Introduction to Team-Based Learning (TBL)

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Zipinar Goal & Learning Objectives

Goal: The purpose of this Zipinar is to provide the information needed to implement Team Based Learning (TBL) in a class.

Learning Objectives: By the end of this Zipinar on Team-Based Learning (TBL), you will be able to:

What is TBL?	• Define Team Based Learning and its components
Why use TBL?	• Compare the benefits and challenges of TBL
What is needed ?	• Provide the four essential principles of TBL
How to do TBL?	• List the steps to implement TBL in a class

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What is the TBL Difference?

	Lecture	Problem-Based Learning	Team Based Learning
Key points	Instructor provides content for student note-taking in a class	Student-directed learning in solving real world problems in small groups	Instructor-directed content applied to real world problems by student teams in a class
Teaching Methods	Lecturer didactically provides content	Facilitators give cases and students analyze facts to solve case	Students prepare content before class. In class, they apply it in teams to solve problems
Outcomes	Content acquisition and conceptual understanding	Problem-solving abilities, critical reasoning, content acquisition, understanding, effective communication and small group interaction	Content acquisition, understanding, content application to solve problems, critical reasoning, effective communication, collaborative teamwork
Instructor's role	Identifies learning objectives, prepares presentations and answers student questions	Facilitates small group discussions and gives students feedback and guidance as needed	Identifies learning objectives and content, prepares readiness tests, answers student questions and prepares application assignments for teamwork
Student's role	Attend lecture, study notes, prepare for exam	Identify learning issues, do independent out of class research, join group discussions	Do independent out-of-class study, join team discussions, defend team solutions to class

Table excerpted from Baylor College of Medicine, Team Learning in Medical Education, Sept 2002

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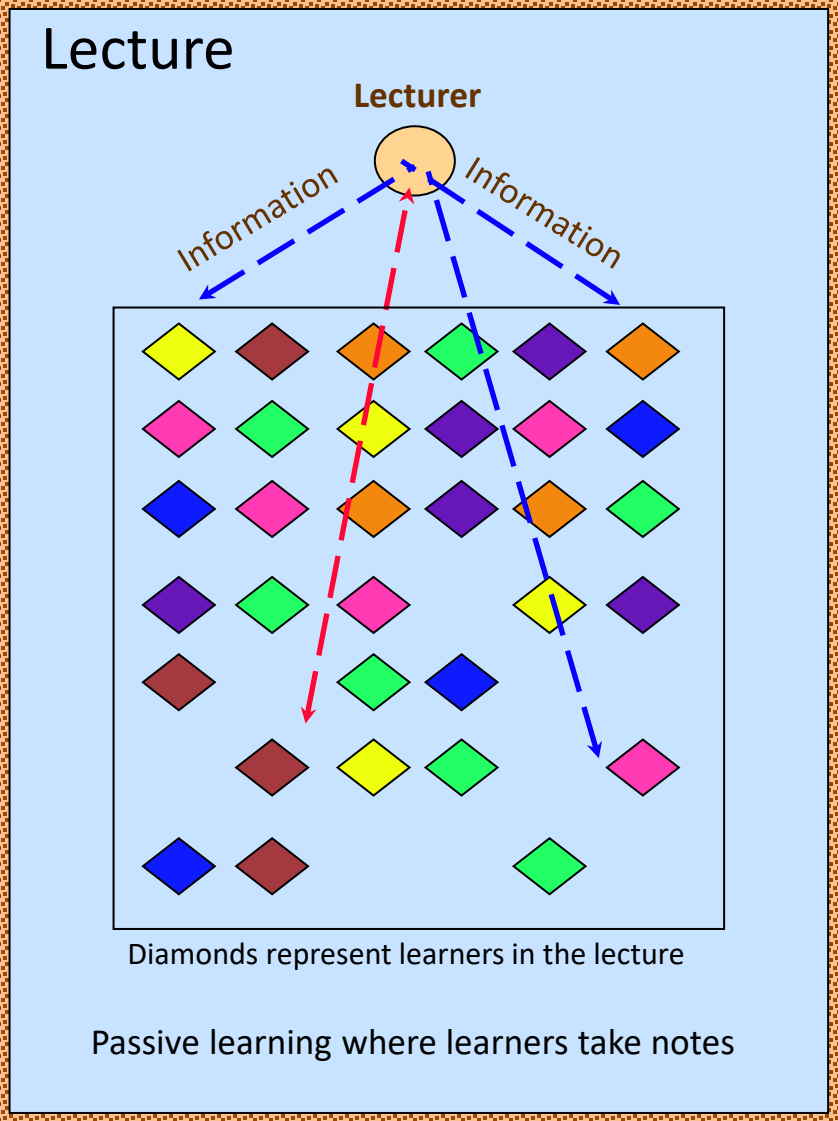
Why NOT Lecture?



