

Active Learning Strategies

Engage Content Learning and Support Communication Skills

Active involvement of students in the educational process leads to enhanced learning and better academic performance [1]. The ultimate goal of content instruction is to provide knowledge to students. Teachers can change the shape of content instruction to facilitate reflection using active learning exercises like pause procedure, think-pair-share, and turn and talks. The advantage of these procedures is that most of them require very little preparation time, students get time to reflect, discuss with their partner/group, and delve deeper into the material.

Bachhel R, Thaman RG. Effective use of pause procedure to enhance student engagement and learning. J Clin Diagn Res. 2014 Aug;8(8):XM01-XM03. doi: 10.7860/JCDR/2014/8260.4691. Epub 2014 Aug 20. PMID: 25302251; PMCID: PMC4190777.

Activity	Description	In-Person	Online Synchronous	Online Asynchronous
Think-Pair-Share	Students share and compare possible answers to a question with a partner before addressing the larger class.	Pose a question and give students a minute or two to think, then divide the whole class into pairs. Give pairs a set time to discuss before bringing the entire class back together to share answers or ideas that were discussed in pairs. Sharing can be done verbally, with the use of a physical whiteboard, or with the support of digital tools such as Office 365 , Google Docs , Poll Everywhere , or Padlet .	Pose a question and give students a set time to think before sending them to a breakout meeting room. Give students a set amount of time to discuss in their breakout rooms before bringing the class together to share.	Ask students to respond to a question in a small group and then have them report out to a larger discussion forum. This activity could be set up in a D2L Discussion Board , VoiceThread , or a third-party messaging app such as Slack or Discord .
Turn & Talk	Pose a question to the class and have students talk to each other to form a response.	Assign partners in the classroom and have students respond to a prompt with their partner.	Ask a question and let the students discuss via chat in Zoom or have each respond with the use of an audience response system, such as Poll Everywhere .	Create a shared slide deck using Office 365 or Google Slides . Each student should enter a response to a question, problem, or idea on a separate slide. Encourage students to collaborate and interact adding comments to other slides and continuing the conversation.

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Partial Outlines/Slides Provided for Lecture	Provide students with a printable/fillable copy of your slide deck or lecture outline so that they can take notes as they follow along.	Create a set of class notes with blanks for important information and share in D2L. Encourage students to fill in the blanks during class.	Create a set of class notes with blanks for important information and share in D2L. Encourage students to fill in the blanks during the class session.	Create a set of class notes with blanks for important information and share in D2L. Encourage students to fill in the blanks while viewing course materials.
Pausing in Lecture	Break up your lecture to provide opportunities for students to grapple with new ideas or think on their own. This could be something as simple as a “think break”.	Pause during your lecture to ask a question, give a poll, or ask students to identify three things they have learned so far in the class. This can be achieved with no or low technology tools (asking students to simply think or write down a response using a pen or paper). An audience response system like Poll Everywhere is one tech tool that could support this type of activity.	Break up your synchronous presentation by stopping for a quick activity. Ask students to respond to a prompt or complete a poll. If you would like to record student responses, consider utilizing a shared document (Office 365 , Google Docs) or audience response system (Poll Everywhere).	In a recorded lecture, insert points for students to pause and reflect or answer questions using a quiz function. Panopto supports the creation of video quizzes. If students are working through a text-heavy module page, break up the text with some interactive components such as HTML Flip Cards (that can be made using Creator+) or an H5P Activity.
Posters & Gallery Walk	Ask students to “vote” on statements that they agree with the most or respond to statements or observations made by other students.	Hang posters around the room (or utilize whiteboards). Ask groups of students to post comments on sticky notes. Share comments with the class.	Use collaborative tools (such as Office 365 , Google Docs , or Padlet) for small groups to record ideas, then share with the class.	Have small groups use collaborative spaces (such as Office 365 , Google Docs , Padlet , or VoiceThread) to record and respond to other students’ ideas.

