

# Giving a good lecture

Paola Domizio

---

## Abstract

Good teachers are role models as well as educators and there is no doubt that they can inspire their students to go along certain career paths. The definition of what makes a good teacher is still being debated. Most students describe a good teacher as accessible, enthusiastic, passionate, humorous, caring and nonjudgmental. Good teachers put learning into context and they actively engage their students in the learning process. Giving a good lecture is like a theatre performance in which the lecturer plays the leading role. The skills involved in giving a good lecture, just as with acting, must be learnt and the performance must be thoroughly rehearsed. Good lectures are well-planned, well-structured, well-delivered and properly timed. Good teachers welcome feedback and act on it to continue developing their skills.

**Keywords** education; good teaching; good lecture

---

Giving a good lecture is an art, akin to a stage performance in which the lecturer is the protagonist and holds the audience's attention to the end. Some of the skills involved in giving a good lecture stem from the lecturer's personality, but others can undoubtedly be practised and learnt. While some lectures can be delivered as stand-alone teaching events, in most situations they form part of a course, which means that good lecturers must also understand the broader theories of good teaching.

In this article, I will discuss some of the fundamental concepts of good teaching, describe the qualities that make a good teacher, and give you tips on how to give a good lecture. Though most of what follows is based on my experience of giving lectures to medical students, similar principles apply to giving oral presentations at scientific meetings, which after all is teaching by another name.

## Fundamental concepts of good teaching

Much of what is written on this subject in the educational literature is often dismissed as unnecessary jargon by noneducationalists, and as a result, tends to be regarded with scepticism by medical teachers. Some of the concepts do make sense, however, and can be helpful to know.

First, *students' approach to learning is determined by their perceptions of the learning context*. Thus, students will have a more positive attitude to learning when they feel that what is being

taught is directly relevant to their aims and objectives. One of the reasons why integrated curricula have been so widely adopted in medicine is that they put learning into context and avoid subjects being taught and learnt for exams without the student being able to see the point of their learning.

Second, *good learning outcomes are achieved by active engagement with the learning process*. The realization that the human mind is an active participant in the process of learning and is not just a passive vessel waiting to be filled by a teacher's words has caused a major shift in teaching methods in recent years. One of the reasons why problem-based learning has become so popular is that with this method, students are actively engaged in their learning – they set their own objectives and they reinforce what they have learned through discussion with their colleagues. This approach is known to promote deep learning, in contrast to much of the superficial learning that occurs with cramming for exams.

Third, *learning is promoted through engagement with the real world*. This is why learning in medicine is so much more effective if it can occur in the environment in which the student will one day work. Learning on the wards, with real patients, is so much better for the student than learning from a book. The pathology equivalent is learning from postmortem demonstrations or pots in pathology museums rather than from websites or CDs.

## What makes a good teacher?

There has been much debate in the educational literature about the qualities of a good teacher, but a widely accepted definition is still lacking. Student surveys report that a good teacher should have a thorough knowledge of their subject, together with passion, enthusiasm and good communication skills. A common misconception about university level teaching is that detailed knowledge of a subject is all that is necessary to be a good teacher and that the students should be sufficiently self-motivated and able to extract the important points from what the teacher says regardless of how the material is delivered. This is undoubtedly a fallacy, especially at undergraduate level. Students will not learn what the teacher wants to communicate just by the teacher showing them slides and telling them the material is important. A good teacher will impart their knowledge in a way that makes it understandable and enjoyable to learn. A bad teacher will take the same material and make it impenetrable.

Good teachers have respect for their students, taking time and effort to prepare lectures or classes and mark assignments. They should not just throw a talk together 5 min before the teaching starts or skim through an essay that has taken a student many hours and much effort to complete.

Good teachers have a sense of humour and are able to use this effectively in their teaching. Humour, both planned and spontaneous, is an excellent additive to many learning environments. The positive atmosphere created through the use of humour increases motivation, keeps the learner's attention and can reduce stress in both the learner and teacher. Comedy can be achieved in a variety of ways, including funny pictures, humorous anecdotes and punchy jokes. More laughs are raised, however, if the witticisms are appropriate to the subject being taught – random jokes used out of context can be worse than none at all.

