

JUST-IN-TIME TEACHING: Planning and facilitating a lecture

SCOPE: this guide is for you if you want to know how to give a lecture. The tips in this guide are transferrable to a range of situations, including presenting at a conference. The word 'lecture' originates from the Latin word 'lectura', meaning 'reading', and traditionally lectures were exactly that: a teacher standing at the front of a room reading to students. It is important to give students a more active role than this and it is simple to build some interactivity into lectures. Good lectures can rouse interest in a subject and they are well suited for structuring and clarifying difficult subjects for an audience.

TOP TIPS:

Top tip 1: Plan teaching to align with students' needs.

Top tip 2: Select, or create, SMART learning objectives.

Top tip 3: Create a session plan using a set-body-close structure.

Top tip 4: Promote active learning.

Top tip 5: During the set - think 'MMUCKO' (Mood, Motivation, Utility, Content, Knowledge base, Objectives).

Top tip 6: During the body - think 'chunk and check, active learning, key points'.

Top tip 7: During the close - recap, summarise, check learning, revisit objectives, signpost.

Top tip 8: Ensure any slides are minimal and simple.

Top tip 9: Make sure your lecture is accessible.

Top Tip 1: Plan teaching to align with students' needs.

It is important to plan teaching to align with your students' needs. A good way to do this is to have learning objectives. Learning 'objectives' are a fine-grained version of learning 'outcomes', but we will use these terms interchangeably.

MBChB learning outcomes are in the students' virtual learning environment, (VLE), **Learn**. University of Edinburgh (UoE) employees can access this. Clinicians without UoE status should use the [Medical Licensing Assessment \(MLA\) content map](#) to guide the writing of learning objectives. NHS Lothian's Medical Education Directorate (MED) are creating Undergraduate Educator Guides for medical school placements which will summarise learning objectives: email loth.meducators@nhs.scot to join the MEDucator network and access these guides as they become available.

Top Tip 2: Select, or create, SMART learning objectives.

A learning objective is an outcome statement that captures the knowledge, skills or attitudes a learner should exhibit following instruction. For example: *“By the end of this session, you should be able to ...”*. Learning outcomes are broader than learning objectives and they usually apply to the end of a course, rather than a specific learning event, (eg a lecture). The principles involved in constructing objectives and outcomes are the same.

Learning objectives should ideally be SMART: specific, measurable, achievable, realistic and time-bound. They will help you decide what to teach and how to teach it and will give your learners a clear picture of what to expect. For example: “By the end of this session, you should be able to: 1. **take** a history of ..., 2. **explain** the importance of ...”.

It helps to choose a good verb! This table gives some examples:

Level of learning (Bloom et al 1956)	Example verbs	Example learning objective
Remembering	identify, name, list, recognise	“list the differential diagnoses of ...”
Understanding	describe, explain, summarise	“describe the reasons for ...”
Applying	apply, choose, carry out	“examine a patient with ...”
Analysing	compare, analyse, categorise	“analyse a set of results for ...”
Evaluating	appraise, choose, interpret	“judge when it is appropriate to ...”
Creating	plan, build, predict, compose	“formulate a management plan for...”

Top Tip 3: Create a session plan using a set-body-close structure.

A session plan with a set-body-close framework can help structure any teaching you do. Below is an example. Top Tips 5-7 describe the components of the set, body and close.

	What will I do?	How long?	What do I need?
Set			
Body			
Close			

Top Tip 4: Promote active learning.

There is a strong evidence base for active learning (Freeman et al 2014), so students should be actively involved in the learning process. It is helpful, if possible, is to 'flip the classroom' (Bergmann and Samms 2012; Advance HE 2025). Flipped learning refers to inverting the usual order of events, so students are introduced to the learning material before class, with class time being used to deepen understanding through discussion and problem-solving.

There are many things you can do to introduce interactivity into a lecture. If you think of your students as being in lots of little groups, rather than one large group, you can use many of the same interactive techniques described in the 'Planning and facilitating a tutorial' guide. Below are tips and techniques to help you engage your students, (Jaques, 2003).

- Bring students closer to you: as students arrive, encourage them to sit near the front.
- Move out from behind the desk: a slide-changer will release you from the lectern.
- Try a brainstorm: this can be used to stimulate creative responses to an open question or to generate questions. You can ask the students to call out their ideas or gather them anonymously with an online polling tool, (eg Kahoot, Wooclap, Slido, Mentimeter).
- Try buzz groups: these are 1-3 minute small group discussions. Ask the students to discuss a topic, or generate questions, in groups of 2-3. You can take verbal feedback from several groups or gather responses anonymously with an online poll, (see above).
- 'Stop and Write'™: these are 1-3 minute pauses when students are given a writing task to help them consolidate the learning or generate questions: [Stop 'n' Write activities](#)

Top Tip 5: During the set – think 'MMUCKO'.

The set is the beginning of your session and it is very important. The purposes of the set are to create an environment conducive to learning, to capture your students' attention, to motivate them, to get a sense of their learning needs and to orientate them to what they will learn. Typically, in a 60-minute session, the set will take 5-10 minutes.

Think '**MMUCKO**' for the set: mood/motivation, utility, content, knowledge base, objectives.

Mood/motivation: how will you motivate your students and get them in the mood to learn?

Being friendly, learning their names and sharing your enthusiasm for your subject can really help. Try an 'ice-breaker' activity. **Utility:** how will they know that your teaching is useful? Explain why your session is important because sometimes it is not obvious to them.