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Fishbowl	Students are separated into an inner and outer circle. Students in the inner circle (fishbowl) engage in discussion while students in the outer circle listen and take notes.	Have students physically move and form an inner circle (fishbowl) and outer circle. Students in the fishbowl discuss, role play, or mime a solution while students in the outer circle listen/watch, take notes, and critique. Discuss as a class at the end.	Assign students to be part of the “fishbowl”. These students will discuss, role play, or mime a solution while students in the outer circle listen/watch, take notes, and critique. Discuss as a class at the end.	Assign students in the “fishbowl” to record themselves as they talk out, role play, or mime a solution. Students in the “outer circle” respond by posting comments. Some tech tools that would work to facilitate this activity include: • D2L Discussion Board and Panopto • VoiceThread • Padlet

Check, Assess, and Strengthen Understanding

One of the most important aspects of active learning is choosing the activities or questions you're going to use in class. When deciding what to ask or what to have students do, ask yourself:

- What are the most important things students should learn from this class session?
- What misconceptions or difficulties do students commonly have as it relates to this content?
- What kind of practice can students do that will help them prepare for an upcoming assignment or assessment?

Use the answers to these questions to choose activities and questions which will give students opportunities to meaningfully engage with the material. You want to have students engage in work that gives them feedback on how well they are understanding the material and practice using the skills important for succeeding in your course. [Classroom Assessment Techniques](#) are one type of activity that works particularly well as you are getting started with active learning. Using these strategies, or variations on them, can help you hold your students' attention and help them better retain and transfer knowledge and skills from your course.

"Successful Active Learning Implementation." Successful Active Learning Implementation | Center for Educational Innovation, <https://cei.umn.edu/teaching-resources/active-learning/successful-active-learning-implementation>.

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Polling	Ask students to respond to a poll or check-in question so that you can gauge their understanding of a new topic.	Use an audience response system such as Poll Everywhere , or go device-free and use colored cards, hands, or move to a certain part of the room to indicate choice.	Pose a question to the class and collect responses in real-time by asking students to respond: • Using Zoom's chat feature • Using Zoom's reaction/emoji icons • Using Zoom's built-in polling features • Using Poll Everywhere	Poll students by embedding a Poll Everywhere activity in a D2L page. Share the results with the class through a D2L Announcement .

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Quick Write	Ask students to form a written response to a question related to the lesson.	Pose a question or two and have students write a response. Students can turn these in at the end of class. Instructors may ask some students to share a selection of responses or summary of their responses with the class.	Pose a question or two and set a timer to allow students to think and form a written response. When time is up, have students submit their written response using Zoom's chat feature . Instructors may ask for some students to share or elaborate on their response with the whole class.	Pose a question or two in the form of an embedded H5P or Poll Everywhere activity, or a D2L Quiz , Survey , or Discussion Board , and have students respond. Instructors may follow-up by sharing a selection of responses or summary of their responses with the whole class.
Muddiest Point	Ask students to identify unclear ideas or “muddy points” at the end of a lesson or the beginning of the next lesson.	Have students use post-it notes, a shared screen or document (Office 365 , Google Docs , Padlet), or an audience response system (Poll Everywhere) to share their muddiest points from a current or previous lesson. The instructor can then discuss with the class and provide clarification where necessary.	Ask students to share their muddiest points from a current or previous lesson using Zoom's chat feature , a shared screen or document (Office 365 , Google Docs , Padlet), or an audience response system (Poll Everywhere). The instructor can then discuss with the class and provide clarification where necessary.	Ask students to share their muddiest points from a current or previous lesson in a D2L Discussion Board , shared document (Office 365 , Google Docs , Padlet), embedded Poll Everywhere or H5P activity, or Assignment Folder . Post an announcement summarizing responses, providing clarification on muddy points, and pointing students towards helpful resources.
Pro/Con List	Encourage students to analyze a new topic or idea by forming a pro/con list.	Have students create a pro/con list together. This collaborative list could be displayed on a whiteboard, a projected PowerPoint slide, or a collaborative document (Office 365 , Google Docs , Padlet).	Together, create a pro/con list using a collaborative document (Office 365 , Google Docs , Padlet) or Zoom annotation tools in real time.	Have students create a pro/con list together using a D2L Discussion Board or collaborative document (Office 365 , Google Docs , Padlet).

