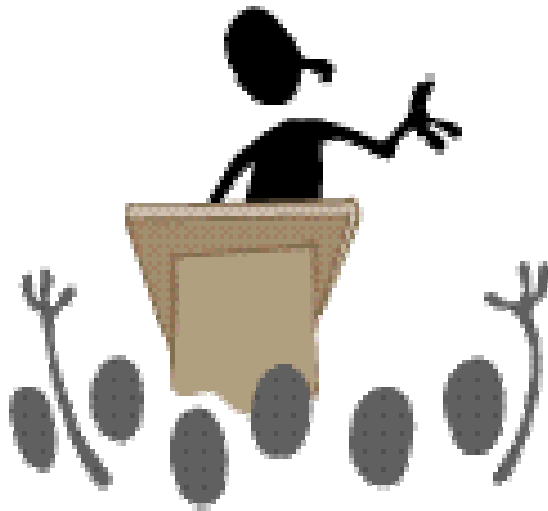


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Educational Initiative Centre

Giving Effective Lectures



Transforming Information into Learning

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Giving Effective Lectures

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1: What is the purpose of lectures?

There may be a number of reasons for using lectures in University education which include:

- providing a framework on which students can build by further reading;
- engaging the students' interest in the topic;
- summarising information from a range of sources;
- updating students with cutting edge research developments, or current issues, which may not yet have entered the academic literature;
- providing the students with the expert's perspective and/or enthusiasm;
- an opportunity for the lecturer to model certain reasoning processes;
- providing a shared learning experience for students and staff.

All the above can be advantageous and effective ways of stimulating students into further work and learning, and these can be met appropriately through lectures. However, it is also frequently the case that lectures are used as a way of relaying information to students, and one which is deemed cost effective for large numbers of students. We must remember that information on its own does not guarantee learning; students must go through a process of interacting with information to convert it to knowledge.

Additionally some students (particularly in their first year) will have a poor understanding of the purpose of the lecture and the learning they should draw from it. There are a number of actions which we can take to increase the extent to which students engage with material in lectures and we should try to deploy these. Otherwise a formal lecture might be no better at engendering learning than other forms of teaching, and in terms of developing skills of reasoning, analysis, presenting argument etc, it may be rather worse.

2: What are the potential problems with lectures?

The risks that we run with lectures are outlined below. These issues are then debated in more detail through the rest of the document.

1. There might be an overload of information presented in a lecture, but this does not ensure student learning.
Ensure you give students an understanding of the purpose of the lecture. Give them activities which help transform the information into learning and knowledge.
2. Students may easily become confused and lose the thread of a lecture unless it is clearly structured, and related to the learning outcomes.
Lectures must be carefully planned and structured.
3. Research (Biggs, 2003) has shown that students lose concentration within 15 – 20 minutes, and will learn very little if they continue to sit and take notes with no change of activity.
This impact can be decreased by building in some changes of activity.
4. The students may become very passive, particularly if they are given little opportunity to participate and if they are also presented with a lot of the material as notes or handouts.
This impact can be lessened by building in some changes of activity in which students are asked to interact with the materials which they have been given; by guiding them to take notes; by providing handouts with gaps which the students must actively fill.
5. The lecture may become focussed on issues relating to the lecturer's skills at presentation, rather than on the students' learning.
Lectures should be aimed at being as student-centred as possible.
6. The lecture may be large and the students may find it an impersonal and alienating situation.
Try to make the lecture as personal as possible
7. Students may be afraid of asking questions in front of a large group of students, and important misunderstandings or uncertainties may remain unaddressed.
Have strategies to encourage students to ask questions, particularly in large lecture groups; ensure that students are given an opportunity to speak out in the first few minutes of the lecture so that they do not sink into a passive state.

8. In a large lecture some of the students may behave poorly by talking, using mobile phones etc.
Address behavioural issues in lectures, and recognise that the problems may arise because the students do not understand the purpose of the lecture.
9. Latecomers can be very disruptive.
Have a consistent way of dealing with this issue.
10. Sometimes you are asked to present a lecture at short notice, by using another academic colleague's notes and slides. This is always very difficult and generally the lecturer comes across as lacking in confidence and feels under-prepared.
Always prepare your own notes and materials, even if you find it helpful to build on a colleague's notes.
11. Lecturers may misuse audio-visual aids (AVA), or find that they are not working, and hence disrupt the students' learning.
Apply careful thought to the choice of, and use of, AVA; include a back up plan in case they are not functioning.
12. Lecturers may have poor presentation skills. Although these are only part of the lecturing process, it can be unhelpful if the students are unable to hear, or if the lecturer seems disengaged.
Practice presentation skills and gain feedback.

3: Build in activities to transform information into learning

It is important to bear in mind that teaching is an integrated process and not a series of piecemeal activities. A lecture is only part of the process and must be carefully aligned with other aspects of the module (e.g. seminars, practicals, assessment tasks etc.). It is important to ensure that the lecture has a purpose which you have clearly explained to the students, along with the links between the lectures and the other learning activities, and the learning outcomes of the module. Make sure that the lecture relates to the tasks which they will go away and undertake, perhaps in a subsequent tutorial/seminar session, through group work or by independent study. Rather than just providing information you can use the lecture to model your reasoning processes as an expert, or you could compare two contrasting views of a topic, or pose a series of questions which the students could follow up later.