Objectives: what will they be able to do (or do better) by the end of the session? Display your learning objectives. **Content:** what will you do to meet these objectives? Tell them how you will use the time and everyone's role. **Knowledge base:** what do they already know about the subject? You could find out by giving them a quiz or other short activity, (see Top Tip 4 for examples).

Top Tip 6: For the body - think 'chunk and check, active learning, generalisable points'.

The body of the session refers to the main component of it. Typically, in a 60-minute session, this will be 45-50 minutes. Students often need more processing time in a lecture

environment, so you should slow down your rate of speech a little. Do not be tempted to speak quickly to cover more material: your students are unlikely to remember it.

Dividing teaching sessions into smaller chunks can help sustain students' attention. It is helpful if each chunk requires them to do slightly different things because when people have a variety of experiences this can enhance learning, (Kolb, 1984). You could intersperse the didactic elements of your lecture with active learning tasks, (see Top Tip 4 for examples). After each chunk, check they have understood things before moving on and then highlight key points. You may think these are obvious but your students probably don't. Tell them how any specific learning can generalise to other situations.

Top Tip 7: For the 'close' – recap, summarise, check learning, revisit objectives, signpost.

The close is the ending of your session and it is very important. When presented with a lot of information, people tend to remember the last thing that they heard better than what came before it: this is an aspect of the 'serial-position effect', (Ebbinghaus 1913).

The purposes of the close are to ensure the students are clear on the key points and to signpost them to further learning. In a 60-minute session, closure may take 5-10 minutes.

A good closure recaps the body of the session, summarises the key points (again) and revisits the learning objectives. It is also good to check the students' understanding. You could do this by giving them a quiz on the content of your lecture using an online poll. Another option is to say, 'I would like to know two things that you've learned and one thing that's unclear to you' and then take verbal feedback from several groups or gather responses anonymously with an online poll, (see above).

Obtaining written feedback on teaching is a good habit to develop. Include questions to ascertain what your students have learned. The [MeFB](#) online platform is a good tool.

Top Tip 8: Ensure any slides are minimal and simple.

A lecture certainly does not need to have slides. Indeed, compelling orators usually talk without slides and, if you feel able to teach without them, your students will benefit from not having to divide their attention between you and your slides. It is, however, very likely that you will want to have the structure and sense of safety that a slide-set provides.

It is helpful to keep slides' content minimal. Aim for a maximum of 7 lines of text that provide a very simple scaffold for what you say. Images can be a useful replacement for text and seeing an image at the same time as listening to you talking may help students' recall, as a result of 'dual coding', (Paivio and Csapo, 1973).

Dark, simple fonts, (eg Arial or Calibri), aligned to the left on a pale background, (eg dark blue text on an off-white background), works well. See Top Tip 9 for details on accessibility. Attribute the work of others and opt for images labelled as 'Open Educational Resources'.

Top Tip 9: Make sure your lecture is accessible.

All teaching resources must be accessible for all students. The UoE has helpful guidance for [making lectures accessible](#) and an [accessibility checklist](#). It is UoE policy for all slides to be available to students at least 24 hours in advance of the teaching.

SUMMARY: When planning a lecture, establish the students' learning needs: refer to their VLE, (**Learn**), or the [Medical Licensing Assessment \(MLA\) content map](#) as a guide. Choose appropriate outcomes or write 1-3 achievable learning objectives yourself. Decide how you will help students meet these objectives in your lecture by using a session plan with a set-body-close structure. Ensure that the session includes opportunities for students to be actively involved. Make sure the content of your slides is simple and does not divide attention. Familiarise yourself with the UoE's guidance on accessibility. Seek feedback: the [MeFB](#) online platform works well.

WHERE NEXT? This resource has been developed by the [Clinical Educator Programme](#) (CEP) in collaboration with NHS Lothian's Medical Education Directorate (MED). The CEP is a free CPD programme for clinical educators in SE Scotland. For more on the themes discussed in this guide, you may like to register for the CEP Planning and Evaluating Your Teaching course and the CEP Interactive Teaching and Learning course.



REFERENCES:

Advance HE. (2025). <https://www.advance-he.ac.uk/knowledge-hub/flipped-learning-0>

Bergmann, J. and Sams, A. (2012). **Flip Your Classroom: reach every student in every class every day**. International Society for Technology in Education [online]. https://www.rcboe.org/cms/lib/ga01903614/centricity/domain/15451/flip_your_classroom.pdf [Last accessed 5 August 2025].

Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill. W., and Krathwohl, D. (1956). **Taxonomy of Educational Objectives. Volume 1: The Cognitive Domain**. New York: McKay.

Ebbinghaus, H. (1913). **On memory: a contribution to experimental psychology**. New York: Teachers College.

Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., and Wenderoth, M. P. (2014). **Active learning increases student performance in science, engineering, and mathematics**. Proceedings of the National Academy of Sciences of the United States of America, 111(23), 8410–8415. <https://doi.org/10.1073/pnas.1319030111>

Jaques, D. (2003). **Teaching Small Groups**. British Medical Journal. 326:492-494.

Kolb, D. (1984). **Experiential Learning as the Science of Learning and Development**. Englewood Cliffs, New Jersey: Prentice Hall.

Paivio, A. and Csapo, K. (1973). **Picture superiority in free recall: imagery or dual coding?** In Cognitive Psychology, 5(2), 176-206