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Concept Map	Have students create a concept map that visually represents relationships between key topics and ideas.	Students can work individually or in groups to create a concept map using a pen and paper, a whiteboard, or a collaborative/shareable board such as Padlet .	Students can work individually or in groups to create a concept map using Zoom's Annotation Tools or a collaborative/shareable board such as Padlet .	Have students work individually or in groups to create a concept map using a collaborative/shareable board such as Padlet .
Visual Prompt	Ask students to respond to a visual prompt.	Offer a visual prompt and have students respond using an audience response system such as Poll Everywhere .	Offer a visual prompt and ask students to respond in real-time using Zoom's Chat or Polling feature or an audience response system such as Poll Everywhere .	Offer a visual prompt and ask students to respond. This activity can be facilitated using any of the following tools: • D2L Discussion Board • VoiceThread • Padlet • Poll Everywhere • H5P
Entry/Exit Ticket	Ask students to respond to a poll or question at the beginning or end of class.	At the beginning or end of a class, ask students to respond to a question using a pen and paper (which is then turned in) or an audience response system like Poll Everywhere .	At the beginning of a synchronous session, ask students to respond to a question using Zoom's Polling feature or an audience response system like Poll Everywhere .	At the beginning or end of a module or lesson, ask students to respond to a question in a D2L Discussion Board , Quiz , or Assignment Folder , or an embedded Poll Everywhere or H5P Activity.

Providing and Receiving Feedback and Reflect on Learning

Asking students to reflect on their own learning while they are engaged in learning activities helps promote metacognition which has been shown in studies to improve learning outcomes on problem solving skills, written projects, and exams (Nilson, 2013).

Nilson, L. B. (2013). *Creating self-regulated learners: Strategies to strengthen students' self-awareness and learning skills*. Sterling, VA: Stylus

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Peer Review	Students review each other's work and provide feedback.	Split students into pairs or groups and have them review each other's work and provide feedback during a set time in class. You may consider utilizing the Think-Pair-Share technique here.	Have students share drafts of papers, visuals, or oral presentations in D2L prior to class. Have groups or pairs meet in breakout rooms during the synchronous session for real-time discussion and feedback.	Create Discussion Groups in D2L where students will share a draft of their work with their groupmates/partner. Ask peer reviewer(s) to respond to specific prompts to provide feedback or provide notes or suggestions in the discussion forum by a specific deadline. This activity can also be facilitated with the use of collaborative/shareable documents/presentations (Office 365 , Google Docs and Slides , VoiceThread) or videos (Panopto , Padlet).
Four Corners	Ask students to respond to a series of questions, statements, or ideas, by indicating their choice from a short list (2-4) of pre-determined responses.	Have students respond to a series of questions, statements, or ideas by physically moving to a certain area of the room, holding up a specific color card, or raising their hand. Each action/gesture represents a pre-determined response.	Have students respond to a series of questions, statements, or ideas through a Zoom Poll or Poll Everywhere Activity, or by utilizing Zoom's Annotation or Reaction Features.	Have students make a choice by responding to an embedded Poll Everywhere Activity.

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What's Missing?	Students determine what is missing from a list of ideas, terms, equations, or rationale.	Using slides, present a list of ideas, terms, equations, or rationale. Students respond with what is missing through class discussion, or with the use of a collaborative (Office 365 , Google Docs , Padlet) document or poll. This can also be done individually through notes and then shared out.	Present a list of ideas, terms, equations, or rationale. Students can respond with what is missing using Zoom's chat or polling feature , live discussion, or a collaborative document (Office 365 , Google Docs , Padlet).	Present a list of ideas, terms, equations, or rationale on your D2L module page. Students can respond through an embedded Poll Everywhere or H5P Activity. You can also assess this using a D2L Quiz .
Aha! Wall	Students share how their understanding of a topic or idea was improved, or a concept or technique that gave them an "Aha!" moment.	Utilize a whiteboard or poster boards around the classroom and ask students to put their ideas up using post-it notes. This can also be achieved digitally with the use of a collaborative tool such as Padlet .	In real time, ask students to post an "aha" in the Zoom chat or shared Padlet . Use these to guide discussion or future instruction.	Ask students to post an "aha" in a D2L discussion forum , shared VoiceThread , or shared Padlet . Use these to guide discussion or future instruction.

