Teaching with Lectures

The lecture can be an immensely effective tool in the classroom, allowing an instructor to provide an overarching theme that organizes material in an illuminating and interesting way. The instructor must take care, however, to shape the lecture for the specific audience of students who will hear it and to encourage those students to take an active and immediate part in learning the material. It is essential to see lectures as a means of helping students learn to think about the key concepts of a particular subject, rather than primarily as a means of transferring knowledge from instructor to student.

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Preparing

Create a comfortable, non-threatening environment. Introduce yourself and explain your interests in the topic on the first day. Encourage questions from the outset. For example, require each student to submit a question about the course during the first day or week. Students can submit these questions via an online discussion forum, such as that which is available on Blackboard; this assignment can also serve as a way for you to ensure that they have each figured out how to log on to a discussion forum that you are using throughout the course.

Incorporate visuals. The human brain has independent processing streams for visual and verbal information (Baddely, 1992). Research has shown that dual-channel processing is better than single channel, or that learning can be improved when instruction includes both visual and verbal information (Mayer, 2005). Incorporating visuals into your lecture can help your students learn. However, make sure that each visual has a clear purpose, and design your visuals carefully. For example, reduce or eliminate extraneous information, highlight key phrases or ideas, and place keywords in close proximity to the graphics they describe. Each of these strategies can enhance learning when using visuals (Mayer, 2008).

Reset the "attention clock": Include opportunities for active learning. Most university classes last 50-90 minutes, much longer than the attention span of a typical student. Sustained attention varies widely, and the quality of attention depends on several factors, including time of day (DeYoung et al., 2007; May et al., 1993), motivation and enjoyment

(Freitas and Higgins, 2002), and emotion (Reisberg and Heurer, 2004). However, active-learning activities may "reset" your students' "attention clocks." A recent study of student attention (Bunce et al. 2010) found that students reported fewer attention lapses when instructors were using active-learning methods (a demonstration or a question) compared to those reported during lecture segments. The researchers also found that there were fewer reported lapses in attention during lecture segments in the period immediately following active-learning methods, when compared to lecture segments that preceded these methods. This finding hints at the possibility that active learning may have dual benefits: engaging student attention during the segments when faculty use these methods and "refreshing" attention immediately afterward. (For more information about this study, see our review article on student attention.)

Organize the lecture like a good speech, with a clear structure and "signposts" marking key points and transitions. As Barbara Gross Davis suggests, you should "prepare your lecture for the ear, not the eye" (104). Use short, straightforward sentences and informal diction. Include transitions and "signposts" that will help your students follow the sequence of your lecture. Plan to summarize and ask questions at several points throughout the lecture to help ensure that students have grasped key concepts.
The lecture should have a clear structure, with a beginning, middle, and end. It should relate back to the previous lecture. The lecture should have an overarching theme or objective that fits the course as a whole.

Prepare notes that will serve as a "road map" rather than a script to be read verbatim. Notes that are too comprehensive will take your attention away from the students. Instead, write down key concepts and examples, including any essential details such as formulas, dates, or other information. Use color and other cues to mark those points that are most important and to signal when you will use the board or other aids. Experiment with different formats until you find one that works for you. Include notes of moments when you will pause for questions or ask students to solve a problem applying the concept you have just presented.

If you are a professor who is working with course assistants, communicate with the assistants to instructors frequently to ensure coherence between lectures and course assistant-facilitated sessions such as discussion sessions, recitations, and office hours. It is essential that assistants to instructors understand your expectations of their roles in assisting with the teaching of the course. Consider defining clear objectives for the time that they spend with students in discussions, recitations, and office hours. Speak with them often about how to use this time to help students learn the material and about any problems that develop. Ask assistants to instructors to share their impressions of where students are getting lost or otherwise struggling with the material; students may be more likely to ask an assistant to the instructor for help if they are hesitant about approaching a faculty member.

Review and practice the lecture before class begins. After writing the lecture, leave at least 30 minutes before your class to organize your thoughts and gather any material you need. Practicing the lecture will help you identify points where you will want to slow the pace, pause,

or offer a summary or a question.
If you plan to use audiovisual aids or instructional technology, do so with care and preparation.

