

Postdoc Academic Chat #6

Designing and Delivering Effective Lectures

Tuesday, March 11, 2020

Readings

- #1 Lecturing Guidelines
- #2 How to Create Memorable Lectures
- #3 Making Lectures Unmissable!

#1 Lecturing Guidelines

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Lecturing Overview

The best lectures, like any good talk, invite students to think imaginatively and conceptually about a significant theme or problem. They do more than “cover the material.” Professor David Kennedy of History reminds us that a good lecture always offers a point of view and an entry into a field of study. It is not, however, the ideal platform for a complex scholarly argument or a massive transfer of data.

You should also try for a relaxed, conversational tone; allow yourself to think out loud, and engage with the material as you present it. It’s usually a mistake to rely extensively on a verbatim text, which can result in the kind of mind-numbing performance often parodied in television and movies.

Lecturing Guidelines

Preparation

Thorough preparation of a lecture will increase your confidence, improve your delivery style, and enhance the effectiveness of your presentation. When preparation time is limited, focus on the following:

- Craft an introduction that will set a clear and engaging agenda.
- Create an outline of your main points, examples, or demonstration.
- Prepare and practice a short conclusion that will tie the strands of the lecture together and place the lecture in the wider context of the course.
- If you plan to use technology aids, prepare backups in case of technological difficulties.

Keep Your Focus

- Limit the main points in a lecture to five or fewer.
- Create effective visuals, analogies, demonstrations, and examples to reinforce the main points.
- Share your outline with students.
- Emphasize your objectives and key points in the beginning, as you get to them, and as a summary at the end.

Basic Presentation Skills

You don't need to be a charismatic showman to deliver a strong lecture; begin by refining your basic presentation skills.

- Avoid reading your lectures verbatim; if you must refer to your notes frequently, combine this with lots of eye contact.
- When making eye contact, actually look at specific individuals while you make a point; don't just continually scan the room. Individuals seem most comfortable with about five seconds of sustained eye contact.
- When you lecture, speak clearly and not too rapidly. If students are busy taking notes, go even slower.
- Face the students as much as possible, rather than facing the blackboard, projection screen, or laptop.
- Try taping your lecture on a tape recorder and listen to yourself.

Engage Your Audience

- Focus attention early on using a quote, a dramatic visual, an anecdote, or other material relevant to the topic.

- Integrate visuals, multimedia, discussion, active learning strategies, small-group techniques, and peer instruction.
- Link new material to students' prior knowledge, such as common experiences or previous coursework. Can what you're teaching explain a phenomenon that students may have wondered about? Does what you're teaching contradict ideas that students may have about how the world works?
- Show enthusiasm for the topic and information. Remember, you are modeling your discipline.
- Give students time to think and genuine opportunities to respond.
- Plan for diverse learners. Use verbal, visual, and kinesthetic approaches such as hands-on exercises and simulations.

Get Feedback

- Observe students' non-verbal communication: note taking, response to questions, eye contact, seating patterns, and response to humor. Are they "with" you?
- Use the "minute paper" or other assessment techniques. Ask students to respond in one or two sentences to the following questions: What stood out as most important in today's lecture? What are you confused about? Do this every few lectures—it will take you about 15 minutes to review the responses and you'll learn an enormous amount about your students.
- Give quizzes periodically on lecture objectives, not obscure material. Are they getting it?
- Conduct midterm teaching evaluations or simply ask the students for suggestions and comments at the midpoint of the quarter.

Handling Questions

You should go out of your way to encourage questions, although instructors have different preferences for how they take them. Let your students know if they can interrupt with questions or should save them for the end of the period. In either case, avoid going overtime, so there is a reasonable chance for students to formulate and ask questions. Here are some tips for encouraging, and responding to, questions:

- When asking if there are any questions, don't simply ask "Any questions?" with your back turned to the audience. Phrase it as a genuine invitation, such as "What parts of this are still a little unclear or

confusing for you?” or “What do I need to explain again?” or “What are you wondering about that I haven’t yet addressed?”