Lectures focus on delivering one way information and are passive learning to gain mastery.

Many learners don't always capture all the information.

Education is not about information transfer, but the absorption of the information into the learner's useable knowledge base.

The **key to lifelong learning** is to ask the learner to gather in and out of the learning activity the knowledge, apply the concepts learned, and formulate an idea or response.

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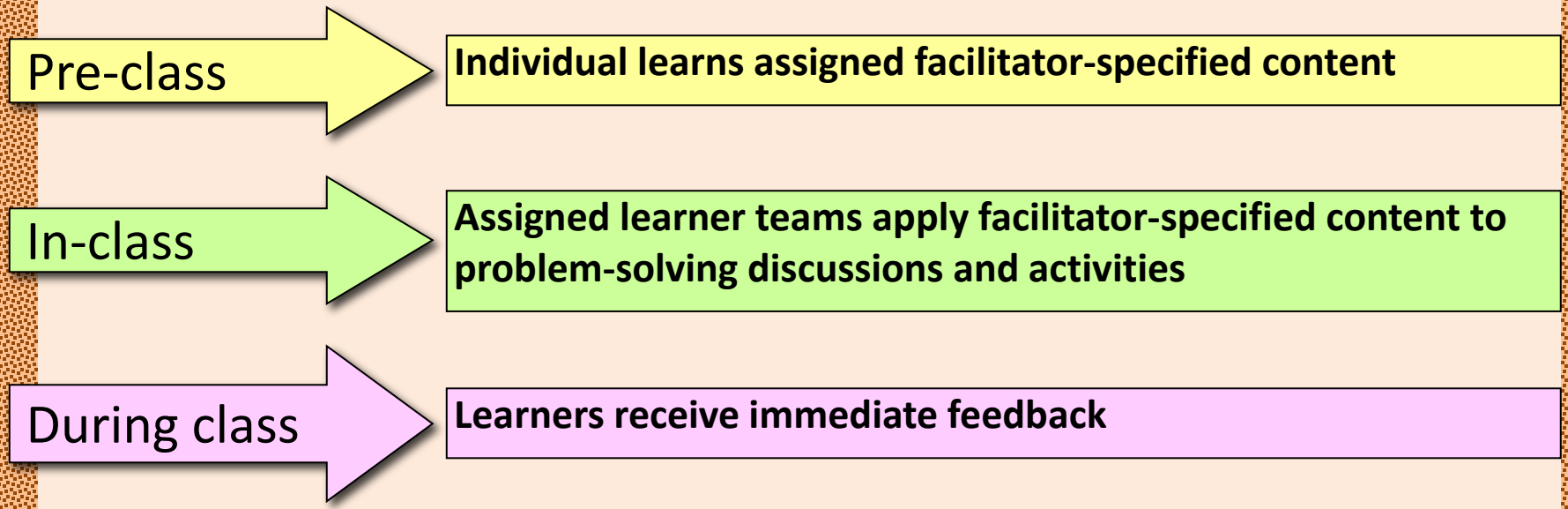
What is Team-based Learning ?

Permanent small groups of learners interact as in-class teams to apply content to simple and complex problems with the feedback of the facilitator as the content expert.



Michaelsen LK, Knight AB, and Fink LD (Editors). Team-based learning: a transformative use of small groups in college teaching. Sterling, VA: Stylus Publishing; 1 edition (February 6, 2004).

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Team-Based Learning Process

Phase 1 Individual Preparation (Pre-class)	Phase 2 Group Readiness Assurance (In-class)	Phase 3 Group Application of Course Concepts
Individual Study	4 .Instructor Feedback 3. Written Group Appeals 2.Group Readiness Assurance Test (gRAT) 1. Individual Readiness Assurance Test (iRAT)	Small Group Application Exercise (AE) with Total Class Discussion and Instructor Feedback

Individual Work X **Small Group Discussion** X **Total Class Discussion** = **Impact on Learning**

