



Effective Lecturing

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*“Given the recent invention of the printing press,
why do college professors continue to lecture so much?”*

Anonymous

Despite the availability of so many other methods to teach and learn, the lecture format is still with us. McKeachie notes, “The lecture is probably the oldest teaching method *and still the method most widely used in universities throughout the world*” [italics added] (McKeachie and Svinicki, 2006, p. 57).

McKeachie’s statement is supported by IDEA student rating data (The IDEA Center, 2009). Instructors, when asked to identify their primary approach to the course being rated, indicated “lecture” in 58.6 percent of the 178,034 classes for which there was complete data. The second most frequently selected option was “discussion,” chosen by 13.6 percent of respondents. However, when asked to identify their secondary approach, “discussion” was chosen first by 27.0 percent of the 149,687 classes for which there was complete data; “lecture” was second, at 14.9 percent.

We need to ask exactly what we mean by “lecture.” Perhaps Davis’s (2009, p. 148) description is applicable: “The classroom lecture is a special form of communication in which voice, gesture, movement, facial expression, and eye contact can either complement or detract from the content.” In addition, “lecture” courses certainly may include question-and-answer, if not discussion, along with various media options.

Writers have argued against the effectiveness of lecturing as a teaching technique (e.g., Chickering and Gamson, 1987). Nevertheless, most teachers will at some time need to lecture.

This paper will attempt to summarize some suggestions from the literature about how to improve the quality of

lectures, which we will treat as a general teaching method, relying on the spoken word with emphasis on one-way communication: the teacher talks, the students listen.

Further Readings. This IDEA Paper relies heavily on four books: Davis (2009), *Tools for teaching* (pp. 148-161); Forsyth (2003), *Professor’s guide to teaching* (pp. 49-86); Lowman (1995), *Mastering the techniques of teaching* (pp. 99-157); McKeachie and Svinicki (2006), *McKeachie’s teaching tips* (pp. 57-73).

I also suggest other helpful readings about lecturing, or college teaching, such as Bligh (2000); Brown and Atkins (1998); Erickson, Peters, and Strommer (2006); and Kiewra (1991).

One extensive source about college-level teaching and learning is Jossey-Bass’s quarterly series, *New Directions for Teaching and Learning*.

Strengths and Limitations of Lectures

Lecturing is especially useful to convey knowledge, the basic level of Bloom’s taxonomy (Bloom et al., 1956; see also Anderson and Krathwohl, 2001). In designing a classroom lecture, you should make the material meaningful to students, which means you need to assess students’ background knowledge of the topic. Which concepts and principles will be new information to students? This is an advantage unique to lectures, because it enables you to develop material specifically relevant for the students taking the course in a given term.

Lectures can communicate the intrinsic interest of the subject matter, if the speaker lets his or her enthusiasm for the topic show.

Some other advantages attributed to lectures are perhaps more relevant to graduate instruction, especially for majors. Lectures can show how experts in a field think, how they approach questions, and how they try to solve a problem. A lecture can summarize scattered material, or describe latest discoveries or issues.

However, lecturing also has some serious limitations when it becomes the primary means of instruction. The most serious is that lecturing is not suited for higher levels of learning: comprehension, application, analysis, synthesis, evaluation (Bloom et al., 1956), and creativity (Anderson and Krathwohl, 2001).

Perhaps equally limiting, in a traditional lecture, the students are mostly passive. This results in learners' attention waning quickly. If a lecture consists solely of the teacher talking, lack of student feedback can be a big problem.

An added constraint is that, while the lecturer may assume students are relatively similar in important ways (rate of learning, cognitive skills, relevant background knowledge, interest in the subject matter), students may actually differ greatly in their level of understanding.

Preparation and Organization

Although many college teachers are most interested in teaching students to think, students nonetheless have to learn something to think *about* — content. Therefore, most college-level teachers will probably need to lecture sometime. How can you lecture more effectively?

Define your learning objectives. Before you ever step into the classroom, figure out why you're there. What do you want students to know and be able to do as a result of this lecture, this class? Moreover, what do you want the students to remember after the course is over? After they have graduated? Why? How many of these goals can be achieved by lecturing? If not all, what else do you need to do?

Choose a format. Davis (2009, p. 137) describes six ways to organize topics. Two examples are *topical* ("What are some ethical issues in college teaching?") and *causal* ("Which historical events led to the event being studied?"). She (2009, pp. 137-138) describes six types of lectures, including *expository* and *case study*. Lowman (1995, pp. 130-133) describes eight forms of lectures or lecture combinations. Examples are the *provocative lecture* that challenges the students' knowledge or values, and the *punctuated lecture*, where the instructor talks for a while, then has the students write their reactions. (See also Angelo and Cross, 1993, pp. 303-306.)

