

Spark Session: Active Learning

Exploration: Think-Pair

Think: on a post-it, write down your initial response to the question: ***What strategies do you use, or have observed others using, that support active learning in class?***

Pair: Now, turn to a partner and briefly discuss your answers.

What is Active Learning?

In a very broad sense, **active learning strategies** are instructional activities that engage students in doing things as well as thinking about what they are doing (adapted from Bonwell and Eison, 1991).

Active learning approaches support the **student-centered, co-construction of knowledge, skills, and values** (more than the transmission of information from the instructor to the students). By participating in **group and individual activities related to the subject matter**, such as reading, writing, discussing, and reflecting, students develop their **higher-order thinking skills**. Providing students with **timely feedback from peers and instructors** as well as helping them think about their own learning (i.e., **metacognition**) further support *learning by doing*.

Benefits of Active Learning for Faculty and Students - a snapshot

- The National Survey of Student Engagement (NSSE) has followed the engagement experiences of thousands of college students since 2000. Their consistent results show that hands-on, integrative, and collaborative active learning experiences lead to **high levels of student achievement and personal development** (Kuh et al., 2017).
- Owens et al. (2017) found that active learning can positively **impact student motivation**.
- Reimer et al. (2016) found active learning to be particularly **beneficial to first-generation college students in STEM courses**, boosting both retention and passing rates.
- Freeman et al. (2014) conducted a meta-analysis involving high enrollment lectures and found that active learning **increases student performance on exams** by an average of 6%, and decreased failure rates from 34% to 22%.

Active Learning Strategies that Support Student-centered Learning

In the image below, we present some active learning strategies that you can incorporate into your class. All strategies are student-centered and are designed to help students and groups participate, communicate, and reflect upon their learning.

Figure 1: Continuum of active learning strategies



Adapted from O'Neil and Pinder-Grove (n.d.), Center for Research on Learning and Teaching, University of Michigan.

Activity: Peer Teaching on Active Learning Strategies Learning Strategies

Read **one active learning strategy** from the list below.

Then, turn to a partner and share the active learning technique that you read. Take turns.

1. **Pause for Reflection:** Throughout a lecture, particularly after presenting an important point or key concept, allow students to think about the information or check their notes. After waiting, encourage students to ask questions.
2. **Minute Paper:** Ask students to spend a few minutes writing short responses to questions meant to gauge their understanding of a class concept. This strategy also provides you with an opportunity to assess students' understanding in a more holistic way than quizzes.
3. **Muddiest Point:** Toward the end of class, ask students to write a short note explaining which point from that day's class is most unclear to them. This strategy helps you better assess student learning and helps students reflect on their learning process.
4. **Think/Write-Pair-Share:** In this activity, the instructor asks the class a question, and then gives students a few minutes to write down a response. Students then pair up and share their ideas. You can then ask students to report back to the whole class.
5. **Gallery Walk:** Set up stations or displays throughout the room. Ask students to visit each station individually or in groups, completing a task or responding to a specific prompt at each station.
6. **Informal groups:** Assign students to groups or have students create groups. Then assign

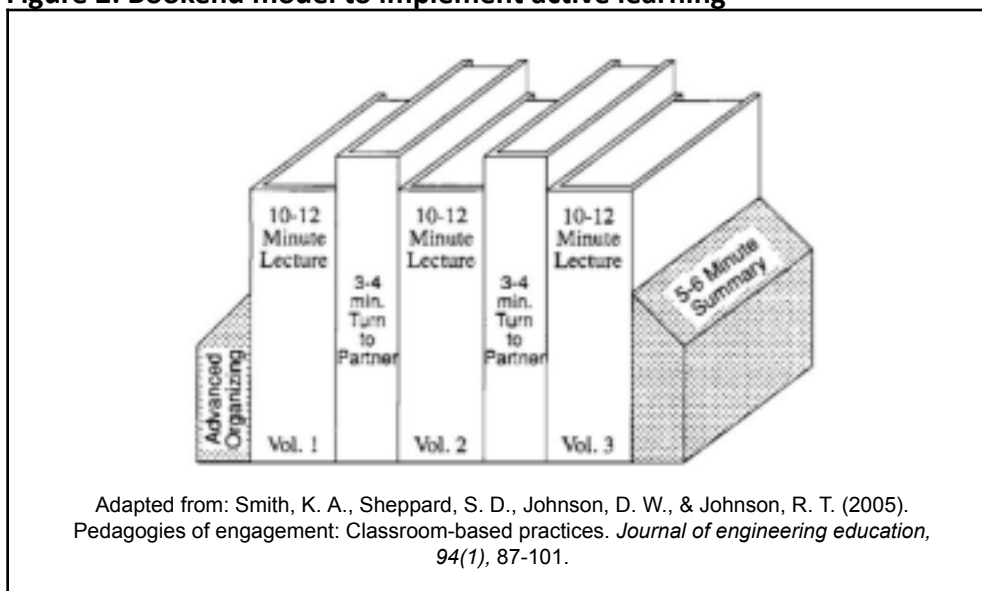
different questions to each group while you circulate around the room to answer questions and keep the groups on task. Afterwards, ask all, or some of the groups, to report back to the rest of the class.

7. **Buzz groups:** Ask students to form small teams (e.g., 4-6 members) and respond informally to a series of course-related questions. You may want to assign different roles to students (e.g., data analyst, time-keeper, presenter, etc.) to help them organize and manage the task.
8. **Jigsaw Discussion:** Divide the class into small groups, each of which is assigned a different task. Each group completes their task. Then, new groups are formed, each comprised of one member from each of the original groups (so all group members in the new group have completed a different task). Students then take turns presenting their work to the rest of the group. In this exercise each student is an 'expert' in one task and exposed to all other tasks.
9. **Interactive lecture:** Break up your lecture with active learning activities that allow students to talk about, write about, or think about the content and its application.
10. **Role play:** Ask students to "act out" a position or argument to get a better idea of the concepts and theories being discussed. Role-playing exercises can range from the simple to the complex (e.g., skeptic, community member, scientist, historical figure, etc.)
11. **Experiential Learning:** Plan site visits that allow students to see and experience applications of theories and concepts discussed in the class or get involved with communities that are impacted by the concepts discussed.

Example: Interactive Lectures: The Bookend Model

The **Bookend Model** (Smith et al., 2005) is an easy way to integrate active learning into your teaching. You may want to start your class by asking students to review the previous class or answer some questions that activate their prior knowledge of a new topic. Then, **break up your lecture** with **short, active learning strategies** that engage students. Wrap up your class having students summarize what they've learned and reflect on any questions that they have.

Figure 2: Bookend model to implement active learning



Activity: Minute Paper for Reflection:

To sum up, reflect about what you've learned today. Take one minute and note down on your post-it:

- a) What did you learn today?
- b) What questions do you still have about active learning?

Resources and Contact

If you'd like to discuss learning and teaching, or if you have comments or questions about this SparkSession, please feel free to contact me at pturner@ucdavis.edu

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