

# Active Learning Strategies

## A Guide to Incorporating Active Learning

December 2022

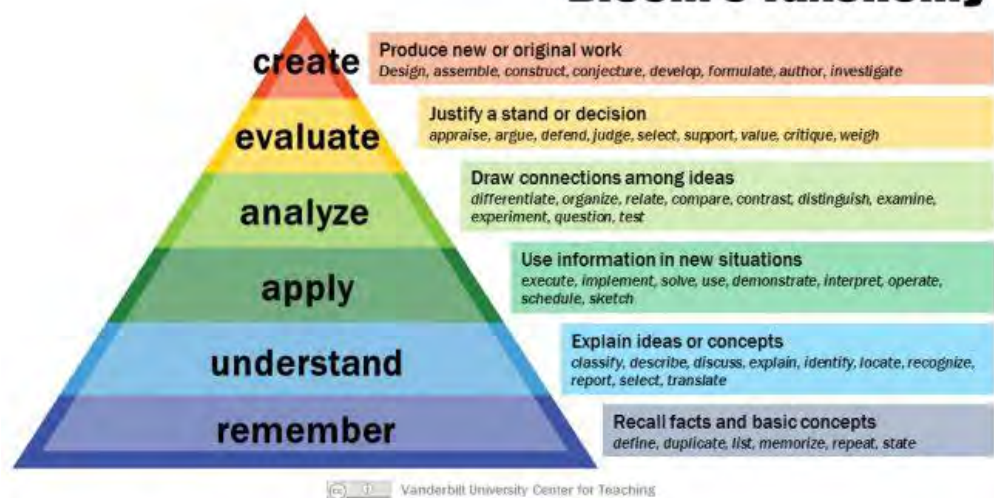
### What is Active Learning?

Active learning refers to a wide array of strategies and techniques that actively engage learners with the material through critical thinking, discussion, and application. These strategies place greater responsibility on the learner to engage with the material and demonstrate understanding. However, instructor facilitation is critical to ensuring learners focus on salient points and demonstrate appropriate competency.

Active learning techniques can be individual or collaborative and range in complexity to design and implement. Engaging actively in the learning process allows learners to advance their understanding from lower order thinking skills, such as remembering, into higher order thinking like evaluating or creating.

<https://cft.vanderbilt.edu/guides->

### Bloom's Taxonomy



[sub-pages/blooms-taxonomy/](https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/)

Active learning strategies also benefit the learner by providing informal feedback on their understanding of the material, allowing them to identify gaps and engage in self-directed learning to address them. Additionally, the feedback benefits the instructor, allowing them to identify gaps, address misunderstandings, and clarify concepts as needed.

Learning objectives should guide the instructional design process, identifying what you expect learners to know and do with the instructional content. Your learning objectives can help you identify appropriate active learning strategies to incorporate into your teaching.

This guide contains a small sampling of active learning approaches organized by instructional setting. For additional assistance in selecting and designing active learning approaches, please contact the [Office of Educational Improvement](#).

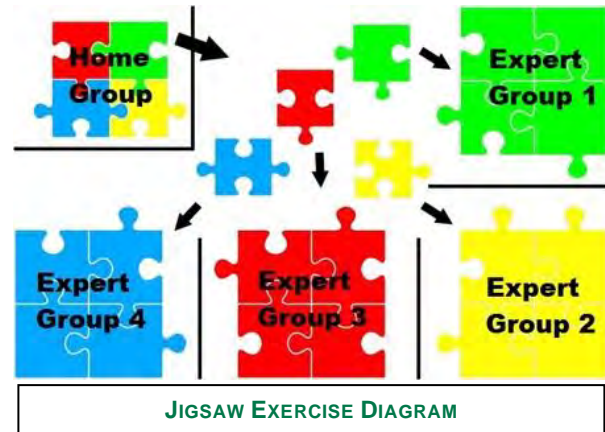
## Small Group Strategies

### *Jigsaw Exercise*

Learners are assigned to two groups: a home group and an expert group. Expert groups are each given a different area of content to study and become “experts.” Learners then meet with their home group, each sharing their expertise in one area of the content to provide an overall understanding.

### *Things You Know*

Each learner is provided with an envelope filled with strips of paper containing information they should already know. Learners then divide the strips into two categories: things they know well and things with which they need additional help. Groups then come together to discuss things the learners need help learning.



### *Pass the Problem*

Each group is given a different problem and instructed to develop (and write down) the first step in solving the problem. The paper is then passed to the next group, who is responsible for identifying the next step in the solution. This continues until each group (or cohorts of groups) has contributed to solving each problem.

### *Polar Opposites*

Ask the learners to examine two versions of a situation or problem where one is incorrect, such as the opposite of the other. Have learners individually reason through which is the correct situation and why, then meet in small groups to discuss their answers and rationale.