Good teachers provide a supportive, trusting and non-threatening environment in which the student positively enjoys

---

**Paola Domizio** BSc MBBS FRCPath FHEA is Professor of Pathology Education at Barts and the London, Queen Mary's School of Medicine and Dentistry, London, UK.

learning. They take into account how much the audience already knows about the subject being taught and structure their teaching accordingly. There is little point, for example, in attempting to teach medical students the detailed microscopic features of chronic hepatitis if they have never been taught the basic principles of inflammation. Good teachers actively engage their students in the learning process. They make their students want to learn by making their teaching interesting and relevant and putting it into context. Bad teachers, in contrast, make material relevant by telling students that if they don't learn, they will fail the exam.

Good teachers are learner-orientated. They spell out the objectives of their teaching session and focus on outcomes so that the students are clear about what they need to learn. They vary their teaching methods – a lecture one day and a small group tutorial or computer-assisted learning session the next. They use different teaching materials, such as Powerpoint presentations, video clips or web-based tutorials. Lastly, but perhaps most importantly, they reflect on their practice – they participate in peer-observation, they seek students' feedback about their teaching and they change their practice according to what the students say.

What are the qualities of a bad teacher? In essence, bad teachers have poor interpersonal skills, poor communication skills and are perceived as uncaring with no interest in their students. Bad teachers are intimidating, unwelcoming and put off the students rather than inspire them.

### Giving a good lecture

Despite the fact that pedagogic theory has changed significantly in recent years, resulting in a shift away from didactic lecture-based teaching towards small group problem-based learning, there is still an important place for lectures in a medical curriculum. Lectures are particularly valuable if they are used to give structure to the students' reading or to cover material not easily found in textbooks. When lectures are delivered well, the lecturer motivates the students and becomes an inspirational role model. Following a few simple rules regarding the planning, structuring, preparation and delivery of a lecture will give the best chance of an optimal outcome, ensuring that both lecturer and student enjoy the experience.

#### Planning the lecture

First, you *must* know your audience – their background, needs and prior knowledge. This will help you to pitch your lecture at the right level, rather than too high or too low. A common mistake is to assume that the audience is as knowledgeable about the subject of your lecture as you are and therefore to pitch the lecture above the audience's head. This is particularly important when giving a research talk at scientific meetings – the talk should be structured differently depending on whether you are presenting to research colleagues or to a generalist audience. If you cannot find out about your audience in advance, it is better to assume they know little or nothing and to build up the lecture from the basics.

If your lecture is part of a course or series, try to find out whether the content clashes with that of the other lectures. If possible, liaise with the other lecturers, particularly those speaking just before and just after you, to ensure as little repetition of subject matter as possible.

If you have any choice in the timing, schedule your lecture for the late morning, which is the optimum time for audience concentration. First thing in the morning, much of the audience will not yet have woken up, after lunch they suffer post-prandial stupor and in the late afternoon they tend to run out of steam. In addition, if you have a say on location, select a venue that the audience will comfortably fill. Using a 200-seat lecture theatre for an audience of 10 will lead to loss of intimacy and using a room that holds 20 for a lecture to 100 will lead to frustration from overcrowding.

#### Structuring the lecture

Just like a good feature film, lectures should have an identifiable beginning, middle and end. Structuring the lecture this way makes it easier for the audience to follow and also provides a framework for preparing the slides. In essence, 'tell them what you're going to tell them, tell them, then tell them what you've just told them'!

In the introductory part of the lecture you should list the learning objectives so that the audience is clear about what will be covered. You should provide an outline of the lecture so that the audience can gauge how far through the lecture you are at any point in time. This is particularly important if you are the last speaker in a session, as the members of the audience will be repeatedly whispering to themselves 'how much longer until the end?' You should also give the audience a carrot – motivate them to listen to you by telling them *why* the subject matter you will be talking about is important.