Use audiovisual aids and instructional technology only when doing so contributes to student learning. Seek out any training you need to master the use of equipment and technology. Seek out advice from The Teaching Center and your colleagues on why and how you might integrate technology with more traditional tools to improve student learning. Practice using these tools so that you can integrate their use smoothly into the lecture. If you are using PowerPoint, be careful to limit the amount of information you include on each slide so that your lecture, rather than the PowerPoint, is the focus. (For additional guidance on using PowerPoint and other visual aids, see Improving Presentation Style.) If you are teaching in a University-managed classroom, you may call The Teaching Center at 935-6810 to schedule a multimedia training session.

During the Lecture

Interact with your students. Arrive to class early, especially on the first day, and greet students who are already in the room. Students will feel more comfortable asking you questions and will feel more engaged in the topic of the course if they have an opportunity to interact with you in this way. If time does not permit for students to approach you for questions before or after the lecture, encourage them to see you during office hours.
The more an instructor interacts with the students during a lecture, the more active the learning will be. The judicious use of questions throughout a class session can move the lecture forward, engage the students, increase the use of higher-order thinking processes, and make the lecture more interesting.

Provide students a clear sense of the day's topics and their relation to the course as a whole. Write an outline on the board before class begins. This strategy will help students organize the material you are presenting. An outline can also help students when they are studying to identify ideas and connections that they did not grasp during the lecture itself. Take time at the beginning of class to connect the day's ideas, concepts, or problems to material that you presented in the previous class and to the overarching themes of the course.

Show passion for the subject. Tell students what you find fascinating about what you are teaching. If you are teaching a course that you have taught many times, recall what is interesting about the subject to someone learning about it for the first time. Find new applications and examples that will enable you to communicate why the topic should be studied and understood.

Focus on communicating with your audience: speak clearly, so that all students can hear you. Project your voice. When lecturing in a large room, use a microphone. Ask students to tell you if they cannot hear you; some may feel too intimidated to speak up unless you ask. Speak with an animated tone, but more slowly than you would in an informal conversation. (See Improving Presentation Style).

Use gestures, eye contact and movement around the room to engage student attention.
Make eye contact with students in all areas of the room, not just with those students who
routinely answer your questions or otherwise appear engaged.

When asking questions, do not be afraid of silence. Give students 5-10 seconds to think
and formulate a response. If 10-15 seconds pass without anyone volunteering an answer and
the students are giving you puzzled looks, rephrase your question. Do not give in to the
temptation to answer your own questions, which will condition students to hesitate before
answering to see if you will supply "the answer." Patience is key; do not be afraid of silence.
The longer you wait for students to respond, the more thoughtful and complex their responses
are likely to be.

Demonstrate respect for, and interest in, student ideas and questions. Make it clear that
you are interested in what and how students are thinking about the material. Show that you
value their questions and insights by referring back to these responses later in the lecture or
on a subsequent day. This strategy is especially important in a large group. It is common for
students to be very sensitive to an instructor's reaction.

After the Lecture

Rethink, retool, revise. Each time you deliver a lecture, you learn something about how best
to present the material. Jot down brief notes on how each lecture went and use these as the
basis for improving your presentation skills, rethinking the material included, rewriting the
lecture, or developing ideas for future teaching and research projects. Include these notes with
your lecture notes so that they are readily accessible the next time you teach the course.

Speak with your colleagues about their approaches and ideas. Stay abreast of new
scholarship on teaching and teaching with technology. Arrange to have one of your classes
observed or videotaped so that an observer can help you evaluate what went well and what
you can do to improve student learning. To schedule a class observation or videotaping,
contact The Teaching Center at 935-6810.

*Lectures are the major teaching method employed in many academic departments and
schools. As you reflect on how best to prepare and deliver lectures, keep in mind that a
primary goal should be to foster critical thinking and active learning.*

Links and References for Teaching with Lectures

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