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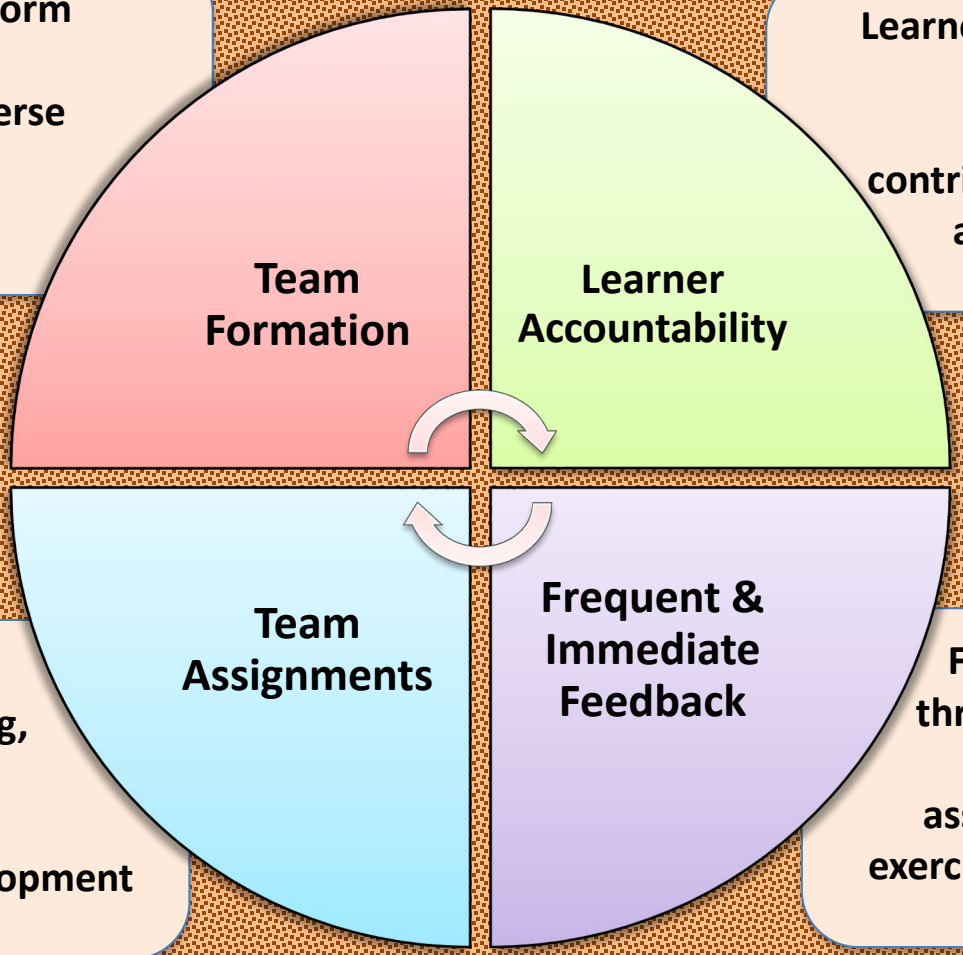
4 Essential Principles of TBL



Appropriately form and manage permanent diverse teams

Learner is responsible for pre-class preparation, contribution to team, and team grades

Assignments promote learning, team member integration, and teamwork development

Feedback provided through iRAT & gRAT results and team assigned application exercise with instructor guidance

Michaelsen LK. Getting started with team learning. University of Illinois College of Medicine Urbana-Champaign. Available at https://www.med.illinois.edu/facultydev/classroom/interactivemethods/michaelson.pdf . Verified 4/12/2016.

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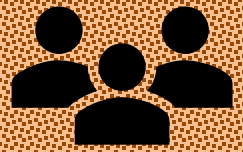
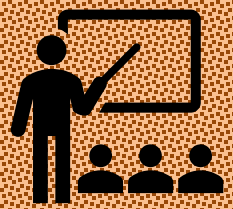
Readiness Assessment Tests (RATs)

1. **Individual RAT** (iRAT) – Individual learner answers in class short MCQs on class concepts that is submitted to the instructor
2. **Group RAT** (gRAT) – Team members in class or in Zoom breakout rooms defend their individual answer choices to the same iRAT MCQs and come to a consensus as a team to submit to the instructor
3. **Appeal Process** – (optional) to instructor and is an opportunity to restore credit for answers missed on Group RAT
4. **Feedback/Corrective Instruction** – Instructor adds comments for correct comprehension of key concepts





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Advantages of TBL

For the Learner

- Motivated to attend and be part of a team (community)
- Applies knowledge and promotes high-order thinking
- Participates actively in education and addresses misunderstandings
- Develops interpersonal skills, confidence, and working in a team

For the Facilitator

- Includes high amount of faculty-to-learner interaction
- Taps enthusiasm to teach
- Avoids learner attendance issue with Readiness Assessment Tests (RATs)
- Work with teams in low faculty-to-learner ratio
- Requires no special room—can be done in lecture room or large room or in Zoom

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Challenges to TBL

Active learning involves communicating and this can be noisy with multiple groups talking at the same time.

Some learners prefer a didactic lecture where all they do is take notes and NOT actively think and apply.

Facilitators need to address the learners who do not want to contribute to the learning activity and are called social loafers.

Some learners may complain that learners in their group are lowering the group score. This is a lifelong learning lesson to work with everyone as a team.

