

Active Learning Strategies: Expanded and Interactive Experience

Based on course planning cards provided by The Center for Teaching Excellence and Innovation, JHU

Active Learning Strategy #1: Sticky Note Parade

Description: On a board, wall, or digital slide program, provide prompts for which students need to generate ideas, solutions, or questions. Give students 3 – 4 sticky notes on which they write a single idea and stick the notes on a board or wall in response to the prompts. Once all ideas are posted, the instructor and/or students can then group the notes by topic, theme, question, or chronology.

Purpose: Use it to help students generate connections between different sections and/or categories of content, thus expanding their mental schemas around a particular content area.

- Planning:
 - Moderate preparation time required
 - Moderate engagement time
 - Plan enough time to Debrief after activity
 - Suitable as a group activity
- Modalities:
 - In-Person Synchronous: Learners are given three or four sticky notes on which they write a single idea and stick the notes on a board or wall in response to the prompts.
 - Synchronous Online or Hybrid: Ask learners to post three or four notes on a shared set of slides or a digital board such as a Zoom whiteboard or a Padlet.
 - Asynchronous: Ask learners to post three or four notes on a shared set of slides or a digital board. Then prompt them to review all of their peers' responses at the end of the activity.

- Tips & Tech:
 - Technology Recommendations:
 - MS PowerPoint – allows for real-time collaboration. Shapes can stand in for sticky notes.
 - Collaborative Bulletin Board Tools – allow users to contribute their ideas to a shared space. Boards include Zoom whiteboard, Padlet, and Miro.
- References:
 - Brown, P. C., Roediger, H. L., III, & McDaniel, M. A. (2014). Make it stick: The science of successful learning. Belknap Press.
 - Center for Teaching and Learning, University of Georgia. (n.d.). Active learning techniques. <https://wwwctl.uga.edu/faculty/teaching-resources/salt/>

Active Learning Strategy #2: Sorting and Sequencing Activities

Description: Students sort content (readings, books, problem sets, etc.) into categories or sequence content into order. This can be done with slips of paper, cards, sticky notes, or with the “slide sorter” function of a presentation program and can be completed synchronously or asynchronously.

Purpose: Use it when introducing students to multistep tasks or sequences that require memorization. This activity is also beneficial for learners to organize content for purposes of categorization, comparing and contrasting, etc.

- Planning:
 - Minimal preparation time required
 - Short engagement time
 - Plan enough time to Debrief after activity
 - Suitable as an individual, paired, or group activity
- Modalities:
 - In-Person Synchronous: This could involve a physical set of items to sort or access to a digital file to sort or sequence.

- Synchronous Online or Hybrid: There are several digital tools that could be used to facilitate a sorting or sequencing activity in real time.
- Asynchronous: Provide students with digital resources to participate in this activity independently. Consider asking them to submit a screenshot of their sequence or provide a reflection describing their thought process.
- Tips & Tech:
 - Extension:
 - Ranking Rationale – A variation of this activity could involve asking students to rank items in terms of importance or impact. This encourages students to think about the cause and effect of a concept or event. Afterward, the instructor would ask the students to write a reflection to explain their reasoning or to share their reasoning with a small group of peers.
 - Technology Recommendations:
 - Slide Deck – Create a slide deck that contains items for students to drag around or a set of slides to reorder. Set permissions on the slide deck so that students must create their own copies to edit the slide(s), so they can have their own digital copy to manipulate.
 - MS Forms – Include a ranking question type that allows you to arrange items in a sequence, order, or ranking.
 - Canvas New Quizzes – Include a categorization question type that prompts students to sort terms into different categories and an ordering question type that prompts students to sequence a list of items or events.
- References:
 - Brown, P. C., Roediger, H. L., III, & McDaniel, M. A. (2014). Make it stick: The science of successful learning. Belknap Press.

Active Learning Strategy #3: Frequent Quizzes and Spaced Retrieval Practice

Description: Offer low-stakes tests/quizzes as formative assessments. These can also be incentives to complete the assigned reading. Test after learning new content either at the beginning, middle, or end of class. To enhance retrieval, test again a few days/weeks after a particular class/module/unit has finished.

