: <ul style="list-style-type: none"> - Within teams - Between teams - With/from instructor (to confirm/challenge & add to points made by students)
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Traditional Teaching vs. TBL Strategy for Developing

Interpersonal and Team Skills:

<p><u>Traditional Teaching</u></p> <ul style="list-style-type: none"> ■ "Sink or Swim" at best. ■ Mostly individual (not group) work—done by "divide & conquer" ■ Promotes negative attitudes about group work (especially with top students.) 	<p><u>Team-Based Learning</u></p> <ul style="list-style-type: none"> ■ In-class, decision-based tasks which promote discussion & provide <i>immediate</i> feedback to: <ul style="list-style-type: none"> - Ensure individual & team accountability. - Develop <i>real</i> teams. - Enhance students' teamwork skills.
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*Traditional Teaching vs. TBL Strategy for Developing***Life-Long Learners:**Traditional Teaching

- Counterproductive (lectures promote dependence on instructor.)

Team-Based Learning

- Process creates competent and confident learners. They *experience* learning from:
 - Individual study.
 - Discussion with peers.
 - Choices/consequences (open book—much like “on the job training”)

**Effective Group Assignments:
The Key to Successfully
Implementing TBL****Group assignments are only effective to the extent that students are motivated to:**

1. Think deeply about the concepts.
2. Actively engage in discussions related to the concepts:
 - Within groups.
 - Between groups (in the class as a whole).

Intermediate Spanish Course Objective:

Ensure that students can correctly use the verbs *ser* versus *estar* in a wide range of contexts and settings.

Objective: Ensure that students can correctly use the verbs *ser* versus *estar* in a wide range of contexts and settings.

1. “Identify the rules that should be used to guide decisions about the correct day-to-day use of the verbs *ser* vs. *estar*.”
2. “Read the following passage and identify: a) a correct use of *ser* vs. *estar*, and b) an incorrect use of *ser* vs. *estar*.”
3. “Read the following passage and identify the example that shows the greatest proficiency in using *ser* vs. *estar*.”

Objective: Ensure that students can correctly use the verbs *ser* versus *estar* in a wide range of contexts and settings.

1. “Identify the rules that should be used to guide decisions about the correct day-to-day use of the verbs *ser* vs. *estar*.”
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3. “Read the following passage and identify the example that shows the greatest proficiency in using *ser* vs. *estar*.”

Example from Muscle Physiology:

The two finalists in the world arm-wrestling championships at Petaluma, California, are well-matched. Upper body muscle mass, insensitivity to pain, motivation, and experience are identical between the two. Vito, a Las Vegas bookie, slips you the results of each competitor's physical exam and 'asks' you to predict the winner. What is most likely to determine the eventual winner?

1. **Maximum cardiac output**
2. **Mitochondrial content of the exercising muscles**
3. **Muscle glycogen content**
4. **Oxygen carrying capacity of the blood**
5. **Phosphocreatine levels in the muscles**

Effective Team Assignments

$$\boxed{\text{Individual Work}} \times \boxed{\text{Within Teams}} \times \boxed{\text{Between Teams}} = \text{Impact on Learning}$$

Maximum learning occurs when assignments at each stage are characterized by "4 S's":

- **Significant Problem.** Problem involves issues that are significant to *students*.
- **Same Problem.** Individuals/groups are working on the same problem, case or question.
- **Specific Choice.** Individuals/groups are required to use course concepts to make a specific choice.
- **Simultaneous Report.** Individuals/groups report their choices simultaneously.

Problems with Learning Groups?

- Using class time for group work limits content coverage.
- Grading group work results in:
 - Better students doing most of the work.
 - Less motivated and/or less able students becoming "free-riders."
- Using groups requires resources (time and monetary) to:
 - Hire and train group facilitators.
 - Teach students how to work in groups.

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Problems GUARANTEED if:

- Individuals not accountable for being prepared for group work.
- Groups create the final "product" to be graded outside of class.
- The group assignments:
 - Require students to create a complex "product" that will serve as the basis for their grade.
 - Prevent students from receiving timely and unequivocal performance feedback.

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Requiring lengthy documents (or group presentations) is at the heart of most of the really bad problems because:

- The sensible approach is to divide-up the task of creating the final "product." (Thus, it won't actually be a **group** assignment).
- Better students are forced to choose between doing more than their fair share of the work or facing the very real risk getting a bad grade.

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Problems AVOIDABLE by:

- Individual accountability for PRE-class preparation for group work (Readiness Assurance Process).
- Groups create the final product to be graded *during class time*.
- Using 4 S's group assignments:
 - **Significant Problem.** Problem involves issues that are significant to *students*.
 - **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.