Active Engagement and Planning Future Connections

Asking students to collaborate or brainstorm allows them to take an active role in their content acquisition. Collaboration has been shown to promote higher-order thinking skills and help create a sense of responsibility for learning.

Center for Teaching Innovation. (n.d.). *Collaborative learning: Center for teaching innovation*. Collaborative Learning | Center for Teaching Innovation. Retrieved October 13, 2022, from <https://teaching.cornell.edu/teaching-resources/active-collaborative-learning/collaborative-learning>

Generate engagement and deeper learning through connections. Incorporating connections between course content and real-world examples and experiences can encourage and help students develop deeper content knowledge and critical thinking skills. Making real-world connections can also cultivate curiosity and genuine interest in learning and solving problems. Opportunities to include real-world connections in a course can be made across various disciplines and in multiple learning moments. From relevant examples outside of academic and educational podcasts to inviting guest speakers and using technology to support virtual learning experiences, you can effectively include strategies that will enhance student learning.

"Connections to Real-World Experience." *Pedagogy That Aids Transition for Higher-Ed Students*, 28 Apr. 2022, <https://www.yorku.ca/health/project/pat/connecting-content-to-real-world-experiences/>.

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Brainstorming Challenge	Students think of and record potential solutions to a problem.	Have students brainstorm using a pen and paper or a collaborative document (Office 365 , Google Docs , Padlet) and then share/discuss in real-time.	Have students brainstorm using a collaborative document (Office 365 , Google Docs , Padlet) or Zoom's chat feature and then share/discuss in real-time.	Use a D2L Discussion Board or collaborative document (Office 365 , Google Docs , Padlet) to brainstorm ideas. Follow-up with a post or announcement to summarize ideas and offer clarity.

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Collaborative Written Summaries	Students work together to formulate a written summary of a specific topic, idea, or concept.	Begin by having each student compose a topic summary individually. Then, break students into groups and have them share those summaries with their group members in real-time. Groups can then collaborate to compose a best-of summary to share with the class. The instructor can lead a whole class discussion, guiding students to provide their rationale.	Begin by having each student compose a topic summary individually. Then, send students to breakout rooms in Zoom and have them share those summaries with their group members in real-time. Groups can then collaborate to compose a best-of summary to share with the class. Using a collaborative document (Office 365 , Google Docs , Padlet) may be helpful here.	Instruct students to individually compose a summary of a topic that they submit to a group discussion board in D2L. Ask each group to collaborate a “best-of” summary that they will post to a class-wide discussion board . Utilizing a collaborative document (Office 365 , Google Docs , Padlet) or third-party discussion tool (Slack or Discord) may be helpful.
1-Minute Quiz	Students complete a 1-minute quiz or response to questions that were presented previously. This encourages students to explore and begin to make connections to a new subject or topic.	During the first 5 minutes of class, ask students to respond to a short Poll Everywhere activity or write down answers using a pen and paper. Results are not displayed to the students. Questions for the quiz are given in the last 5 minutes of the previous class.	During the first 5 minutes of class, ask students to submit a response to a Poll Everywhere Activity or D2L Quiz which takes 1 minute to complete. Results are not displayed to students. Download the results and assign points in D2L. Questions for the Quiz should be provided in the last 5 minutes of the previous class.	Ask students to complete a very brief D2L Quiz . Questions for the quiz should be provided ahead of time, either at the end of the previous module or in a weekly summary email or announcement sent by the instructor.

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Case Studies/Problem-based learning	Problem-based learning (PBL) is a student-centered approach in which students learn about a subject by working in groups to solve an open-ended problem. Ideally, this would be a real-world situation that resembles something students may encounter in their future careers.	Student work in groups to define the problem or issue and discuss ways to solve the problem. Consider having students role play the scenario. Save time at the end for each group to report to the whole class.	Students work in breakout rooms to solve problems with their team members. Then join the main session and report their team's main points and solutions.	Upload case study to OneNote or Google Docs . Students can read case studies independently then highlight and annotate with thoughts and comments to the document. Consider having them post a video or audio file with their solutions.

Acknowledgement

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