### *Pro-Con Grid*

Provide a situation or solution to a problem and have students write out the pros and cons for the given scenario.

### *Complete Turn Taking*

Learners bring 2-3 questions they have from the study material. One student has one minute to pose their question without being interrupted. When they are finished, they indicate this by saying “I’m done” or “I’m finished.” The learner to their left then has one minute uninterrupted to provide their thoughts and information to answer the question. This continues until every learner in the group has had one minute of uninterrupted time. The group then engages in 2-5 minutes of open discussion to resolve the question.

**Brain Drain**

Each learner is provided with a table of three columns and as many rows as there are group members. The group is provided a topic or problem to brainstorm. Each learner fills in information on row one of their worksheet. After three minutes, papers are rotated clockwise and learners then fill in row two without repeating information from row one. The process continues until the table is filled in, then the group debriefs to identify the best answers.

<b>Brain Drain Topic:</b> Why patients are not on a standardized anticoagulation pathway.			
<b>Learner 1</b>	No written handover	No medication reconciliation	No flag from lab re: High INR
<b>Learner 2</b>	Consultants assumed INR was being checked	No orientation for medical students re: INR	Handover to new ward inadequate
<b>Learner 3</b>	No regimen for post-op patients re: warfarin	INR machine broken	Point of care testing not used

**Large Group Strategies****Think-Pair-Share**

Learners are given one minute to consider their response to a question or prompt. Then they turn to a partner and share and compare their responses for 2-5 minutes. Optionally, learner pairs can report their discussion to the larger group.

**Group Concept Mapping**

Place large poster or dry erase boards around the room, each with a central node provided to initiate thought. Learners move around the room, adding sub-nodes to the concept maps as they are able until the maps are complete. The facilitator then reviews the maps with the group to clarify and reinforce concepts.

**Pause Procedure**

The facilitator incorporates strategic pauses into their presentation, typically after a “chunk” of information is provided. Learners have time to review their notes, discuss thoughts in pairs, and/or develop questions on the material.

**Fishbowl**

A learner or group of learners shares their thoughts and ideas on a topic in front of others, who are not permitted to ask questions. Observers take notes and then write a response to the presentation.

**Role Playing**

Learners are assigned roles for a concept or scenario, research their part independently, and act it out in class. Observers critique and ask questions.

**Ranking Alternatives**

Facilitator provides a situation and tasks learners with identifying as many alternative courses of action (or explanations of the situation) as they can. An overall list is compiled, then students break into groups to discuss and rank the actions or explanations.

## Presentation Strategies

### *Picture Prompt*

The facilitator shows learners a picture with no explanation and asks them to identify or explain it while justifying their answers. Alternatively, ask learners to write about it using terms from their study materials/presentations or name concepts/processes shown. Facilitator does not provide feedback/answers until all options have been explored.

### *Socratic Questioning*

Facilitator replaces a presentation with continual questioning on a given topic, asking questions that guide the conversation to a learning outcome.



### *Pass the Pointer*

The facilitator places a complex image on the screen and asks for volunteers to borrow the pointer to identify key features or components or ask questions about things they don't understand.

### *Empty Outlines*

The facilitator distributes a partially completed outline of the session's material to the learners and asks them to fill it in. Can be useful at the start or end of the session.

### *Collaborative Note Taking*

Learners work together to create a comprehensive set of notes accessible to the entire class. The facilitator can edit and comment on the notes to provide clarification and guidance.

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## Individual Strategies

### *One Sentence Summary*

Learners are tasked with writing a single sentence that incorporates the who/what/when/where/why/how of a concept.

### *Reflection Statement*

Learners are tasked with creating a reflection statement on the material covered, demonstrating critical thinking and application of the content to real life scenarios.

### *Muddiest Point*

Learners write for one minute on the concept or problem that is most confusing for them. The facilitator reviews learner submissions to provide feedback and clarification as needed.

### *Minute Paper*

Learners write down everything they can regarding a concept or problem in one minute. Question prompts can be provided to focus on a particular aspect of the learning session. The facilitator reviews submissions to identify and clarify points of confusion or error.

## Additional Resources

### **TopHat Audience Response System**

<https://tophat.com/blog/active-learning-any-modality/>

### **Purdue University Wilmeth Active Learning Center**

<https://www.purdue.edu/activelearning/Need%20Help/alstrategies.php>

### **Boston University Center for Teaching and Learning**

<https://www.bu.edu/ctl/guides/active-learning/>

### **Cornell University Center for Teaching Innovation**

<https://teaching.cornell.edu/teaching-resources/active-collaborative-learning/active-learning>

### **Iowa State University Center for Excellence in Teaching and Learning**

<https://www.celt.iastate.edu/wp-content/uploads/2017/03/CELT226activelearningtechniques.pdf>