Outline your lecture notes. Rather than writing out the lecture to be read verbatim, list major points. Under each major point, list all of the minor points that elaborate upon or explain each major point. Because you are

knowledgeable about your subject matter, you should not find it too difficult to choose these points. The difficulty lies in time constraints which limit how much content can be covered.

Choose examples carefully. A relevant, concrete example — especially if it's something familiar and meaningful to the students — may help far more than paragraphs of abstract or theoretical description.

Include notes for yourself. You can color-code your notes to include suggestions like "Distribute handout," "Show first diagram," or "Pause to ask for questions or comments." Software like PowerPoint can include notes for the presenter that are not shown on the screen but appear on your printed copy.

Deliver your points with the listener in mind. You must present your content in the most listener-friendly way possible (even if you have visuals). Most of what students learn from your lectures will come from listening, *not* seeing. So, use simple words, short sentences, and a conversational style of speaking. Of course, as much as possible, you should present information both visually and aurally.

Presentation and Clarity

Find out about the students, their backgrounds, and their goals during the first week. So far we have focused on the teacher. The student is the other half of the partnership. What the students' educational goals are, and what they do with the course content, ultimately may have more to do with how much they learn and remember, than anything you do as the instructor. (See also *Further Readings — Topics Relevant to Lecture Classes*, at the end of this section). You probably collect basic descriptive information like name, major, previous related courses, and so forth. Try getting some data about motivation. Early in my career, I asked my students what they hoped to get out of the course. Next time, I added, "other than an 'A.'" Eventually, I began to ask them, "If you could learn only three things in this course (general psychology) about human behavior, what would they be?"

Review the major points from your last lecture. At the start of each lecture, review quickly, then ask if there are any questions about the material covered in the last class.

Put up an outline and give cues. Make the organization of the lecture clear — share your outline with students. Forsyth (2003, pp. 71-72) lists 12 cues to help students perceive organization. For example, use *verbal signposts* ("My fifth and final point...."), or *compare and contrast* ("What is the difference between analysis and synthesis?").

Connect the new information with previous content. Periodically repeat major points and help students see how concepts relate to each other. (See deWinstanley

and Bjork, 2002, for elaborations on these and other suggestions for successful lecturing.)

Provide examples of the major points you're making. Use relevant examples, and if possible, use current examples familiar to most of the students.

Pace your presentation according to the complexity of the material. If the topic is a difficult one for students, go more slowly, stop for questions, repeat points, and perhaps add another example.

Introduce variety to help keep students' interest and attention. Stop periodically and let the students ask questions relevant to your topic. Inviting comments can also be helpful. Students may have relevant information that you don't know. Don't assume knowledge is restricted to the front of the room!

Permit students to stop you to ask relevant questions, make comments, or ask for review. Reading, watching a video, or listening to a podcast all have an advantage that strict lectures do not: The learner can go back to review! As much as possible, give students a chance to "rewind" you.

Use periodic summaries within the lecture. Recap your major points to help students absorb the material. (See also deWinstanley and Bjork, 2002, p. 23 ff.)

Emphasize important material. You could say something like, "Students often have difficulty learning this, but it's a very important concept." Or the ultimate emphasis: "This will be on the test!"

Further Readings — Topics Relevant to Lecture Classes. On teaching the first class: Davis (2009, pp. 37-47), Forsyth (2003, pp. 193-196), McKeachie and Svinicki (2006, pp. 21-28). On taking notes: Davis (2009, pp. 265-267), Forsyth (2003, pp. 38-43), Kiewra (2002, passim), McKeachie and Svinicki (2006, pp. 70-71).

Interest and Stimulation

The previous sections have been primarily concerned with *cognitive* aspects of lecturing, what is sometimes considered "education from the ears up," rather than teaching the "whole" person. This section will consider some *affective* aspects of lecturing. Simply put, if students find the course material interesting — and maybe even like it — they will probably learn and remember more than if they don't.

(Speaking of the "whole" person, Forsyth [2003, pp. 61-64] describes techniques instructors can use to build rapport, such as learning students' names or engaging in *appropriate* self-disclosure.)

Start class with a question, problem, current event, or something that grabs the students' attention. You might start with a seemingly unrelated but interesting story that will turn out to illustrate one of your main points.