In the main part of the talk you should communicate your key ideas and develop subject areas further, if and when appropriate, making it clear how each part of the lecture leads on to the next. It is important to keep this part of the lecture simple and organized. The attention span of an average person at the beginning of a lecture is about 15 min, but this falls if the subject matter becomes too complex. You do of course want to put your points across, but overcomplicate the lecture and you risk losing the audience.

At the end of the lecture you should summarize the main points and, if relevant, suggest areas for future study. Indicate to the audience that you have finished and be ready to answer questions.

#### Preparing the lecture

Just like success in decorating or cooking, succeeding in giving a good lecture is mostly in the preparation. If you prepare properly for a lecture, delivering it will be much easier. There are a number of important DOs and DON'Ts when it comes to preparing a lecture.

#### DOs

Before even starting to prepare the lecture, remember the old adage 'less is more', so decide what you want to say, then cut it down! A good rule of thumb is to allow 1.5–2 min per slide, so it is not a good idea to have 70 slides for a 20-min talk.

Remember that at any given time 20% of your audience is thinking about something else, so repeat your most important ideas, especially at the beginning and end of the lecture when audience attention is at its maximum.

Avoid terminology and jargon as much as possible. If you must introduce an acronym or a technical term that may not

be familiar to the audience, define it clearly the first time you use it. Use common, simple language on the slides with short words and sentences. Practical examples of how to write concisely can be found in the headlines of a newspaper. When writing a headline, the editor has limited space to communicate ideas, so the language has to be clear, direct and engaging. By keeping the slides simple, you minimize the work your audience must do to figure out what you are saying. By decreasing the attention your audience will need to pay to complicated slides, you will increase the attention they pay to you and your ideas.

Make your material more interesting by using analogies or examples and, if possible, make the relevance of your material clear by relating it to personal experience. Use anecdotes and humour whenever the opportunity arises.

A good picture is worth a thousand words, so use as many images as you can. In a histopathology lecture especially, it should be possible to develop a talk based almost entirely on images with perhaps only one or two text slides. Make it clear, however, what the image represents by labelling or annotating it as necessary. Graphs can be confusing to a nonexpert audience, so make sure each graph you use has a title and the axes are properly labelled. Remember that while you will be intimately familiar with your graph or image, your audience will be seeing it for the first time. They will need orientation, so take them on a guided tour, explaining the axes, annotations and major features.

Use a readable font in a size that can be seen by everyone in the room. The readability of your slides will also depend on the projector, its location and the size of the room, but nevertheless the minimum font size should probably be 20 point. Everything you write on a slide should be readable, including subtitles, annotations and labels.

Use an appropriate colour scheme such as black text on a white background or white text on a blue background, so that everything can be easily read. Varying the colour and font size to emphasize points can also make text more interesting to look at. Avoid colour schemes that do not have much contrast, such as red on blue or black on blue, as these are difficult to read and cause the audience to tire. Remember also that a significant number of men are red – green colour blind, so try to avoid excessive use of these colours.

Make sure that your slides look neat, e.g. by using the same background template and the same font throughout, by lining up bullet points and by correcting spelling mistakes. This attention to detail will create a good impression and will reflect well on your organizational skills.

Provide copies of the text and figures you use in your lecture, either as a handout or as a file on a web page. If you have cited references, provide these too. This will relieve the pressure on the audience to write down everything you say and will allow them to listen to you more calmly.

One of the most overlooked parts of a good lecture is the form of words that introduces you before you start to speak. A good introduction raises an audience's interest in the lecture and establishes your authority to give the talk in the first place. To ensure that your lecture gets off to a solid start, write a brief description of yourself and your talk, which can be used by the person who introduces you.

## **DON'Ts**

First and most importantly, don't put too much information on an individual slide. If you find yourself writing whole sentences next to bullet points, stop immediately. The audience can read your slides quicker than you can speak the words, so avoid having slides that pre-empt all that you intend to say. Remember that the audience should be listening to you, rather than spending time reading the screen, so put just enough text on each slide to remind yourself of what to say. Similarly, don't overload a slide with images, graphs or complex tables. The audience will not know what to concentrate on and will become confused.

