# How to Use Active Learning Strategies While Teaching

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- Traditional didactic teaching sessions foster passive learning[1].
- Many trainees, when asked, often express a desire to have more interactive sessions.
- Our daily challenge as clinician-educators is not in what to teach. Our learners must learn this content to become board-certified anesthesiologists; however, we are challenged to find the best way to teach the content.
- Active learning involves learner-centered education in which learners actively participate, apply knowledge, and solve problems in the classroom[2].
- The control shifts from the teacher to the learner, as the teacher takes on a facilitator's role, and the students assume ownership for their education[2].
- Using active learning strategies, such as **case-based discussions, problem-based learning**, and **team-based exercises,** allow the engagement of trainees.
- Table 1 lists techniques that can be used by faculty to promote active learning.

**Table 1:** Commonly used Active Learning Strategies in Anesthesiology

| Technique | Definition | Resources Needed | How to Use |
|---|---|---|---|
| **Case-based Learning** | A technique that uses vignettes of real or hypothetical patients to facilitate discussion | Cases | Facilitate a discussion to assess medical knowledge and clinical reasoning |
| **Problem-based Learning** | Case-based learning in small groups | Cases | Assign a case and discuss the evaluation and management during the initial session. Before the next session, learners will focus on filling identified knowledge gaps. In the second session, the case is completed with information gathered since the last session. |
| **Team-based Learning** | Small group learning that involves pre-class preparation. During the classroom session, learners are tested on the preclass material and challenged to apply core content to scenarios as a team. | Prereading, Test materials, Cases | Provide prereading and tests to learners. They facilitate a discussion to assess medical knowledge and clinical reasoning. |
| **Think-Pair-Share** | Pose a question to the group and have learners consider their responses individually. Next, instruct learners to pair with a neighbor to compare answers and reach a consensus. End by randomly calling on pairs to share with the group | None | An excellent way to assess medical knowledge in a large group |
| **Jigsaw** | A topic is divided into several smaller pieces. Each team member is assigned to read and become an expert on a part of the topic. After each person has become an expert, they teach their team members about their piece. After each person in the group is finished teaching their portion, the puzzle is assembled. | Prereading | Often requires more than one faculty member to facilitate the small groups. All students who are assigned the same subtopic are grouped together. After each group has completed work on the subtopic, they come together and create a full picture of the topic. |

**References:**

1. Wolff M, et al. Not Another Boring Lecture: Engaging Learners with Active Learning Techniques. J Emerg Med. 2015;48(1): 85-93.
2. Martinelli, SM, et al. Learners and Luddites in the Twenty-First Century. Anesthesiology. 2019;131(4): 908-28.