TBL or Lecture

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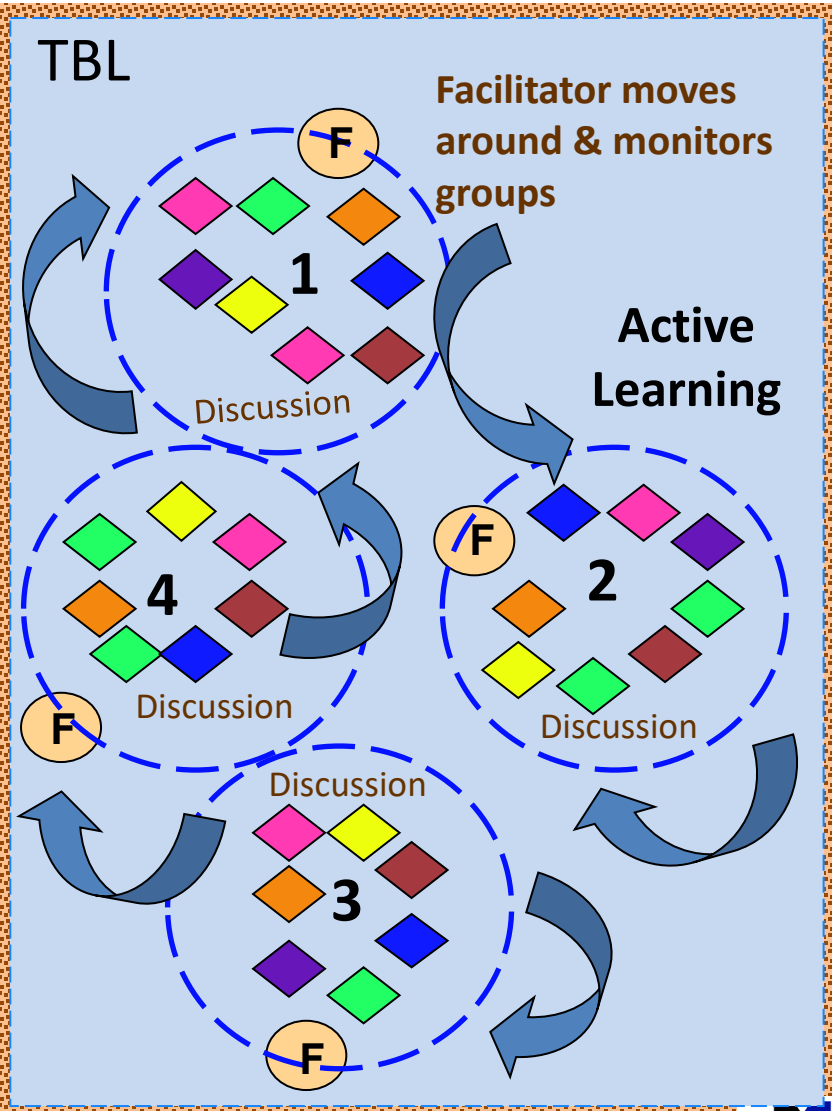
Team-based Learning Active Learning

Faculty identifies content for pre-class assignments, the tests, and team interaction

Pre- class: learner "must" study concepts for test

In class: learner is tested on concepts and actively joins assigned team to solve simple and complex concept applications

learner accountability: learner pre-class work and test, team test, teamwork, and final team assessment



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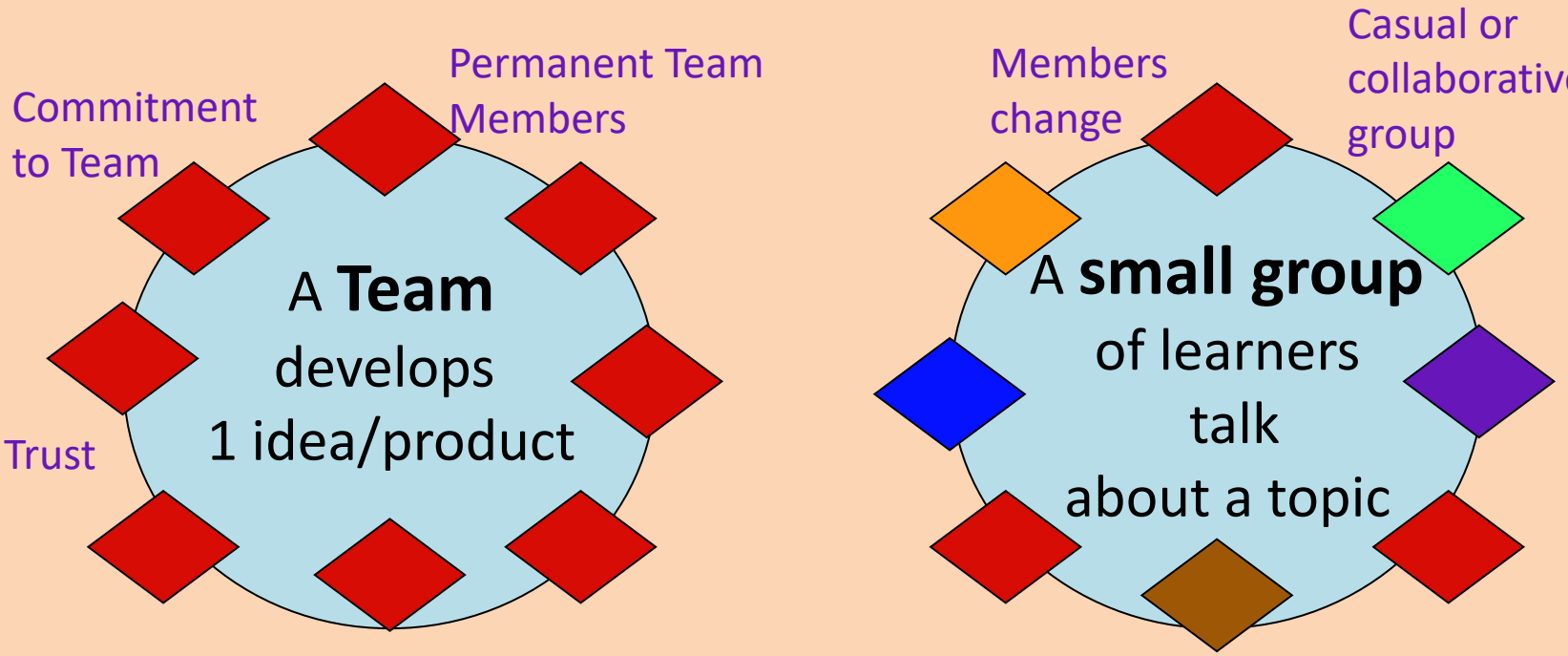
TBL is NOT a Small Group Discussion