Purpose: Frequent testing gives learners practice retrieving information, which “arrests forgetting, strengthens retrieval routes, and is essential for hanging onto knowledge you gain” (Make It Stick: The Successful Science of Learning , p. 4).

- Planning:
 - Minimal preparation time required
 - Short engagement time
 - No debrief needed
 - Suitable as an individual activity
- Modalities:
 - In-Person Synchronous: Learners can complete a paper-based quiz, a quiz in the LMS, a survey tool, student-response tool, or a review game tool.
 - Synchronous Online or Hybrid: Learners can complete using a quiz in the LMS, a survey tool, student-response tool, or a review game tool.
 - Asynchronous: Learners complete a quiz in the LMS or a survey tool.
- Tips & Tech:
 - Technology Recommendations:
 - MS Forms – offers quizzes and surveys that can be provided to learners asynchronously or display results in real time while using Present Mode.
 - iClickers – student-response tool that allows students to provide responses from a phone or laptop in real time.
 - Review Game Tool – Review games, such as Kahoot, provide an opportunity for students to review while competing against each other.

- LMS Quiz Tool
- References:
 - Brown, P. C., Roediger, H. L., III, & McDaniel, M. A. (2014). Make it stick: The science of successful learning. Belknap Press.

Active Learning Strategy #4: 3-2-1 Reading Reflection

Description: List 3 things learned from the reading; 2 connections to self, other texts, or to the world; and 1 question about the reading.

Use this reflection for class discussions or small group activities.

Purpose: The three questions scaffold readings by asking learners to self-monitor and self-direct their learning and connect the reading to other content, the real world, or their personal experiences.

- Planning:
 - Minimal preparation time required
 - Medium engagement time
 - No debrief as it is included in the activity
 - Suitable as an individual, paired, or group activity
- Modalities:
 - In-Person Synchronous: Provide learners with the 3-2-1 prompt and ask them to write their responses in class.
 - Synchronous Online or Hybrid: Provide learners with the 3-2-1 prompt and ask them to submit their responses to a student-response tool.
 - Asynchronous: Provide learners with the 3-2-1 prompt and ask them to submit their responses asynchronously to a digital form, to a discussion board within the LMS, or as a reflective assignment.
- Tips & Tech:
 - Technology Recommendations:
 - MS Forms – Use a short answer question type and either collect responses asynchronously or use Present Mode during a live session.

- iClickers – Use this student response tool to collect short answer responses and view results in real time.
- References:
 - Writing in the Disciplines. (n.d.). Lower students' stress with the 3-2-1 reading strategy. University of Vermont.
https://www.uvm.edu/sites/default/files/Writing-in-the-Disciplines/3-2-1_Reading_Strategy_Handout.pdf

Active Learning Strategy #5: Student-Led and Designed Discussions

Description: Students write discussion questions for each other and pose them to a small group or the class. They can provide an introductory rationale for their questions and act as discussion leaders.

Purpose: Teaching content and then facilitating a discussion is an extremely effective way of getting students to learn content and can lead to more student engagement overall. Additionally, this is an effective way to ensure a large amount of reading gets discussed and covered.

- Planning:
 - Minimal preparation time required
 - Medium engagement time
 - No Debrief as it is included in the activity
 - Suitable as a paired or group activity
- Modalities:
 - In-Person Synchronous: Learners create and share discussion questions in class with small groups or lead class-wide discussions.
 - Synchronous Online or Hybrid: Learners create and share discussion questions in a digital format and facilitate small group discussion with in-person groups and breakout room groups online or lead a whole group discussion that includes online and in-person formats.
 - Asynchronous: Learners create and share discussion questions using the discussion tool in the LMS. Most discussion tools have settings that allow a student to create the initial prompt.

- Tips & Tech:
 - Extension: Make it a jigsaw-like activity (a strategy also included in this resource): Small groups can work together to split up the readings and teach each other the concepts.
- References:
 - Instructional Moves. (n.d.). Facilitating student-led discussions. Harvard Graduate School of Education.
<https://instructionalmoves.gse.harvard.edu/facilitating-student-led-discussions>

Active Learning Strategy #6: Gallery Walk

Description: Post prompts around the room or in a shared slide deck for students to address. Have students walk around the room or go through the slide deck and write down their responses. Then have them take a “gallery walk” through the room or deck, reading responses and noting anything interesting. They can interact with responses by using icons/stickers to upvote, star, or otherwise react to them.