- Make sure you understand the student’s question before launching into a long explanation. Restate the question and let the student clarify, if necessary.
- In a large class, repeat a student’s question so that all the students know what question you’re answering.
- Consider reserving two- to three-minute blocks for questions at transition points in your lecture. Let students have the full time to think, even if nobody asks a question. This reinforces your commitment to answering questions and will encourage students to review the material recently covered.
- If you don’t know the answer to a question, don’t bluff. You can let the student know that the question goes well beyond what you can address in lecture, volunteer to find the answer and report back, or ask the student to investigate and report back to the class. Or, consider trying to work out an answer with the students, if the question seems solvable.

Handouts

- If you give out copies of your lecture slides or notes, go out of your way to make sure students are actively engaging with the material. Use the note-taking time you have saved to build in student participation and other active learning exercises.
- Handouts can be particularly effective for presenting complex data, detailed material, examples, and diagrams. Focus on material you think there is a good chance students will need to review, especially if they need to apply it in an assignment.

#2 How to Create Memorable Lectures

The posting below looks at, well actually the title speaks for itself. It is from the newsletter, Speaking of Teaching, produced by the Center for Teaching and Learning (CTL), Stanford University -, <http://ctl.stanford.edu/Newsletter/> Winter 2005, Vol. 14, No.1. Speaking of Teaching is compiled and edited by CTL Associate Director Mariatte Denman at [mdenman@ stanford.edu.] Reprinted with permission.

Rick Reis

In general, students capture only 20-40 percent of a lecture's main ideas in their notes (Kiewra, 2002, p. 72). Without reviewing the lecture material, students remember less than 10 percent after three weeks (Bligh, 2000, p. 40). All instructors hope that their lectures will be the exception, but these numbers present a clear challenge: How can we guarantee that students learn and remember what we teach? How do we create and deliver lectures that stay with students long past the last few minutes of class? In this newsletter we take up this challenge, by considering how students attend to, make sense of, and absorb new information.

The Learning Process: From Attention to Comprehension to Integration

Cognitive theories describe three phases of the learning process (see Schneider for an extensive discussion of theories). In the first phase, we decide what to attend to. We cannot notice everything that is going on in our environment, so we orient our attention selectively. In the classroom, we hope that students are attending to us, but many things

compete for their attention. If we want students to learn, we need to capture their attention.

In the second step of learning, we organize what we observe into a coherent mental pattern or structure. In the classroom, students are constantly interpreting what you say, what they read on the blackboard, and what they see on slides. Students must decide how to organize this information in their own minds (and notes). The more you can provide students with a framework for interpreting lecture material, the easier it is for them to understand new ideas.

These first two phases of learning create a short-term memory for new information. To fully "own" new information in long-term memory, we need to rehearse the new information and connect it to existing frameworks of knowledge. This gives new information meaning beyond the particular learning occasion, and makes it easier to retrieve. This final phase of learning begins in the classroom, with review and application, and continues out of the classroom through well-crafted assignments.

How can you use this information in your lecture? James R. Davis describes a simple approach to maximizing the first two stages of learning: "Get the students' attention? tell the students what to pay attention to... and don't overload the system" (p. 141). These three strategies address the initial

learning environment- the classroom-and can help a lecturer communicate material effectively. To these basic strategies, we add one more strategy that takes into account the final stage of learning: Give students the opportunity to review and apply lecture material, both in class and between classes. This strategy guarantees that students will fully integrate the material and make the knowledge their own-and that is what makes a lecture truly memorable.

Get Students' Attention

Every lecturer hopes that the pure beauty and intrigue of ideas and information will captivate students. Before students engage with ideas, however, they must first be engaged by the instructor. Therefore, like any public speaker, the lecturer's first task is to capture the audience's attention. A lecturer must connect with students and draw them into the lecture.

This rapport can be accomplished in a variety of ways, from attention-grabbing gimmicks to highly thoughtful approaches. Most instructors are wary of gimmicks; a common concern is that any attempt to appeal to students' interests will lower the intellectual quality of a lecture. However, engaging students needn't be at the expense of high academic standards. As a lecturer, you don't need to be a performer or an entertainer; you simply need to keep your audience in mind, and find the most direct way to interest students in your material.

One of the most basic and direct ways to attract and keep students' interest is instructor expressiveness-the use of vocal variation, facial expression, movement, and gesture. This tactic can be applied to any lecture content, from Shakespeare to statistics. Students are more likely to pay attention to instructors who exhibit expressive

behaviors, because expressive instructors are more interesting to attend to and easier to understand. For this reason, expressiveness enhances communication and facilitates student comprehension. Students also tend to interpret an instructor's expressiveness as enthusiasm for the subject, and enthusiasm in the classroom is contagious. Expressive behaviors intrigue students, and encourage them to actively consider the lecture material. For these reasons, expressive behaviors lead to higher levels of student achievement and satisfaction (R. P. Perry, 1985, quoted in Murray, p. 192).