Compare a **Team** with a **Small Group**



98% of teams will out perform the best member on learning-related tasks

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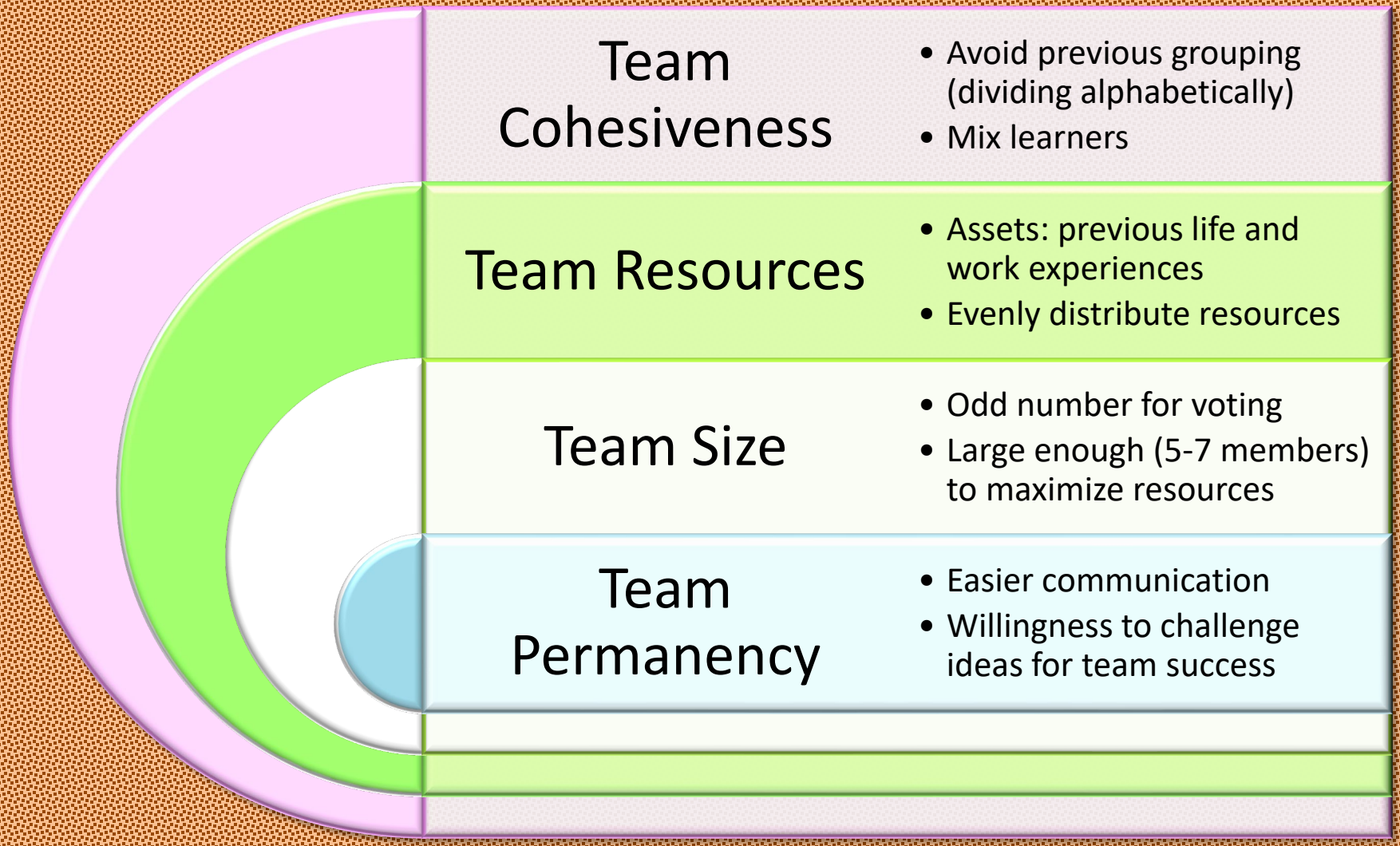
How to Form a TBL Team