Don't use too many slides. If you do, you will either run out of time or you will have to go through the slides so quickly that the audience will not be able to keep up. In my experience, one of the most common criticisms of poor lecturers from students is '...tried to pack too much into their lecture and went over time'. I have never heard a lecturer being criticised for using too few slides or finishing ahead of schedule!

Don't use excessive animation. Keep animations subtle and simple and add them only when they enhance a specific point you want to reinforce. Not only will most of the audience have already seen all the special effects that Powerpoint has to offer, but also, instead of concentrating on the lecture, they may be distracted by text whizzing across the screen and by inappropriate sound effects. For the same reasons, introducing text in a piecemeal fashion should be reserved for times when it gives added value rather than for every bullet point.

## **Practice makes perfect**

Before the lecture you should rehearse as much as you can. Don't automatically assume that just because you manage to prepare the slides on time, the bulk of the work is done. The impact of a lecture comes not from the material you put on the slides, but from how you present that material to the audience. If you are a lecture novice, you should run through each lecture or talk several times, preferably to colleagues who can give you feedback on technique and presentation. Even if you are an experienced lecturer, asking your colleagues for feedback is never a waste of time. You don't need to memorize the whole lecture by rote – it might sound robotic and unnatural if you do – but you should know which slide is coming up next and what you intend to say about each slide without relying on reading your notes. If you have limited time to sit in front of your computer screen practising the lecture (which in reality is the case for most of us), print off a copy of your slides so that you can mentally rehearse it in spare moments on the train or even in the bath! Practise may not always make perfect, but it can undoubtedly be the difference between a mediocre lecture and a good one.

## **Environment and technology**

The physical environment in which you give your lecture is almost as important as the lecture itself. If the room is physically uncomfortable, the lighting is inadequate or the equipment unsuitable, all your hard work in preparing the lecture may be wasted. If you have access to the lecture theatre, visit it in advance so that you can plan for your needs. Find out whether the audiovisual equipment in the lecture theatre can cope with what you intend to present. It is no use including video clips and sound effects, for example, if there is no media player to play

them. Discuss your needs with the technical support staff and be guided by their experience and knowledge. Bring a laser pointer and remote slide advancer with you in case there is none available on the day.

Back up your lecture and then back it up again. Take it with you in different formats – on a USB stick, on a CD and even on acetates – in case of unexpected technical failure. Remember that video and audio clips may not actually be saved to your lecture file, only links to the clips that reside on your hard drive. Consequently, be sure to copy all the files needed to enable the clips to play. Run through the lecture on a computer other than your own to make sure it operates to your satisfaction.

Immediately before the lecture starts make sure that your presentation is loaded, that it opens normally and that any special effects still work. If you use a remote slide advancer, try it out to make sure that it works properly. If you need an internet connection during your lecture, test it out beforehand. If you plan to display web pages, make a back-up copy of them on the local computer in case you have problems with the internet connection. Getting the lighting right is also very important. On the one hand you want people to see the screen clearly, but on the other hand you do not want the room to be so dark – particularly after lunch – that people start to doze off or cannot see to take notes.

### Delivering the lecture

Giving a good lecture is all about connecting with the audience. If you can do this successfully, the audience will be much more likely to take in what you say and will learn from you more readily. After the lecture, they will be inspired to read more about your subject for themselves. Many of the attributes needed to connect with the audience stem from the lecturer's personality, but others can be practised and learnt.

Being nervous before giving a lecture is normal. Even experienced lecturers can suffer nerves, particularly if the lecture is new, important or is being delivered to a large audience whose reaction is unpredictable. The fear often comes from speakers feeling unprepared or not being comfortable with their material. The more you plan and prepare for a lecture in advance, the better it will go, and the acute anxiety usually subsides within a few minutes of starting.