The famous "Dr. Fox" experiments, first conducted by Ware and Williams in the mid- seventies, illustrate the effects of instructor expressiveness (see

Murray, 1997). The experiments used six videotaped lectures, all given by a professional actor assuming the persona of "Dr. Fox." The topic of each lecture was biochemistry, but the amount of information in each lecture varied (low, medium, or high). In addition, lectures were presented with either a low or high level of "seductiveness." "High seductiveness" was defined in terms of expressive behavior: the use of movement, gesture, vocal emphasis, humor, and charisma. "Low seductiveness" was characterized by a flat, matter-of-fact style.

Students who watched the highly expressive lectures performed better on a multiple-choice recall test than students who watched the less expressive lectures. This suggests that expressiveness enhances students' memory for the lecture content. Students who watched the highly expressive lectures also gave higher ratings to the instructor, independent of the level of information provided in the lectures. The authors coined this last finding the "Dr. Fox Effect." Students may give high ratings to teachers who convey almost no content, but present their lectures enthusiastically. Lectures can be enjoyable but still fail to meet important teaching goals.

However, as Murray argues, there is no reason to believe that expressive behaviors "are in any way incompatible with more traditional criteria of effective teaching, such as content coverage and high academic standards" (p. 196). To avoid the Dr. Fox Effect, keep in mind that expressiveness is more about communication than entertainment. The key teaching goals of each lecture are still to increase students' knowledge and skills, not to entertain students. Expressiveness is simply a tool for engaging students with the material, not an end to itself. A good litmus test for whether expressiveness is effective, rather than merely entertaining, is whether it invites students to be active, rather than passive, learners. It is important to ask yourself: Once you have students' attention, what are you doing with it?

Expressiveness can be learned, through training and practice. The Center for Teaching and Learning provides a number of resources for instructors looking to develop expressive skills (including class videotaping and oral communication training). Expressiveness can also be enhanced by the instructor's own engagement with the material. Even though the material is familiar to you, you can rediscover its importance and appeal each time you share it with new students.

When we think back to those teachers who captivated our attention during a lecture, they undoubtedly used different strategies suited to their individual temperaments,

styles, and disciplines. Some may have been more typically charismatic, and others less showy but deeply passionate about ideas. Some may have owned the lecture hall physically, acting out their lectures, while others may have kept us riveted with their ability to tell a good story. What they probably all shared, however, was presence. Not stage presence, but presence in the sense of being truly present: physically, emotionally, and intellectually. The expressiveness that follows from full presence is a natural attention-grabber—no gimmicks needed.

Direct Students' Attention

But even when students pay attention, they may fail to attend to the most important material in a lecture. Think of how much new content you share with students in just one lecture. Students need to absorb, record, and understand the steady flow of auditory and visual information. To do so, students must listen, view, think, and write, all at once. The juggling of these activities might explain why students' notes capture only 20–40 percent of a lecture's content. Because the content is new to students, it can be difficult for them to identify which ideas are critical and which are peripheral. How can we help students attend to the most important information, so that they understand and remember the key points of each lecture?

The solution is to provide students with a framework for each lecture, so that they can direct their attention to the most important information. One way to do this is to prepare a study guide for your course that describes each lecture's objectives, key concepts, and questions to consider (Schneider, p. 57). A handout with the lecture's major points will prepare students to listen and look for the central elements of the lecture. Skeletal lecture handouts, with room for students' notes, can also help students organize what they hear and see, and may be more effective than providing students with your full lecture notes (Kiewra, 2002, p. 72). As you prepare your lecture outlines, aim for three to five main points in each lecture, with clear links between each lecture topic and your main points.

You can also ask students to answer conceptual questions as they take notes during lecture. Each part of a lecture can be preceded by a high-level

question that the upcoming information can answer. This encourages students to interpret and organize lecture content according to an important and useful conceptual framework. In one study, students who took notes trying to answer conceptual questions performed better on a recall test than students who took traditional notes that simply recorded information (Rickards & McCormick, 1988).