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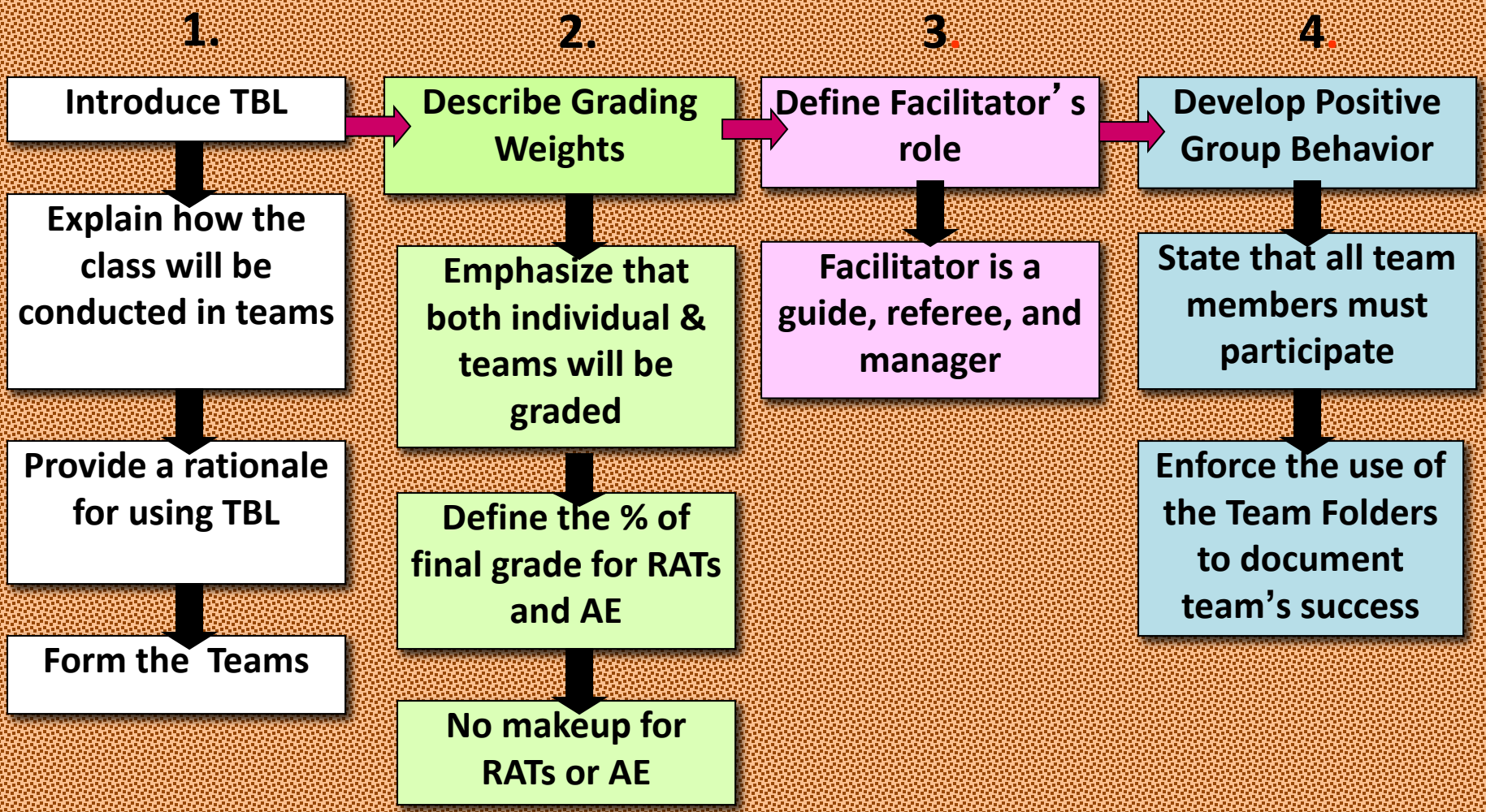
Getting Started in 1st Class



