

Making Large Lectures Interactive



This job aid is designed to help you select strategies for getting students actively involved in their learning. It will:

- describe how lectures are best used
- provide five steps for planning your lectures so they are more interactive
- describe some brief interactive exercises for the classroom
- provide a sample plan for a 50 minute interactive lecture.







Using lectures

Most instructors use lectures as a major part of their instruction. The effectiveness of this can vary, depending on the design and delivery of the lecture. This job aid can be used as you plan your lectures to increase interaction with your students as you teach.

Research shows that individuals:

- **listen** for only 15–20 minutes without a break
- **learn** more when they have an opportunity to process what they are learning
- **retain** more if they review or use the information immediately after learning it.

Best use of lectures:

- to establish a general outline or overview of the subject matter
- to prepare students with the theory needed for lab or shop work
- to convey large amounts of information in a short period
- to model how your discipline approaches a question or problem

Worst use of lectures:

- to communicate complex, abstract, or very detailed material
- to evoke a change in attitude of students

Once you have established that a lecture is the right way to go, there are five main steps in producing a lecture that allows a large group of students to learn interactively.

Step 1—*Write learning outcomes*

Clear learning outcomes help you plan your lecture. They also help the student understand the purpose of the lecture. Communicate the learning outcomes to the students at the beginning of the lecture, preferably written on the board or an overhead transparency.

Step 2—*Use visual aids*

Using visual aids can increase retention of learning up to 50%. Visual aids also help to focus the students' attention. Vary your visuals; use overhead transparencies (OHTs), videos, slides, handouts, and models as well as the chalkboard or whiteboard.

When using OHTs, make sure that each one:

- can be read from all areas of the classroom
- contains simple, clear language and graphics
- is not too crowded with information
- uses colour to attract students' attention.

For more tips, see the instructional development job aid *Preparing and Using Overhead Transparencies*.



Step 3—*Outline your plan*

Let your students know what your plan is.

- As you lecture, use phrases such as “The first step in this process is...;” “There are three characteristics of...”
- Periodically, refer to the learning outcomes to remind the students where you are in the lecture, so that they don’t lose track of the flow.
- Use examples and summaries to emphasize important points.
- Use a final summary.

Step 4—*Use student handouts*

A handout focuses the students’ attention on what the instructor considers to be the most important points. The best uses of handouts are:

- to accurately supply complicated, detailed, or graphic material such as diagrams, flowcharts, formulas, and equations. Otherwise, it is easy for a student to make copying errors while noting these items and it is time-consuming for students to copy from the board or screen.
- to reduce the amount of notes the students need to take during a lecture, leaving them free to listen carefully.
- to guide the student in taking notes. Note-taking guides can be copies of OHTs, topic outlines, questions to be answered during the lecture, or fill-in-the-blanks templates.

Step 5—*Choose interactive techniques*

Choose a variety of strategies that get students involved at the beginning, middle, and end of the lecture. (See also the job aid on *Motivation*.) By giving students a chance to discuss or do something with the lecture material, you can help them to remember up to 70% of the lecture. Some of the strategies you can use to get them thinking about the material are described below.

Think/pair/share (Time: 5–7 minutes.)

1. Pose a question or problem. This should require the student to explain a concept in their own words or to apply, synthesize, or evaluate what they have just learned.
2. Give students one minute to THINK about their answers individually.
3. Have students PAIR with a partner to compare answers.
4. Ask a few students to SHARE their responses with the class.

Problem-solving exercise (Time: 5–10 minutes depending on the complexity of the problem.)

1. Give the students a problem to work on in pairs or threes. (This could be a problem in math, electronics, business, interpersonal communications, etc.)
2. Walk around the room to answer questions or help with their problems.
3. Ask for answers from each group, or provide the answer on an overhead.



Question and answer period

Allow a certain amount of time in your lecture for questions from the students. You can do this at the beginning, in the middle after you have explained a new concept, or at the end, before you summarize. Plan this time and tell the students about it. Questions may be asked orally by individuals or pairs, or in writing—to be answered immediately or as an introductory review for the next class.

Time: Since you need to continue with your lecture, make sure that you put a time limit on the period (such as 5 minutes) and stick to it.

Use the following technique when asking any questions:

1. Ask the question.
2. Wait at least 5 seconds.
3. Select someone to answer.
4. Acknowledge the response even if it is incorrect.

This forces every student to think about the question. If you select someone first and then ask the question, everyone else is off the hook.

Asking open-ended questions

Ask questions to get the students to think, analyze, or evaluate. Prepare your questions before the lecture. These questions should not have a single, right answer, e.g., “How could this procedure be improved?” or “What problems might occur with this technique?”

Asking closed-ended questions

Closed-ended questions have a short, definite answer. They work best when asked fairly rapidly in a series to break the students out of a passive mode. They may be used at the beginning of the lecture to review previous lectures, assigned reading, or other assignments.

Short writing exercises

Three types of very useful short writing exercises are described here and each is based on the Classroom Assessment Techniques developed by Cross and Angelo. In each of them:

1. Give the students a card or sheet of paper.
2. Ask students to write their responses anonymously if they wish.
3. Collect the responses and review them. You will likely find that there are some commonalities in their responses.
4. Clarify all of the misunderstandings and answer all questions listed at the next class.

Variation: Instead of collecting the papers and reviewing them yourself, have students review them in groups of 2 to 4. Have the students clarify each other’s misunderstandings.

(See the job aid on *Assessing Your Own Teaching Effectiveness*).

Muddiest point

(Time: about 10 minutes—2 minutes for students to write, 8 minutes for answering/discussion)

Use this excellent exercise to immediately explain points that have not been clearly understood. Ask them to write the least clear (“muddiest”) point of the lesson.



Three-minute summary

This is excellent for clarifying key points and assessing the depth of students' understanding. Ask students to summarize the key points of the day's lesson.

Key words lists

You can use this method to assess students' ability to recall or list items, but not their depth of understanding. Ask students to write down 5 to 7 words or short phrases that define or describe the subject matter you have covered.

Note review (Time: 4–5 minutes.)

This strategy can be used in the middle of a lecture or at the end. You can use student-made notes or an instructor-created note-taking guide.

1. Give students 3 minutes to read their notes thoroughly and
 - underscore or circle important points
 - mark with colour anything that doesn't make sense
 - mark with colour the location of missing information.
2. While they do this, circle the room answering individual questions.
3. Ask the students to draw a line across the bottom of their notes and give them 1 minute to write below the line any further work that they need to do on the lecture topic to fully understand it.

On the next page is a sample plan for a 50 minute interactive lecture.



Sample of a 50 minute interactive lecture plan

Time in minutes	Instructor activity	Learner activity	Resources
10	<i>Introduction</i> <ul style="list-style-type: none">• Explain learning outcomes for lecture• Ask 5 quick, closed-ended questions from assigned reading• Describe structure of lecture	<ul style="list-style-type: none">• Listen and take notes• Answer questions	Note-taking guide
10	Lecture Part 1	<ul style="list-style-type: none">• Listen and look• Take notes	OHTs #1 & 2
5	Think/Pair/Share question	<ul style="list-style-type: none">• Answer question with partner• Share answer with large group	OHT #3
15	Lecture Part 2	<ul style="list-style-type: none">• Listen, look and think• Take notes	OHTs #4 & 5
5	Problem-solving question	<ul style="list-style-type: none">• Answer question in threes	Handout of problem
5	Summarize and answer questions	<ul style="list-style-type: none">• Questions	
Total	50		