Purpose: Use this activity to prompt learners to make connections to elicit prior knowledge, make connections between content and themselves, crowd-source queries and questions, etc. This is also a great activity for classroom community-building and eliciting emotions like wonder and curiosity.

- Planning:
 - Moderate preparation time required
 - Long engagement time
 - Plan enough time to Debrief after activity
 - Suitable as an individual, paired, or group activity
- Modalities:
 - In-Person Synchronous: Learners share their contributions either physically or digitally, then review the contributions.
 - Synchronous Online or Hybrid: Learners share their contributions digitally and then review peer contributions.

- Asynchronous: Learners share their contributions digitally by a specified deadline and then are given a second deadline by which to review their peers' contributions.
- Tips & Tech:
 - Extension: In an online course, Gallery Walks can follow up formal, graded presentations. Learners can post links or a copy of their presentation on a discussion board, and other learners can comment on/ask questions about the presentation.
 - Technology Recommendations:
 - LMS Discussion Tool – Learners can post their thoughts or creations to a discussion board within the LMS and then review each other's contributions.
 - VoiceThread – An interactive, collaborative slide deck that allows learners to comment with audio, video, or text-based comments. Learners could each add their contributions to a VoiceThread and then review their peers' contributions. Conversely, each learner could submit their own VoiceThread and publish it for the whole course to see. The Gallery Walk would then involve learners reviewing each individual VoiceThread.
 - MS PowerPoint – Each learner could add a slide to a PowerPoint deck, then the class would review all other contributions and could add comments to the slides.
- References:
 - Center for Teaching and Learning, University of Georgia. (n.d.). Active learning techniques. <https://www.ctl.uga.edu/faculty/teaching-resources/salt/>
 - Lang, J. M. (2021). Small teaching: Everyday lessons from the science of learning (2nd ed.). Jossey-Bass.

Active Learning Strategy #7: Jigsaw Group Activity

Description: For this group activity, divide content into segments. Each segment is one “jigsaw piece,” and together all segments make a complete “puzzle.” Assign a group of

students to become an expert on their segment of content and then teach the content to the rest of the class. Continue doing so until all groups have presented and students have all pieces of the puzzle.

Purpose: Use it to shift learners into the instructor role, teaching peers how to learn the content.

- Planning:
 - Moderate preparation time required
 - Long engagement time
 - Plan enough time to Debrief after activity
 - Suitable as a paired, or group activity
- Modalities:
 - In-Person Synchronous: Learners participate in groups during class time.
 - Synchronous Online or Hybrid: Learners participate in groups through either in-person groups or video conference breakout sessions.
 - Asynchronous: Divide learners into groups and assign groups to research an assigned topic independently. Then, ask each group to facilitate a discussion about their topic within the LMS.
- Tips & Tech:
 - Extension: Instead of having each content group teach the entire class, make a second set of groups with members from the different content groups. Then have each content expert teach within their small group.
 - Tip:
 - Planning the initial content groups and the secondary groups that contain someone from each content “piece” may help ensure smoother transitions during class time.
- References:
 - Center for Teaching and Learning, University of Georgia. (n.d.). Jigsaw discussion. <https://activelearning.uga.edu/instructor-development/instructor-resources/jigsaw-discussion/>

Active Learning Strategy #8: Simulations

Description: Queens University in Canada describes simulations this way: “Students are tasked to solve complex problems in controlled environments through replicated ‘real-life scenarios.’” Students can use a pre-developed simulation scenario using real-life props and other items, and simulations can be delivered online (via simulation software) and/or in-person.

Purpose: Use it when learners need to practice applying knowledge and skills in a replicated performance environment (e.g., a lab, a healthcare space, a negotiating table, etc.).

- Planning:
 - Maximum preparation time required
 - Long engagement time
 - Plan enough time to Debrief after activity
 - Suitable as an individual, paired, or group activity
- Modalities:
 - In-Person Synchronous: Learners practice in a simulated physical environment with props and interactions that replicate real-life scenarios.
 - Synchronous Online or Hybrid: Direct learners to have available props on-hand in their immediate environment; or, they can walk through the steps of scenario, discussing their actions at key points. This can be done in various formations: in pairs, groups, or as a class.
 - Asynchronous: Learners can use software programs that replicate labs, healthcare settings, etc.
- Tips & Tech:
 - Technology Recommendations:
 - Textbook Publisher Content – Many STEM, medical, and language textbooks have accompanying content online that supports instruction by providing students with simulation labs and other interactive experiences.