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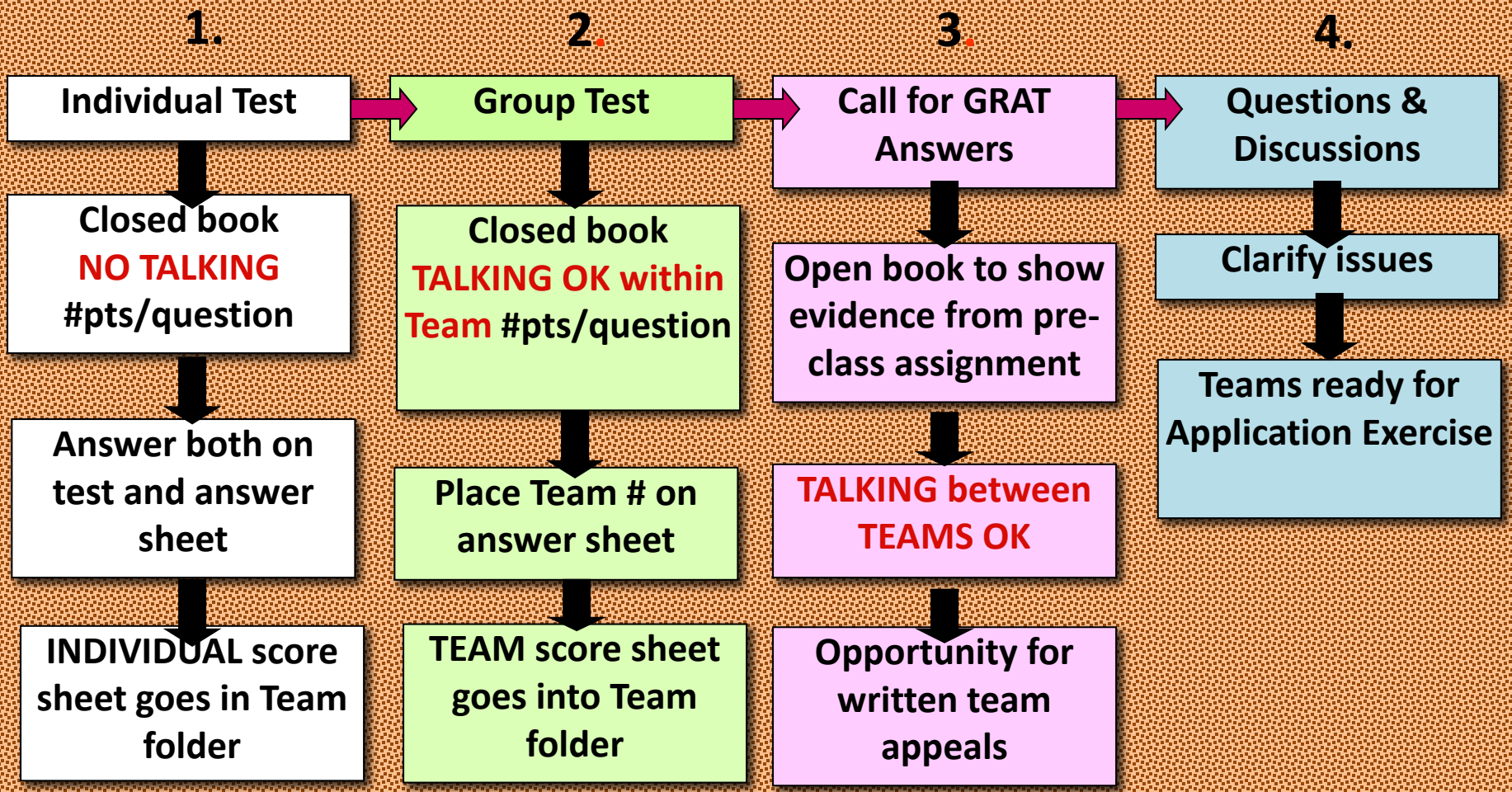
Phase 2: Readiness Assurance Tests (RATs)



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Creating the TBL Application Exercise (AE)

1. **S**ignificant real question/problem to solve
2. **S**ame question/problem for all teams
3. **S**et timing for teamwork
4. **S**pecific answer to solve the question/problem
5. **S**imultaneous team report and then open discussion
6. **S**upply correct answer/outcome and feedback

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Phase 3: Application Exercise (AE)

Facilitator tasks:

1.	2.	3.	4.
Distributes Application Exercise	Facilitates team discussions	Calls for AE answers from Team reps	Asks for any additional questions
Distributes any resource material	Encourages team discussion	Elicits inter-team discussion	Clarifies issues
Tells the timing for AE	Tells the timing for the test	Confirms best answers	Links class experience to next assignment
	Provides feedback on Teamwork	Accepts written team appeals	Places Team score sheet in Team folder

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TBL Instructional Questions

Questions	Answers
1. What do I as the facilitator want learners to do?	1. Learner performance is specified in the learning objectives
2. What do the learners have to learn?	2. The course assignments provide the learning content
3. How do I know the learners have mastered the concepts?	3. The learners will be evaluated by the Readiness Assurance Tests (RATs)
4. How can I tell if the learners will be able to use the knowledge?	4. The learners will use the acquired knowledge in the team application exercise.

