Designing and Delivering Effective Lectures


“College is a place where the professor’s lecture notes go straight to the students’ lecture notes, without passing through the brains of either.”– Mark Twain

“Some people talk in their sleep. Lecturers talk while other people sleep.” – Albert Camus

Lectures are often derided as ineffective, outmoded, and anathema to what we know about cognition, engagement, and student learning. As Woodring and Woodring (2001) note, “it has become trendy to ‘lecture bash,’ to describe colleagues who openly espouse the use of lecture techniques as old fashioned and out of step with educational trends” (109). In educational theory, the research literature is bursting with suggestions on how to “move beyond the lecture” by employing methods that are more active, cooperative, and learner-centered (Bonwell and Eison 1991; Brockbank and McGill 2007; Felder and Brent 2009; Lambert and McCombs 1998).

In spite of all the criticism, the lecture method remains the most common instructional model in higher education (Bligh 2000; Charlton 2006; Exley and Dennick 2004). Moreover, the lecture method has been shown to be particularly effective for:

• Setting the context of a topic or field for novice learners.
• Disseminating a common set of material to a broad audience.
• Providing a synthesis of information from various sources.
• Clarifying complex information.
• Transmitting conceptual and systematic knowledge.
• Offering students a model of professional practice, i.e., the lecturer and his/her approach to the subject.

The key—or better yet, the key challenge—is to design lectures that are informative, engaging, and participatory. In what follows, we will offer some tips and suggestions for achieving this goal.

Tip #1: Plan Your Lectures

Knowing something and knowing how to explain something are different things. A good lecture is the result of planning, preparation, and hard work, and it is essential that you invest the necessary time and energy into identifying resources, organizing the material, developing
examples, and preparing supporting documents for your students. When planning for a lecture, it is important to consider not only the selection and arrangement of content, but also the strategies that can be used to communicate, connect, and reach out to your audience.

Tip #2: Avoid the Tyranny of Content

While it is essential that you take the necessary time and energy to prepare a lecture, it is equally important not to over-prepare. In the case of new faculty, or faculty who are teaching a subject for the first time, there is a tendency to cover too much material, and account for every possible facet of a topic.

The quest for completeness, however, can have the following effect: the classroom session becomes a competition or race, that is, a race to see how much content you can cover in the allotted time. It is, in short, a race between you, the clock, and the content you intend to cover, which can result in the following bad habits:

• Talking faster, making it harder for your audience to keep up.
• Covering material in less detail, focusing only on the surface-level information.
• Limiting opportunities for questions or discussion, because questions and discussions are seen as a distraction or hindrance to your goal.

Regardless of the topic, you should restrict yourself to a few key points, ideally, three to four main ideas. By presenting a manageable amount of information, you provide your students with more—and better—opportunities for processing and assimilating the material, connecting it to what they already know, and situating it within the larger framework of the discipline (Lowman 1998).

Tip #3: Know Your Audience

In the vast majority of our courses, the material we cover is already so familiar to us that it seems “straightforward” or “common sense” or “elementary,” but for our audience, it can seem daunting, opaque, and horrifically complex. When designing a lecture, always try to think through the material from the standpoint of the audience, and remember what it was like to learn this information for the first time.

In addition, it might be helpful to gather some information from your audience about their backgrounds, e.g., their major areas of study, degree/program level, previous coursework, etc., to help you find an appropriate starting point for discussion. For longer term courses, you may even want to conduct a learning styles inventory to find out more about your students’ study habits and preferences, which can help you better “map” or “align” the course content. (See the
Tip #4: Create a Complete Lecture

A good lecture, like a good research paper, has three key components: an introduction, a body, and a conclusion. While this sounds simple, it is often stunning to see how many lectures are missing one or more of these elements, and how often “lack of organization” is cited by students as the key feature of an unsuccessful lecture or course.

It is critical that you make the structure and organization of your lecture explicit to the audience. In other words, you should strive to abide by the simple—yet often overlooked—adage: Tell them what you are going to say, say it, and then tell them what you said.

The introduction should include:

• An attention-grabber—a statement of the problem, topic, or subject that draws people in. Stories, analogies, issues drawn from current events, provocative quotes, videos, pictures, and graphics can all serve as attention-grabbers. When selecting an attention-grabber, always strive to create relevance, and answer the question, “Why are we talking about this topic?”
• A statement of the context that connects this lecture to material covered in earlier sessions.
• An overview of the lecture itself, with an outline of what you are going to discuss. As Davis (1993) notes, “Outlines help students focus on the progression of the material and also help them take better notes.”
• A statement of the intended goals or outcomes of the lecture—a definition of what you want the audience to know or be able to do as a result.