- AI-Generated Simulation - Create a prompt or prompts to guide learners through an interactive simulation in a generative AI platform.
- References:
 - Bowen, J. A. (n.d.). Teaching naked: AI workshop prompts.
<https://teachingnaked.com/prompts/>
 - Queen's University Experiential Learning Hub. (2021). Simulation-based experiential learning: Faculty toolkit.
https://www.queensu.ca/experientiallearninghub/sites/qelhwww/files/uploaded_files/Simulation%20Toolkit/Simulation%20EL%20Faculty%20Toolkit%20%20Final%20Final%20April%208.pdf

Active Learning Strategy #9: Role-Playing

Description: Students assume a role in a complex or stressful real-life situation that prompts them to examine their responses to the environment.

Purpose: Use it when learners need to practice replicating the skills and knowledge associated with a particular role or perspective (e.g., a negotiating table, a high-stakes discussion, etc.).

- Planning:
 - Maximum preparation time required
 - Long engagement time
 - Plan enough time to Debrief after activity
 - Suitable as an individual, paired, or group activity
- Modalities:
 - In-Person Synchronous: Learners may prepare before class and then participate in the activity during class time.
 - Synchronous Online or Hybrid: Learners may prepare before class and then participate in the activity during an online session or in small groups in-person and video conference breakouts.

- Asynchronous: Learners could participate in the activity within an LMS discussion tool or VoiceThread. Learners could also be asked to prepare a position summary that explores the perspective of a role in the context of the role-playing scenario.
- Tips & Tech:
 - Extension: Additional examples include a mock trial, model UN session, model Congress session, press briefing, sales pitch, mock interview, or reenactment of a historical event.
 - Technology Recommendations:
 - LMS Discussion Tool – In a pros and cons debate or something comparable, creating different discussion boards for each perspective may help organize the experience for learners.
 - VoiceThread – The instructor can use different slides to represent each perspective or each varying role. Then, learners would weigh in with audio-, video-, or text-based comments on the corresponding VoiceThread slide.
 - Video Conference Tool – Have students use a video conference tool such as Zoom to record their role-playing session.
- References:
 - Center for Teaching and Learning, University of Georgia. (n.d.). Active learning techniques. <https://wwwctl.uga.edu/faculty/teaching-resources/salt/>
 - Northern Illinois University Center for Innovative Teaching and Learning. (2012). Role playing. <https://www.niu.edu/citl/resources/guides/instructional-guide/role-playing.shtml>

Active Learning Strategy #10: Case-Based Learning

Description: Students study narratives, data sets, or other selected content about specific scenarios that resemble or are real-world examples of the subject matter. Students engage in a structured discussion, activities, and homework around the case study, either

synchronously or asynchronously. Often, the actual outcome of the case is not revealed until the end of the session.

Purpose: Use it to give learners practice synthesizing content through applied problem-solving with real-world examples.

- Planning:
 - Maximum preparation time required
 - Long engagement time
 - Plan enough time to Debrief after activity
 - Suitable as an individual, paired, or group activity
- Modalities:
 - In-Person Synchronous: Learners engage in small-group or class discussion around the case study.
 - Synchronous Online or Hybrid: Learners engage in small-group discussion within breakout groups online and if hybrid, in-person groups.
 - Asynchronous: Learners engage in small-group discussions within the LMS or use a social annotation tool to analyze the case study.
- Tips & Tech:
 - Tips:
 - Generative AI platforms are adept at developing case studies.
 - Distribute guidelines ahead of time about how to analyze a case study so learners know the steps.
 - Extension:
 - Social Annotations – Consider asking learners to asynchronously analyze the case study using a social annotation tool.
 - Technology Recommendations:
 - Hypothes.is and Perusall – These are two social annotation tools that can be used asynchronously by a group of learners.
- References:

- Instructional Moves. (n.d.). Case teaching. Harvard Graduate School of Education. <https://instructionalmoves.gse.harvard.edu/case-teaching>

Active Learning Strategy #11: One-Minute Thesis

Description: Create, or have students create, two lists: one with source material and another with concepts and themes. Ask a student to draw a connection between items on list one and list two. Give students one minute to develop a thesis connecting these two items and then debrief as a class. Repeat the exercise until all items have been connected.