During lecture, be as explicit as possible about what students should focus on. Clearly introduce key concepts and definitions. Identify important themes as a way for students to sort through the content of the lecture. Use verbal and visual cues to highlight major points, categories, and steps of an argument. You can also direct students' attention to the most important points by asking them to review or explain those points during class. All of these strategies will help create a framework for students, so that they can quickly and accurately identify and understand the core ideas in your lecture.

Don't Overload the System

Once we have students' attention, we need to consider how quickly students can process information. Short-term memory requires time to process the sensory input we receive; students are not sponges and cannot immediately "absorb" new information. Give students short breaks throughout lecture to review their notes and ask questions. A short break that includes students' questions can also give the lecturer an opportunity to assess student understanding and adjust the remaining part of the lecture if needed.

You can also include a more formal activity or assignment after every 15-20 minutes of presentation. For example, ask students to summarize or paraphrase the last few important points, either in their notes or with the person sitting nearest them. You can then review the points and move on to the next phase in the lecture. Giving students and yourself a break has another advantage. The audience's attention in a lecture drops dramatically after ten minutes of listening (Bligh, 2000, p. 53). Students can remember most of the first ten minutes, but very little from the middle part of the lecture. A short break will revitalize the audience's attention, and students will be much more likely to remember information from throughout the lecture.

A final consideration involves how lecturers present information. Lecturers are often encouraged to use a wide range of presentation materials, including

audio, video, and written materials. While this can attract students' attention, it can also overload students' attention. Cognitive overload occurs when different forms of processing interfere with each other (Mayer & Moreno, 2003, p. 45). A common example is when students are presented with an illustration that also includes a written explanation. Students may be unable to process the information quickly, because looking at the illustration and reading the text both place demands on the same sensory channel (vision). Mayer found that replacing the written explanation with an auditory narrative, which uses another sensory channel, is more effective. Another common way to overload attention is to give students two conflicting things to attend to at the same time (say, a transparency on the overhead and a verbal narrative that does not directly relate to the overhead). Students must figure out which sensory channel provides the essential information, and they may not always guess correctly. You can avoid cognitive overload by maintaining a reasonable pace in your presentation and by carefully coordinating your verbal instruction with any other media.

Give Students Opportunities to Review and Apply

Information becomes solidified in long-term memory when we have opportunities to retrieve, review, and reflect on that information. As an instructor, you have two main opportunities to make sure this happens: 1) Give students time, during lecture, to review and apply ideas. 2) Give students assignments that encourage them to review their lecture notes and use the lecture content.

Previously, we described how short breaks during a lecture can give students the opportunity to make sure they have correctly identified and recorded important information. To go beyond this simple fact-checking, give students time in lecture to

solve a problem or discuss an idea. You can post the problem or discussion question on a slide at the beginning of the lecture, so that students attend to the lecture with the anticipation of applying the information. You can have students tackle the problem or issue in pairs at the end of the lecture, or work alone and then vote on a solution or position. You can also create a think-tank situation by inviting volunteers to talk through their thought processes as they try to solve the problem or respond to a question. The full class can then discuss both the process and outcome of the thought experiment.

Of course, your students' learning process does not end in the lecture hall. You provide a strong foundation for learning during class, but students typically are overwhelmed by other demands on their time and thoughts. Students rush from one class to the next, and spend time in extracurricular activities, athletics, jobs, and socializing. By the end of the day, any information that is not reviewed may not be accurately remembered.

We can increase students' learning by offering them the opportunity to review each lecture in a meaningful and timely way. It is not enough to hope that students will review their notes; create assignments that encourage or require it. For example, ask students to create a matrix, flow chart, table, or concept map based on the information presented in lecture (Titsworth & Kiewra, 2004, p. 450). Give students a problem that can only be solved using lecture material. Have students prepare a debate, a student panel, or a position paper on a subject related to lecture content (Frederick, 2002, p. 60). If an online discussion forum is part of the course, ask students to respond to questions related to the most recent lecture. By reviewing, interpreting, and applying lecture material, students are more likely to build lasting memories and develop higher-level thinking skills.