The important DOs and DON'Ts of delivering a lecture are described below.

### DOs

You should have arrived for the lecture in good time in order to check that the audiovisual equipment is functioning. When you are satisfied that everything is working, if there are still a few minutes before the scheduled start time, strike up a friendly conversation with a few members of the audience in the front row. This will break the ice and help to relax both you and them.

Unless you are well known to the audience or you have been introduced by the host, begin the lecture by introducing yourself and give the title of your lecture. Continue with a friendly statement that allows you to smile and encourages the audience to smile back at you.

Be eccentric and entertaining. Intersperse your lecture with humorous anecdotes and tell relevant jokes when appropriate. Make it easy for people to remember you, but don't be wacky – that is the province of elderly professors, particularly the male ones.

Show your enthusiasm through body language, facial expression and tone of voice. Let the audience know how passionate you are about the topic you are lecturing on and how keen you are to share your knowledge with them.

Speak loudly and clearly and project your voice, even if you are using a microphone. Make sure that people in all parts of the room can hear you. If you know that there are people in the audience who are hard-of-hearing, invite them to sit near the front so that they can lip read you more easily. Vary the pitch and tone of your voice so as not to speak in a boring monotone, and try to maintain a steady pace in your speech. Pause for effect if you want a particular point to sink in.

Look towards different parts of the room as you speak and make eye contact with members of the audience in each different area. This will give the impression that you are talking to people individually and so increase their concentration and focus. For the same reason move around the room as you speak, including up and down the aisles. Establish proximity with people in different areas, thus breaking down any implicit barriers between you. While you are looking at different parts of the room, scan the faces of the audience to see how they are responding. If they are fidgeting, restless or starting to doze, you might need to turn up your enthusiasm and speaking volume, or consider inserting an interactive break as described below.

If at all possible, use a remote control device to advance your slides. If you return to the keyboard every time you need to advance a slide, this creates a visual distraction, disrupts the natural flow of your delivery and gives the impression that the computer is controlling you rather than the other way round.

Use a pointer to highlight items that you want to emphasize or those that might not be immediately apparent to the audience. This is particularly important when you are describing complex graphs or tables, which would take time for the audience to figure out for themselves. Make sure that everyone in the room can see what you are pointing at – this usually means pointing to the projected screen, but might mean using the mouse-controlled arrow if there are multiple screens in a large room.

If you are using a laser pointer, don't allow it to wander and have a life of its own. It is irritating for the audience when the lecturer zips the laser pointer around and circles things incessantly, making everyone dizzy, or says 'like this here' and you cannot see where 'here' is because the laser is already somewhere else. If you are nervous, a laser pointer dramatically magnifies the shaking of your hand, making it seem as though you are conducting an orchestra. Even if you are not nervous, the laser can still jiggle up and down unpleasantly. Consequently, steady the hand that is holding the pointer by gripping it with your other hand, make a deliberate movement to point at the item you wish to highlight, then switch off the pointer.

Make the lecture interactive and engage the audience whenever you can. Ways of doing this include asking individual members of the audience direct questions, e.g. handing them a laser pointer and asking them to point at specific items in a photomicrograph, or breaking the lecture for a few minutes and using activities that allow all members of the audience to participate, e.g. a short multiple choice quiz. In this way you keep the audience's interest and attention and promote retention of the material you have presented.

One of the most important DOs of delivering a lecture is to finish on time. Even if you start late, it is courteous to end as close to your allocated finish time as possible. It is even better to end ahead of time and so leave a few minutes for questions. If you are overrunning, skip a slide, or gloss over one, or speed up a little. It is extremely inconsiderate to intrude into the next lecturer's slot, or – even worse – into the audience's lunch or tea break. If you do this, the audience will start to fidget and become restless, even if the lecture itself is otherwise perfect.

If you have time to take questions, be patient in waiting for questions to start as it often takes several seconds for the first person to pluck up the courage to speak. Repeat or rephrase the question, particularly if you have a microphone but the questioners do not, so that everyone in the audience can hear the question you are answering. Keep the answers short and succinct, and don't belittle the questioner, however stupid you think his or her question might be.