Purpose: This requires learners to generate knowledge and comprehension about content by increasing mental connections between different parts of the subject matter.

- Planning:
 - Minimal preparation time required
 - Medium engagement time
 - No Debrief as it is included as part of the activity
 - Suitable as an individual, paired, or group activity
- Modalities:
 - In-Person Synchronous: Learners participate during class time.
 - Synchronous Online or Hybrid: Learners participate during the live session.
 - Asynchronous: Provide learners with two lists, then asked to identify a connection, write a thesis statement, and share this connection within a small group discussion board in their LMS. Other participants would try to connect different items from the lists.
- Tips & Tech:
 - Technology Recommendations:
 - MS Forms – can collect student responses asynchronously or display results in real time while using Present Mode.
 - iClickers – student-response tool that allows students to provide responses from a phone or laptop in real time.

- References:
 - Lang, J. M. (2016). Small teaching: Everyday lessons from the science of learning. Jossey-Bass.

Active Learning Strategy #12: Think/Pair/Share

Description: Students individually respond to a prompt, pair-up, and share their response with their partner. During the class debrief, ask partners to share their own or their partner's response.

Purpose: Use it to prompt learners to form connections with each other and the content and generate new ideas about the material.

- Planning:
 - Minimal preparation time required
 - Short engagement time
 - No Debrief as it is included as part of the activity
 - Suitable as a paired or group activity
- Modalities:
 - In-Person Synchronous: Learners participate during class time.
 - Synchronous Online or Hybrid: Learners participate during class time, either in pairs while in-person or in video conference breakout rooms.
 - Asynchronous: Create discussion partner threads in a discussion forum. Learners respond to the prompts in their partner thread.
- Tips & Tech:
 - Extensions:
 - Include Prompts on Slides - Consider posing the think-pair-share prompt on your content slide in a “discussion bubble [to] prime students to think and be ready to share” (Harvey, 2025).
 - Snowball Discussions - Provide students with a prompt for discussion in pairs, then double the group size to four and provide them with time

to exchange ideas. Continue increasing group sizes until you combine the class back together for a whole group debriefing.

- References:
 - Center for Teaching and Learning, University of Georgia. (n.d.). think-pair-share. <https://activelearning.uga.edu/instructor-development/instructor-resources/think-pair-share/>
 - Harvey, A. (2025). Tired of awkward silences? Upgrade your think-pair-share. Faculty Focus. <https://www.facultyfocus.com/articles/effective-teaching-strategies/tired-of-awkward-silences-upgrade-your-think-pair-share/>
 - Western Sydney University. (n.d.). Snowball activity. <https://lf.westernsydney.edu.au/engage/strategy/snowball-technique>

Active Learning Strategy #13: Concept Maps

Description: Students create a map (typically a bubble map) by brainstorming major class themes, concepts, etc. and connecting them to one another in graphical form. They then provide an explanation of their maps.

Purpose: Use it when learners need to generate connections between different types of content: new and old, from the present class and previous class, from one category and another.

- Planning:
 - Minimal preparation time required
 - Short engagement time
 - No Debrief as it is included as part of the activity
 - Suitable as an individual, paired, or group activity
- Modalities:
 - In-Person Synchronous: Learners work independently or in small groups to develop their concept maps.
 - Synchronous Online or Hybrid: Learners create concept maps and use Zoom or other video conferencing tools to screenshare and showcase their creations.

- Asynchronous: Learners create concept maps independently and share them within a discussion board in their LMS or submit them to the instructor.
- Tips & Tech:
 - Technology Recommendations:
 - Presentation Tool – Use a presentation tool like PowerPoint to create a concept map within one slide.
 - Digital Concept-Mapping Tools – Several concept-mapping tools are available online, many of which offer a freemium version that allows users to create several concept maps for free. Examples include MindMup, Miro, and Lucidchart.
- References:
 - Lang, J. M. (2021). Small teaching: Everyday lessons from the science of learning (2nd ed.). Jossey-Bass.