Students are also more likely to remember information that relates to ideas or experiences they are already familiar with. You can capitalize on this phenomenon by using examples from student life, current events, or popular culture. You can also ask students to generate their own examples from personal experience in class or as a written assignment. Whenever possible, tell students how new information relates to previous lectures in your course. Show students how specific skills can be applied to real-world problems. Create class activities or assignments that ask students to fit new information into the overall themes of the course. For example, have students compare two ideas, synthesize competing perspectives, or discuss the evolution of one theory to another. All of these techniques will make it more likely that students will remember the information from lecture, because students will integrate the material into already existing knowledge structures and experiences.

Teaching Strategies for Memorable Lectures

We have reviewed several teaching strategies that take into consideration how students learn new information in a lecture setting. We encourage you to apply these strategies to your own teaching, and find out what works best

for your lecture content and personal teaching style. We also love to hear about innovative and effective lecturing strategies on campus. Please share your success stories if you have found a

particularly helpful way to keep student's attention, increase student understanding, or improve student performance. You can contact Mariatte Denman at mdenman@stanford.edu.

Quick and Easy Ideas for Better Lectures

Provide students with a framework for each lecture

- o Aim for three to five main points in each lecture.
- o Begin the lecture with a high-level question that the upcoming information can answer.
- o Prepare a handout of the lecture's main points.
- o During lecture, be explicit about what students should focus on.

Don't overload students

- o Give students short breaks throughout lecture to review their notes and ask questions.
- o Include a formal activity or assignment after every 15-20 minutes of presentation.
- o Don't use too many different types of presentation materials at once.
- o Don't give students two conflicting things to attend to at the same time.

Students are also more likely to remember information that relates to ideas or experiences they are already familiar with.

- o Use examples from student life, current events, or popular culture.
- o Ask students to generate their own examples from personal experience.
- o Tell students how new information relates to previous lectures in your course.

- o Show students how specific skills can be applied to real-world problems.
- o Create activities and assignments that ask students to fit new information into the overall themes of the course.

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#3 Making Lectures Unmissable!

Folks:

The posting below gives a number of specific suggestion on how your lectures something students just won't want to miss. It is from, Chapter 6 - Making Lectures Inspiring, in the book, *Making Learning Happen: A Guide for Post-Compulsory Education* by Phil Race. SAGE Publications Ltd. 1 Oliver's Yard. 55 City Road, London EC1Y 1SP. © Phil Race 2014. [www.sagepub.com/] Reprinted with permission.

Rick Reis

Giving learners information is only part of the business of designing a lecture, so we've got to make sure that lectures are learning experiences and not just information distribution events. In particular that first lecture in any series is a make or break occasion for many a learner. It's also make or break for us - there's no second chance to make a good first impression! In other words, we've got to try to make lectures unmissable! It's got to be worth being there. This chapter has been about making learning happen in large-group contexts - usually called lectures on timetables. We've seen that the act of lecturing is rarely the best way of making learning happen, and that we need to be thinking carefully about what learners are doing while sitting in lecture theatres or large classrooms. In this final section of the chapter, I would like to condense some of my main suggestions, linking them particularly to the context of starting off a lecture series. Every new lecturer's nightmare is getting a lecture series off to a bad start, and learner attendance falling off as the series goes on - or worse, lots of learners later failing the related exam and blame coming back to the lecturer. This isn't confined to new lecturers. The following suggestions may help you to make your lectures unmissable.

* Start reasonably punctually. When most of the group is there, get started. Remind learners of some of the things they should already know but that you will discuss in more depth. Alert them to some of the things you don't expect them to know yet

too. Don't be too unkind to people drifting in late - that won't encourage them to come to your next lecture if they are late again. Don't punish the people who are punctual by making them wait too long for their less punctual colleagues. Gently allow the people who are coming in late to feel that they may have missed something useful.

- * Make the best of the live occasion. Learners may well do much of their later learning from materials they download relating to the lecture, but use tone of voice, gesture, facial expression, and so on to arouse their curiosity, so that they're looking for answers to the questions that are in their minds.

- * Don't put too much into the first lecture with a group. It's better to get learners thinking deeply about a couple of important things than to tell them about dozens of things which future lectures will address. It's worth finding out all you can during the first lecture about what they already know. First impressions endure, so try to ensure that learners get a good first impression about the subject, and indeed about you.

- * Make good use of intended learning outcomes. Near the start of the lecture, let learners in on what they should be able to do by the end of that particular lecture. Towards the end of the lecture, show the intended outcomes again, and check to what extent learners now feel that they have cracked the learning outcomes. Help them to feel the added value of having been there.