Look at the students, move around, and use humor, but never at a student's expense.

Be enthusiastic. Communicate that you value what you're lecturing about. I had a metaphysics professor whose face seemed to light up when he talked about "being."

Obviously, avoid being boring. Forsyth (2003, p. 62), lists nine ways to be boring. For example, *passivity* is found in the teacher who adds nothing beyond the text, offers no personal opinions, and ignores students' questions. *Distraction* occurs when the teacher is easily sidetracked by students' irrelevant questions, or digresses to tangential topics.

Use multimedia and technology. Multimedia presentations (e.g., slides, audio, websites) can make your lecture more informative, vivid, and immediate, as well as provide variety. Demonstrations and experiments serve the same purpose.

Further Readings — Technological Help. Davis (2009) pp. 431-457; Forsyth (2003) pp. 233-260; Lowman (1995) pp. 145-154; McKeachie and Svinicki (2006) pp. 229-252.

Feedback and Interaction

Most lecture courses probably involve much more teacher-talk than student-talk. There are many ways that you can, during a lecture, obtain *feedback* about how much students are learning, and also enable them to *interact* with the course material.

Watch the students much of the time you're lecturing. Do they seem to be following what you're saying; are they taking notes? Or do they seem puzzled or confused? A caveat: If a small number of students are falling asleep, reading the campus paper, are online, or are otherwise distracted, it's their choice and their responsibility, not ours. We cannot *make* them learn! However, it is our responsibility to prevent inattentive students from distracting those who want to learn.

If you think your students really don't understand, stop and ask them questions. Their answers should be more than simply repetition of what you said. Forsyth lists nine "good mechanics when asking questions" (Forsyth, 2003, pp.72-74). For example, signal the question clearly (don't ask multiple questions together), and give students time to think.

Try minute papers. Near the end of class, give the students a minute or more to answer, "What is the most important thing you have learned in this class?" Or, "What important question remains unanswered?" (Angelo and Cross, 1993, p. 148 ff. Their book, *Classroom assessment techniques*, has over 400 pages of methods to obtain feedback about what students are, or are not, learning.)

Plan for question-and-answer sessions. McKeachie notes that “...before, most teaching was lecture with a lot of student memorization for multiple-choice tests. Now more teachers realize that students need to think about the material more and organize and process it more deeply (Bembenutty, 2008, p. 365).”

Lowman adds, “Experienced instructors know that lectures cannot carry the primary responsibility for conveying information or imparting skills. Readings or problem-solving assignments should do that (Lowman, 1995, p. 137).”

Mix lecture and discussion. Forsyth (2003, pp. 77-78) suggests a mix of these two teaching tools. Lecture for a while, then ask the students for their reactions, or poll the class. Continue lecturing, covering what supports or disconfirms what has been said.

Create formal or informal learning groups. Davis (2009) treats how to improve lectures in “Part IV: The Large-Enrollment Course.” In “Part V: Alternatives and Supplements to Lectures and Discussions (pp. 179-253),” she suggests, among other things, using case studies, simulations or games, and role playing.

Bonwell (1996), in the chapter “Enhancing the Lecture,” suggests activities like the *pause procedure*, or *think-pair-share* — posing a question and having students in pairs come up with an answer. In *lecture summaries*, the students listen to part of a lecture, and then groups write summaries.

Further Readings. In addition to the sources cited above, discussions about teaching large classes often describe how to include active learning. Good resources are MacGregor, et al. (2000), *Strategies for energizing large classes: From small groups to learning communities*, and Weimer (1987), *Teaching large classes well*. Other improvements come from institutional changes (e.g., creating a one- or two-credit, first-year seminar) rather than changes the individual instructor makes (Turner, 2009).

Summary: Ten Things to Remember

1. Lecturing is especially useful to convey knowledge, but is not well suited for higher levels of learning.
2. Decide what you want the students to know and be able to do as a result of the lecture.
3. Outline the lecture notes — first your major points, then the minor points that elaborate on or explain each major point.
4. Choose relevant, concrete examples, in advance of the lecture, selecting examples familiar and meaningful to the students.
5. Find out about the students, their backgrounds, and their goals.
6. Permit students to stop you to ask relevant questions, make comments, or ask for review.
7. Intersperse periodic summaries within the lecture.
8. Start with a question, problem, current event, or something that just grabs the students’ attention.
9. Watch the students. If you think they don’t understand you, stop and ask them questions.
10. Use active learning techniques. Use technological aids, such as multimedia presentations.

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