Active Learning Strategy #14: Three-Response Brainstorm

Description: As individuals or in small groups, ask learners to quickly brainstorm three responses to any of the following prompts:

- Name three things you want to learn in this class/module/unit.
- Name three things you learned in our last class/module/unit.
- Name three things you want to learn more about based on what we've just reviewed.

Create a list with learners' ideas and use it to inform teaching in the moment or at a future date. This activity can be done at the beginning, middle, or end of a class/module/unit.

Purpose: Use it to help learners self-identify connections between content, knowledge they may already know about the content, and what they want to learn more about. These prompts will help learners mentally self-direct their own learning.

- Planning:
 - Minimal preparation time required
 - Short engagement time
 - No Debrief as it is included as part of the activity

- Suitable as an individual, paired, or group activity
- Modalities:
 - In-Person Synchronous: Learners participate in class and provide written responses or submit responses digitally.
 - Synchronous Online or Hybrid: Learners participate during the synchronous session by submitting their responses digitally.
 - Asynchronous: Learners participate in this activity during the module or unit and submit their responses through a form or the LMS discussion board or assignment.
- Tips & Tech:
 - Modification:
 - Use a similar approach but use a K-W-L Chart.
 - K: What do I know?
 - W: What do I want to know?
 - L: What do I want to learn?
 - Technology Recommendations:
 - MS Forms – Use a short answer question type and either collect responses asynchronously or use Present Mode during a live session.
 - iClickers – Use this student response tool to collect short answer responses and view results in real time.
- References:
 - Bowman, S. L. (2009). Training from the back of the room! 65 ways to step aside and let them learn. Pfeiffer.

Active Learning Strategy #15: WIIFM? (What's in it for Me?)

Description: Ask students to identify how a skill or piece of knowledge will personally benefit them in any area of their lives. These can be written down and debriefed as a class.

Purpose: Use it to prompt learners to connect the material to themselves and their own lives.

- Planning:
 - Minimal preparation time required
 - Short engagement time
 - No Debrief as it is included as part of the activity
 - Suitable as an individual activity
- Modalities:
 - In-Person Synchronous: Learners participate in class, possibly using a digital tool to submit their response.
 - Synchronous Online or Hybrid: Learners participate in a synchronous class possibly using a digital tool to submit their response.
 - Asynchronous: Learners would write a reflective statement and either submit it to the instructor or share it in a discussion within their LMS.
- Tips & Tech:
 - Technology Recommendations:
 - MS Forms – can collect student responses asynchronously or display results in real time while using Present Mode.
 - iClickers – student-response tool that allows students to provide responses from a phone or laptop in real time.
- References:
 - Bowman, S. L. (2009). Training from the back of the room! 65 ways to step aside and let them learn. Pfeiffer.

Active Learning Strategy #16: Teach Back

Description: In groups or as individuals, assign students to teach a concept back to the class. This task can be delimited by delivery time, format (e.g., a hand-drawn picture), or structure (e.g., top three points). Provide feedback, either as a class or individually.

Purpose: Teach-backs deepen knowledge and reinforce learning by requiring learners to review content at a level that enables them to teach it back to their peers.

- Planning:

- Moderate preparation time required
- Medium engagement time
- Plan enough time to Debrief after activity
- Suitable as a paired or group activity
- Modalities:
 - In-Person Synchronous: Learners present during class time.
 - Synchronous Online or Hybrid: Learners present during class time, whether online or in the classroom.
 - Asynchronous: Learners create and narrate a presentation and share it with the class through an LMS discussion board or another digital tool.
- Tips & Tech:
 - Technology Recommendations:
 - VoiceThread – Students could create VoiceThread presentations and then share them with their classmates to view.
 - Panopto – Students could create a video using Panopto Capture or upload a video of their presentation to Panopto and post it in a discussion forum in their LMS.
 - Other Presentation Tools – Instructors could allow students to choose an online presentation tool of their choice.
- References:
 - Bowman, S. L. (2009). Training from the back of the room! 65 ways to step aside and let them learn. Pfeiffer.

Active Learning Strategies Cards

A [PDF version](#) of these cards can be accessed on the Center for Teaching Excellence and Innovation's website.