- * Always link lectures to assessment. Give learners cues and clues about how this particular lecture counts when it comes to assessment. Whenever you say "You'll need today's material for exam questions like such-and-such" you'll notice learners' attention increasing, many jotting something down!

- * Make sure you can be seen and heard. Use a microphone if it helps. Don't just say, "Can you hear me at the back?" Ask someone in the back row a question and find out. And don't dim the lights to show your slides at the expense of learners no longer being able to see you. Remind yourself that low lighting for too long at a time is one of the components of the natural conditions to induce human sleep!

* Don't keep slides up too long. Learners will keep looking at the screen, even when that slide is quite finished with. Get them to look at you now and then. For example,

when using PowerPoint, on most systems pressing B on the keyboard makes the screen go black. Pressing B again brings it back.

* Don't just read out your slides. Learners can read the slides themselves faster than you can talk. Talk about the slides. Explain now and then what's really important. This helps learners to prioritize the content of the lecture.

* Ask plenty of questions. Give learners the chance to answer them, and be encouraging even when the answers aren't good. Celebrate what they know when possible. Get them to jot down answers first, so they are better armed to share their answers with each other, and with the whole class.

* Avoid death by bullet point. Make different slides look different. Include some charts or pictures where possible. If you're confident with technology, put in some very short video clips now and then, and link in to web-based material you want your learners to study in more detail - but don't be too dependent on the technology working every time - have plan B ready for when it doesn't work.

* Try to make the learners like you. Smile. Be human. Look at them. Respond to them. If they like you, they're more likely to come to your next lecture too. Remember that the feedback students will give on your course depends rather a lot on how much they actually like you.

* Keep thinking of what learners are intended to be doing during the lecture. Don't worry too much about what you will be doing, plan to get your learners' brains engaged. Get them making decisions, guessing causes of phenomena, applying ideas, solving problems, and so on. They'll learn more from what they do than from what you tell them.

* Help learners to capture their learning. For example, try to get learners to jot down their views and ideas, and not just try to write out yours. You can give them your ideas on a handout to download later on the intranet.

* Give learners time to think. Short silences can be very useful - and indeed welcome. From time to time, put a question up on the screen, and ask learners to ponder for (say) a minute or two.

* Get learners talking to each other. Purposeful talking is useful learning. Get them talking to each other now and then, arguing, debating, explaining. This is much better than just allowing chatting to break out because of boredom. Get learners to have a go at explaining something you've just introduced, reminding them this is good practice for answering questions later, for example in exams.

* Be kind to learners' brains. Concentration spans are measured in minutes, not hours. Break up each lecture into at least three parts, with something lighter in between the tougher parts.

* Bring in some appropriate humor. The odd funny slide, amusing anecdote or play on words can work wonders at restoring learners' concentration levels. Then followup something funny with an important point, while you've still got their full attention.

* But don't use humor if it's not working! Watch their faces and respond accordingly. If they're liking the funny bits, keep putting them in, but if they're not, don't!

* Flag up related sessions. For example, if you're lecturing to a large group and learners will be going later into tutorial sessions to follow up the content of the lecture, show learners some of the questions which will be covered in the tutorials. This will get them started on thinking about them.

* Keep yourself tuned into WIIFM. "What's in it for me?" is a perfectly intelligent question for any learner to have in mind. Always make time to remind learners about why a topic is included and how it will help them in due course.

* Don't be unkind to learners who missed your previous lecture. They're here now. Giving them a bad time won't encourage them to come again. And at least some learners will have very good reasons for not having been able to be there last time - illness, crises, whatever. The more unmissable your lectures are, the more learners will try not to miss them whatever else is happening in their lives.

* Don't overrun. At least some of your learners are likely to have something else to go to after your lecture, and perhaps with not much of a margin for error. If you come to a good stopping place and there are 15 minutes left, do your closing bit and stop. Learners actually like lectures which finish early now and then.

* Pave the way towards your next lecture. After reviewing what learners should have got out of the present lecture, show, for example, a slide with three questions which will be covered in next week's installment.

* Don't just stop. Bring your lecture to a definite close. Make a good final impression. Learners are more likely to follow up the lecture if they leave feeling it has been an important and interesting occasion, and well worth attending rather than just downloading the associated links and materials.