

Group Learning Technique List

Below you will see group learning strategies.

Think Pair Share

Pre-class Reading:

The first step is to provide a pre-class reading, lecture notes, or other resources to help students prepare for the activity.

Think:

In class, give students time to think, alone, about a question, situation, scenario or problem in the context of the pre-class reading. They might be instructed to write down thoughts and/or give their initial response through a classroom response system like “Clickers”.

Pair:

Then students can form groups of 2-4 to discuss. Students discuss what they came up with individually and, in some cases, might make an argument for their position.

Share:

The instructor may pick random groups to report on what their group discussed and came up with including important observations. This could be accomplished in a variety of ways including the following:

- Standing up and reporting from their seat in a large class
- A written statement on a whiteboard or large piece of paper taped to the wall by the group.
- A post to an online site that is visible to the class like Padlet, a Wiki, Google doc or twitter feed.

Tips:

- Instructor should use the student discussions to learn how the students think: walk around the room and eavesdrop on what the students are saying. Get a feel for their preconceptions, misconceptions, questions and muddy points.
- The group sharing allows you to address, misconceptions, or other issues globally, with the whole class. It also helps to keep students on task because they never know who will be picked to report.
- The group report is also a way to consolidate and sum up multiple individual positions and is more comfortable for many students.

More Resources:

- See [Eric Mazur using this technique in class](#)
- [Setting class norms about behavior during group activities](#)

Jigsaw

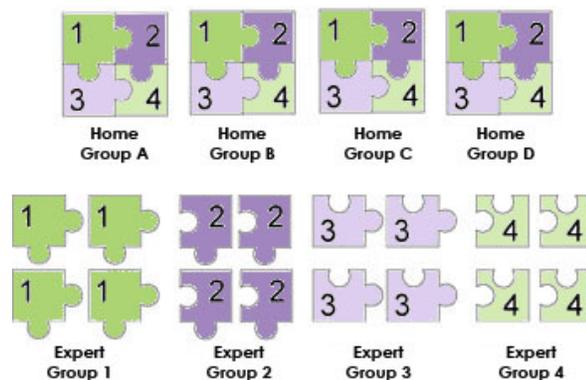
Jigsaw is a form of cooperative learning where students become “experts” on the content or materials and teach each other the key terminology, understandings and learnings of the research or analysis of the text.

1. Initially, the students are broken into small groups in which each group works on a particular section of a theme, lesson or reading content. The content could be a short reading section in a chapter of a book, research material on a specific topic or a precise area in academic subjects (e.g. natural disasters, people in the civil war, science instruments).

In each “expert” group, the students work together to read the assigned text or research material, analyze and comprehend the content, summarize the text and understand key terms, timelines, etc.

2. Once the students have become experts on their topic/section, each expert moves into another cooperative learning group (e.g. jigsaw group) that has one expert from each of the earlier groups such that all content from the lesson or theme can be shared/taught in the second group.

Because it is small group in nature, each student has the opportunity to communicate and share what he/she has learned and teach other students the content. This process helps students to learn how to work together to break down and understand the material as well as orally share what they have learned.



Short Video Tutorials

- [Cult of Pedagogy](#)
- [Janet Rankin](#)

Worksheet-Based Technique

This is an active learning technique which uses carefully designed inquiry materials to guide collaborative teams of students to work, explore, and construct new understanding. The materials provide students with information and leading questions which guide them to investigate and reach their own evidence based conclusions. The instructor monitors this process by observing and addressing individual student, team, and classroom needs. This technique emphasizes lifelong skills like teamwork, self-assessment, peer-assessment, critical-thinking, and communication skills.

How to Implement

- Give students a guided inquiry worksheet ([example 1](#), [example 2](#)) which provides the overview, information, and instructions for the inquiry process.
- Assign roles to students such as group manager, recorder, quality control, reflector, questioner and spokesperson. Reinforce student responsibilities by using [role cards](#).
- Act as a [facilitator who listens](#) to the discussions between students, stepping in when necessary to support their learning.
- As students develop new ideas, have them share their understanding with other groups and pick a few group spokespersons to come to the front of class to report on their group's work and results.
- Identify and address any other unresolved issues, misconception, or finer points to the entire class.
- Assign students to self and peer assess the development their of process skills from time to time.

Please Note: While these examples are from STEM courses, they can be effectively introduced into courses across academic disciplines.

To learn more, visit this [Implementation Guide](#).

Group Exam/Two Stage Exam Technique

Group exams (also known as Two Stage Exams) are an easy way to reinforce the material tested on your exams, increase retention of content and student satisfaction, all while basing student marks on individual effort.

There are two components to a group exam:

1. Students complete an individual exam as usual then hand in their test sheets.

2. They then get into groups, determined by class size and room type, and work together to complete the same exam again (possibly with the addition of one or two very challenging questions). The students must come to consensus on their answers as they hand in only one sheet for the group portion of the exam. Grades from these exams are based on a combination of each student's individual mark and group mark. In most situations, groups perform much better than individuals, so the majority of the grade, often 85%, is based on the individual grade and 15% on the group grade. You should never lower a student's grades if they get a higher mark than their group on the test, this is a fairness concern for most students, but it affects very few of them.

More Resources:

- [Turn an exam into a learning experience with two-stage exams](#)
 - [Using group exams in your class](#)
 - [Video](#) of an actual two stage exam
 - [Tips for success](#)
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Project Based Learning

Students work on a project over an extended period of time – from a week up to a semester – that engages them in solving a real-world problem or answering a complex question. They demonstrate their knowledge and skills by creating a public product or presentation for a real audience. As a result, students develop deep content knowledge as well as critical thinking, collaboration, creativity, and communication skills.

[Project Based Learning COP](#)

[How to Set Up Rich Experiential Learning Units](#)

PBL Problems and Scenarios

- [Problem Samples – University of Delaware](#)
 - [Problems in Biology](#)
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Team-Based Learning

Team-Based Learning is an evidence based collaborative learning teaching strategy designed around units of instruction, known as “modules,” that are taught in a three-step cycle: preparation, in-class readiness assurance testing, and application-focused exercise. A class typically includes one module.

Preparation before class

Students must complete preparatory materials before a class or the start of the module. Materials may be text, visual or other, and set at a level that is appropriate to the students and the course.

In-class Readiness Assurance Testing

Readiness Assurance Test (RAT): Students complete an individual readiness assurance test (IRAT), consisting of 5 to 20 multiple choice questions. After submitting their individual answers, and they take the same test, the team RAT (TRAT), with their team. As a team they use scratch cards (IF-AT cards), hoping to find a star that indicates a correct answer. All members of each team share the same TRAT score, and both IRAT and TRAT scores count toward the students' grades.

This test approach that counts for assessment is important, as it gives students a real incentive to learn materials beforehand, attend classes, and contribute to team discussions. The readiness assurance process holds students accountable for coming to class prepared and working together as a team.

In-class application focused exercise

The remainder of the session or module is taken up with exercises that help students learn how to apply and extend the knowledge that they have pre-learned and tested. Teams are given an appropriate problem or challenge, and must arrive at a consensus to choose a "best" solution out of options provided. Teams then display their answer choice, and the educator facilitates a classroom discussion between teams to explore the topic and the possible answers to the problem.

[Video sample](#)