Questions?

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Question:

Top students are held back when they are required to work in and receive grades based on group.

True? or False?

Are Top Students Held Back by Teams?

Team	Individual Scores			Team Score	Gain	% Gain
	Low	Avg	High			
1	137	173.0	213	276.0	63.0	29.6%
2	180	187.8	199	291.3	92.3	46.4%
3	203	229.0	271	322.0	51.0	18.8%
4	154	195.7	230	291.8	61.8	26.8%
5	177	205.2	227	318.8	91.8	40.4%
6	186	198.6	215	295.5	80.5	37.4%
7	197	210.0	233	321.8	88.8	38.1%
8	149	173.4	199	282.8	83.8	42.1%
9	150	180.8	208	278.3	70.3	33.8%
10	126	179.2	200	299.5	99.5	49.8%
Avg.	165.9	193.3	219.5	297.8	78.3	36.3%

Gain (or loss) based on comparing the score of each team to the score of its own BEST member.

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4	154	195.7	230	291.8	61.8	26.8%
5	177	205.2	227	318.8	91.8	40.4%
6	186	198.6	215	295.5	80.5	37.4%
7	197	210.0	233	321.8	88.8	38.1%
8	149	173.4	199	282.8	83.8	42.1%
9	150	180.8	208	278.3	70.3	33.8%
10	126	179.2	200	299.5	99.5	49.8%
Avg.	165.9	193.3	219.5	297.8	78.3	36.3%

Every team score is higher than its own BEST member (avg. = 36.3%)

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5	177	205.2	227	318.8	91.8	40.4%
6	186	198.6	215	295.5	80.5	37.4%
7	197	210.0	233	321.8	88.8	38.1%
8	149	173.4	199	282.8	83.8	42.1%
9	150	180.8	208	278.3	70.3	33.8%
10	126	179.2	200	299.5	99.5	49.8%
Avg.	165.9	193.3	219.5	297.8	78.3	36.3%

Lowest team is 5 points higher than the highest individual in the entire class.

Gain (or loss) based on comparing the score of each team to the score of its own BEST member.

Having the score of the **lowest team** higher than the **highest individual** in an entire class is:

- Highly unusual?
- The normal outcome?
- Not sure?

Are Top Students Held Back by Teams?

Team	Individual Scores			Team Score	Gain	% Gain
	Low	Avg	High			
1	201	221.4	237	325.5	88.5	37.3%
2	166	197.8	255	331.5	76.5	30.0%
3	147	177.5	249	273.8	24.8	9.9%
4	166	194.4	211	315.0	104.0	49.3%
5	174	194.3	209	315.0	106.0	50.7%
6	157	186.0	224	299.3	75.3	33.6%
7	169	193.2	218	307.5	89.5	41.1%
8	163	181.2	201	313.5	112.5	56.0%
9	180	217.8	254	339.0	85.0	33.5%
10	170	198.6	226	319.5	93.5	41.4%
11	164	199.8	231	314.0	83.0	35.9%
12	194	217.5	252	315.8	63.8	25.3%
13	152	201.4	269	313.5	44.5	16.5%
14	176	185.5	224	301.5	77.5	34.6%
15	175	210.4	246	304.5	58.5	23.8%
Avg.	170.5	198.5	233.7	312.6	78.9	34.6%

Lowest team is 4.8 points higher than the highest individual in the entire class.

Gain (or loss) based on comparing the score of each team to the score of its own BEST member.

While at UCM (7 years):

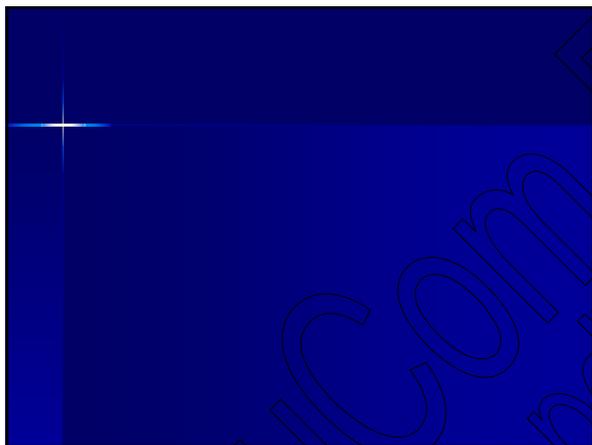
- 692 students in 119 teams.
- 8 individuals higher scored than the lowest of 119 teams (<1.2%).

Since 1986—6,161 students in 1,115 teams:

- 1,114 teams scored higher than their own BEST member (99.9+% of teams).
- 1 individual outscored his team (<.1% of teams).

Questions?

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