### DON'Ts

First, don't block anyone's view by standing in front of the projector or whiteboard. Similarly, if you are short, don't stand behind a tall lectern so that no one can see you. Don't over-darken the room, else you run the risk of the audience dozing off. If you must darken the room, e.g. to show photomicrographs, do it only for the period in which the micrograph is actually on the screen. As soon as the need for lowered lights has gone, put the lights up again.

Don't give the impression of being bored and uninterested as this will create a negative atmosphere that you will find hard to reverse. Don't speak too softly, mumble or drone on in a monotone voice. If you appear disinterested, don't be surprised if the audience mirrors your lack of enthusiasm.

Don't talk to the screen with your back to the audience for long periods, else your words are likely to be lost. It is inevitable that at some point you will have to face the screen, e.g. to point at something, but when you do, speak a little louder so that your voice reflects back to the audience. Better still, when you need to point at the screen, stop talking for a moment, turn, point, then turn back to the audience and continue talking.

Don't just read from a handout or from your slides. Unless you are a poet or novelist reading your work, the audience does not want to listen to you read. Merely reading a handout constrains your ability to demonstrate your confidence and express your personality and is guaranteed to provoke poor feedback, so avoid it at all costs. Reading the text on your slides is also bad practice, though if you have prepared the lecture properly, there should not be long sentences on the slides anyway. As mentioned above, the text on the slides should be short and succinct, just enough to prompt you what to say and to allow the audience to follow the lecture.

Don't use excessive verbal fillers such as 'um', 'err', 'I mean' and 'you know', as these can be very distracting for the audience.

Most lecturers are not even aware that they use these words – even some of the most experienced speakers. The best way to cure this habit is to be aware of it in the first place, so record yourself during a rehearsal or ask a colleague to listen to you and count the number of filler words.

Don't bring up subjects that you cannot or do not really want to talk about, because those will be the very topics you will be asked about at the end, probably because you have not explained them properly during the lecture. Don't waffle or ramble or go off the point, unless it is to tell a pertinent joke.

And most importantly, as I have already mentioned, do not overrun your time!

### Keep on developing

A good lecture can be both motivating and exciting and gives the lecturer the chance to be an inspirational role model to their students. Whatever the subject of a lecture, when it is delivered compellingly and there is a high level of engagement between audience and lecturer, it will not be forgotten easily. But even the best lecturers cannot afford to rest on their laurels. They should act on student feedback and on advice from peer observers, and amend their techniques according to the comments received. No one can have all the skills required to give a good lecture from the outset, but only by repeatedly reviewing their methods can continued improvement occur. The personal rewards for being considered a good teacher are great and, in my opinion, are worth all the effort required to get there. ◆

### FURTHER READING

[www.cs.duke.edu/brd/Teaching/Giving-a-talk/giving-a-talk.html](http://www.cs.duke.edu/brd/Teaching/Giving-a-talk/giving-a-talk.html)

[www.uel.ac.uk/subaqua/site/articles/pages/how-to-lecture.htm](http://www.uel.ac.uk/subaqua/site/articles/pages/how-to-lecture.htm)

[serc.carleton.edu/introgeo/interactive/index.html](http://serc.carleton.edu/introgeo/interactive/index.html)

[www.utm.utoronto.ca/~astro/lecture.htm](http://www.utm.utoronto.ca/~astro/lecture.htm)

Atkinson C. Beyond bullet points, Washington: Microsoft Press, 2005.

Wempen F. Powerpoint advanced presentation techniques.

Indianapolis: Wiley Publishing Inc., 2004.

### Practice points

- The success of a lecture is proportional to the time spent in planning and preparation.
- Delivering a good lecture is all about connecting with the audience.
- Make a lecture interactive whenever you can.
- Keep the lecture simple – don't try to cram too much in.
- Never let a lecture overrun.
- Develop your lecture skills by practising and by acting on feedback.