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Team-Based Learning FAQs

1. **How much material can be covered in Team-Based Learning?**

   The same amount or more than provided in a lecture

2. **What is the most important element in Team-Based Learning?**

   Learner preparation, Readiness Assessment Tests and

   Group application exercise are equally important elements

3. **Where in medical education has Team-Based Learning been used?**

   Pre-clinical and Clinical classes

4. **What is the role of the faculty in Team-Based Learning?**

   Facilitator and Content Expert

*From Baylor College of Medicine, Team Learning in Medical Education, February 04 Workshops

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Team-based Learning on Zoom Video Conferencing

Breakout Room A

Breakout Room C

Zoom

Main Room

1. Instructor (host) visits the breakout rooms to facilitate team discussion
2. Teams return to main room to defend their answers for the application exercise (AE)
3. Instructor provides feedback on teamwork and confirms correct response

A. Each team moves from Main Room to Breakout Room, takes the RATs and submits online to BBL

B. Each team works on AE, submits team response to BBL, and then returns to Main Room to present

Breakout Room B

Breakout Room D

Each breakout room has one permanent team.

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Key Points about TBL

What is TBL?

Team Based Learning (TBL) is a small group collaborative method where individual work is done outside the class and teamwork with permanent members is completed in class.

Why use TBL?

The rationale for using TBL is that it is an interactive alternative to passive lectures, requires no extra facilities or faculty, develops interpersonal skills and assists “at risk” learners.

What is needed ?

The 4 principles of TBL are 1) properly formed and managed groups, 2) learner accountability, 3) team assignments that promote learning and team development, and 4) frequent and immediate instructor feedback to learners.

How to do TBL?

Implementation of TBL involves the instructor planning before the class; forming permanent learner groups; writing TBL learning objectives; generating the iRAT, gRAT, and application exercise; and providing feedback for teamwork.

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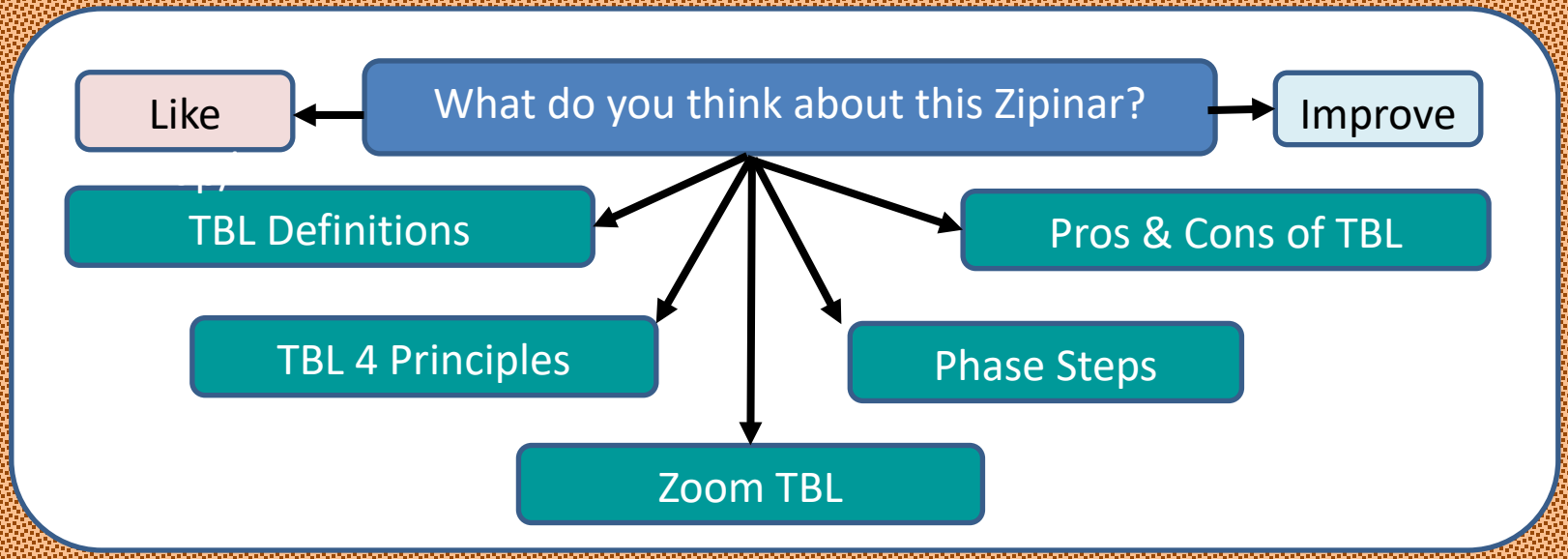
Your Thoughts?



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