Some lecturers also like to provide the audience with a list of key terms, topics, or acronyms that will be included in the presentation. The key terms can be posted on the board, included in a handout, or provided in advance via email or an online course-management system.

The body should include:

• The core content of your discussion, including key concepts, principles, techniques, approaches, issues, etc.
• The key instructional activities—small-group discussion, review of datasets or problem sets.
• Opportunities for the audience to engage, review, and apply the material (See Tip #6 below for more information.)
• Formative assessments, that is, tools or techniques that let you know that the audience understands the material. These can

“References” section for more information on how to access Web-based tools for assessing your students’ learning styles.)
range from highly informal and indirect approaches (e.g., looking at the faces of your students to see if they are following along), to more direct approaches such as question and answer sessions, having students solve problems in small groups or individually for the class, quizzes, or short-answer activities (where questions are posted electronically or on the board).

The conclusion should include:

- A summary of the material you covered in the lecture.
- A statement that sets the foundation for future class sessions by connecting the material you covered in the lecture to the larger aims of the course.
- Suggestions on how best to follow-up on the lecture, including additional readings, assignments, problem-sets, etc.
- Opportunities for the students to summarize material from the lecture and pose questions about topics that are still not fully understood. (One effective practice is to have the students write down one or two key points from the lecture and one or two questions that they still have about the material, and hand these into the professor before they leave class. This provides the professor with a “snapshot” of what the students learned—or didn’t learn—that can be used to set the foundation for future lectures and course material.)

Tip #5: Develop Lecture Notes

While the most effective lectures are conversational in tone, you still need to stay “on point” and not stray from the lecture’s core topics. Developing lecture notes can help you organize your thoughts in advance of a presentation and provide you with a script or roadmap to follow during the lecture. Lecture notes can also help you manage your time, and manage transitions from one topic to the next.

Developing lecture notes also provides you with a practical advantage. More likely than not, you will be teaching the course (or topic) again in the future, and a strong set of lecture notes can set a solid foundation for future lectures and make the preparation for future talks more efficient.

Tip #6: Audience Engagement and Interactivity

The audience’s attention span tends to wane as a lecture moves on; for most people, attention tends to decrease considerably after 15-20 minutes (Bligh 2000). Therefore, when you design a lecture it is important to create formal breaks to help people stay better engaged with the material. “Activity breaks,” as they are often called, do not simply break up the monotony of a lecture; when done effectively, they provide participants with formal opportunities to process, review,
and apply the material.

Some common practices include:

• Asking a question or posing a problem to be discussed individually or in small groups.
• Having students tackle a topic or issue in pairs or small groups, and then having them “report back” to the whole class (often referred to as the think-pair-share model).
• Reviewing a film clip or multimedia clip that pertains to the material.
• Working through a case study that is drawn from professional practice.

Tip #7: Create Visual Backups and Supports

Audiovisual aids augment your presentation—and can help facilitate learning by providing the audience with additional supports, cues, and examples of what is being discussed. The key with any audiovisual aid—drawings, graphics, videos, PowerPoint slides, clips, or even writing on the chalkboard—is to keep it simple, clear, relevant, and uncluttered.

Some suggestions:

• Less is best. Use audiovisual aids to support, summarize, and highlight what you are saying, and resist the temptation to make the aids a verbatim transcript of the discussion.
• Don’t distract the audience. Avoid using too many “bells and whistles,” including unnecessarily dramatic transitions, moving graphics or text, or sounds.
• Focus on the key facts and only include two to three main points in any slide.

Tip #8: Quality Control

Take a few minutes before each lecture to conduct a “quality control check.”

• Check the technology in the classroom, including the computer, overhead projector or visual display, and Internet connection.
• Review the order of your presentation materials and visual displays.
• Check your spelling on handouts, overheads, and PowerPoint slides.
• If you are using a series of hyperlinks or Websites, check to see if the links are correct and up to date.
• Always have a backup plan, and be prepared to deliver your lecture using alternative tools, techniques, and supports.

Tip #9: Enthusiasm
Many faculty members like to describe their teaching style in the following way: “I teach content.” That is, they characterize their role in the classroom almost exclusively in terms of information dissemination, where it is their job to present the material, and the students’ job is to learn it. While this is certainly one of the key features of our work in the classroom, how the material is presented plays an important role in how it is received and understood.

Expressing enthusiasm for a topic, and for one’s field in general, can have a positive impact on student engagement with the material. Alternatively, if you appear bored with a topic or with the questions that arise concerning the topic your audience will quickly lose interest. As Bligh (2000) notes, the best way to generate interest in a subject “is to display interest oneself,” and the only thing more contagious than enthusiasm “is the lack of it.”

Suggesting that you should show enthusiasm for a topic or field should not be misconstrued as a call for diminishing the topic’s seriousness or importance. In other words, enthusiasm should not be understood as “wackiness” or “silliness” or unnecessary “frivolity.” Rather, it should be understood as a call for demonstrating the relevance and significance of the material and for answering the question, “Why are we talking about this?”

The following phrase occurs again and again in the literature on presentations: Don’t be boring. While it must be admitted that “boring” is largely in the eye of the beholder, there are some practical strategies that can be used to increase audience interest:

• Establish eye contact with your audience, and don’t spend all your time reading directly from your notes.
• Get out from behind the lectern and move around the room.
• Use movement and gestures to emphasize points.
• Project your voice, and make sure the audience can hear you.
• Vary the pace and tone of your speech to add interest and “dramatic effect.”
• Use colorful anecdotes, examples, and analogies.

Tip #10: Ask Questions

Asking provocative or open-ended questions is a helpful way to engage the audience and gather feedback on student learning. But it is important to ask questions that are conversation starters and not conversation stoppers.

Some typical conversation stoppers:

• “Are there any questions?” is probably the least provocative question you can ask your audience. Students have been conditioned through years of schooling to recognize this question
as a specific type of marker or signal, i.e., as a signal that you are finished, or ready to move on to another topic. In some cases, the students will not answer this question because they, too, would like to move on, while in other cases, students will be reluctant to pose a question because they do not want to “bother” you (since you have indicated that you are ready to move on) or “bother” their classmates (by “interrupting” their instructional time).

- Questions that are too vague or general and lack (or are perceived to lack) a direct connection to what is being discussed.
- Questions that are too detailed or complex and require the students to piece together the notes they have just taken.

Some techniques for developing conversation starters:

- Asking the audience to answer a multiple choice question or to select the best response from a range of possible options.
- Asking the audience to complete a sentence or “fill in the blank”.
- Asking the audience to apply the new concepts to a case, problem, or example.
- Asking the audience to rephrase a concept or idea in different terms.
- Making the question “Are there any questions?” into something more specific and meaningful, such as, “Are there any questions about how X (theory, concept, idea, argument) relates to Y?” or “Are there any questions about how this approach might differ from other approaches of techniques discussed in class?” or “Are there any aspects of this theory (or approach, or concept) that remain unclear?”

Tip #11: Answer Questions

Questions are a vital part of any lecture or presentation and provide opportunities for the whole audience to clarify, consolidate, and enhance their understanding of the material. It is important to treat the question and answer session as a formal part of the presentation that requires as much careful planning and control as the delivery of the core material.

Here are some suggestions that will help you be more effective at answering questions:

- Be patient and mindful of the fact that people in the audience are encountering the material for the first time. They are, in essence, still “processing” the material and their questions will often reflect this fact.
- Listen to the entire question and make sure you are clear what the question is about before you offer a response.
- Clarify, and ask for additional information or background if you are unclear about the question.
- Repeat the question for the whole audience.
• Answer the question you were asked, not the question you wish you were asked.
• Answer the question you were asked, and then stop. Adding too much supplementary information, or worse yet, rambling, can confuse the audience.
• Strive to involve the rest of the audience, in the framing of the question itself (e.g., “How many other people here were wondering the same thing?”) or in the response (e.g., “Does anyone else have a suggestion or insight that might help us clarify this problem?”).
• Learn to admit that you don’t know the answer to every question. Not knowing the answer to every question isn’t a sign of weakness. Instead, it is a sign of being human, and actually has a lot of instructional value. For example, it can be used to help further discussion and engage your audience (e.g., “I’m not really sure, but that is certainly an interesting question. Would anyone else in the audience happen to have any thoughts on this?”) or to create a mini-research project for your students (e.g., “I’m not really sure, but that is certainly an interesting question. Perhaps you and your neighbors would like to look into this topic and report back to the rest of the class next week”).
• When you are confronted with a question that is considerably off-topic, or one that will take the discussion too far afield, simply inform the student that an appropriate answer to the question might be better handled outside of class (after the class session is concluded, during office hours, via email, etc.).

One final item: Many instructional manuals recommend that you avoid answering a question with a question. While this can be troublesome if used too often, my experience has shown that answering a question with a question, particularly one that is posed to the entire audience for consideration, is an excellent way to help generate discussion.

Tip #12: Reflection

There is always room for improvement, and it is important to make reflection a formal part of your instructional routine. It is often helpful to jot down a few ideas while the lecture is still fresh in your memory and ask yourself: What could I have done to make this discussion more engaging, or meaningful, or clear? Student feedback (based on formative assessments, questions asked in class, or student evaluations) and feedback from your colleagues can also serve as a key source for ideas on improving your lectures, and can help you identify any areas in the lecture where there might still be gaps or shortcomings. Finally, you may want to videotape or audiotape your lecture review and evaluate your performance.

References