You can relate the material to work they have undertaken before, in the same or different modules, and to assessment tasks which they are undertaking. The students need to understand that learning is more than absorbing information encapsulated in the handouts, but it is part of an active process, and that engaging in the process fully will improve their performance over all. It might be useful to discuss with the student what their concept of a lecture is, and to emphasise the way you have designed it to enable them to engage

with the material. Students need to be encouraged to process the material and hence transform it into learning. This processing might also be encouraged by activities which are built into the lectures which ask the students to think about the material, analyse aspects of it, disagree with certain concepts, discuss ideas in pairs and/or relate the input to other components of the module. This can be called a “sliced up lecture” consisting of balance of input from the lecturer with student-based activities; this should also be built on with follow up activities after the lecture.

4: Have a clear structure

- Lectures, as much as any other teaching session, should be planned. Use a session plan to help you, appendix 1.
- Be clear to yourself and the student about the relationship of the lecture to the rest of the module.
- Be aware of the students’ prior knowledge and understanding of the topic, and of the diversity in your students in terms of previous experience, disability, cultural diversity and learning styles. Take these into account when planning your session.
- There should be clear learning outcomes for the lecture, which are explained to the student, and activities should be planned to ensure that they can be achieved by the lecture and any associated follow up activity.
- There should be an evident sequence of events. As you move through the lecture and move to different ideas or activities explain clearly to the students what you are doing. In other words, “signpost” your lecture.
- As you proceed through a lecture make sure that you relate the topic to other topics which have been addressed on the module, perhaps to seminar/practical work etc., and where possible to other modules that the students have studied. It is good practice to start a lecture by engaging students in summarising what they had learnt in the previous session(s) so that the students have a sense of continuity and do not see the lecture as a “stand alone” activity.
- At the end of the lecture make sure that you end with a summary of what has been covered. Indeed, research has shown (Biggs, 2003) that far more learning will be achieved from lectures if you ask students to generate the summary themselves. They could do this by quiet reflection, or in pairs. You could then ask for contributions, or, if the class is very large and this is difficult, you could give your own summary and ask students to look for areas of difference between theirs and yours. You could then suggest that any areas of difference might be points of guidance for further independent study. Ask students to consult you on possible leads, readings and follow up points on areas of particular interest to them.

5: Building changes of activity into lectures

It is well understood (Biggs, 2003) that students lose concentration after 15-20 minutes of listening and taking notes, and hence their capacity to learn diminishes rapidly. In order to increase their concentration it is essential to introduce a change of activity. This is possible even in large classes and the following suggestions are made:

- Get students to discuss issues in pairs for a specified number of minutes. In large groups have a signal which indicates that you wish the students' attention to revert to you (e.g. a particular noise).
- Give the students a question with a number of alternative answers. Ask them singly or in pairs to select the right answer. You can then get them to volunteer their explanations. If you are in a very large class where you feel this is not possible you could ask for a show of hands on each answer, i.e. a "straw poll".
- Give the students a mini case study, or practical problem to try to solve on their own, or in pairs. Then talk through your solution, asking them to note as you go through how different their answer is to yours, and why.
- Ask students to think of examples of a particular point, and to contribute these orally, or they could write them on an overhead and pass them to the front of the class for display. You can take a selection of answers; you don't need to address every student, but try to make sure that it isn't always the same student's contributions.
- Stop and ask the students questions, and seek answers. Don't be "frightened" by the silence into answering them yourself too quickly, give the students some time. Or ask the students if they have any questions, (but see the section below on handling questions). Use "check questions" which assess the students' understanding, and the alignment between their ideas and yours (whilst still allowing for their creativity and any positive divergence of views). These questions can take different forms for example "either/or" questions, or negative questioning, where you give the wrong answer to a particular problem and ask the student to determine if it is right or wrong, and why they consider this to be the case.
- Build in a quiz for students to take. This is especially useful at the beginning or at the end of a lecture.
- Simply give the students a quiet break to do nothing but reflect on what you have been saying. This can be very refreshing, both for students and lecturer.
- Get the students to write a brief review of their learning/understanding, in stages and/or at the end.

When giving students a change of activity of this nature always explain exactly what you want the students to do, tell them how long they have, and be clear on how you will indicate the end point of any discussion time. Gibbs (1992) and Bligh (2000) have some very good suggestions on such changes of activity.

6: Making lectures more student-centred

Many of the changes of activity noted above will help make lectures more student-centred. The following points are also very important:

- A lecture will be more student-centred if you start from the point of the students' knowledge. It is worth taking time at the start of the module/lecture to find out what students do understand about the topic, perhaps by some questions and answers, or a quiz.
- It is helpful to use examples which are familiar to the students, and even better to ask them to contribute their own examples.
- Try to build on the students' current ideas by using their examples, thoughts and suggestions to develop the principles and theories you wish to bring out in the lecture, rather than always starting with the theoretical framework.
- You can ask students to reflect on what they are learning, and make notes on this, as you go through the lecture, or at the end. This will help them to transform the material into learning.

These strategies will help the students to make sense of your views, thoughts and ideas, by embedding them within their understanding. This is vital for ensuring that deep rather than surface knowledge emerges.

7: Making lectures more personal

This can be more difficult with large numbers of students; however there are some points which will help:

- Maintain eye contact with students and address them directly as "you".
- Be sure you address students in all parts of the room, not just those in the front and middle of the room. Roaming your eye contact around the class is helpful in making all students feel part of the lecture and indeed may solve some disciplinary problems.
- To help you engage with students in all parts of the room, divide it into quarters (or similar) and give each "division" a team colour (this could be done with coloured "post-it" notes). You can then ask for questions and/or answers from the "red team" or the "blue team". Other colours can then be asked to help out e.g. if the red team get "stuck". You could set up the team to compete in a "quiz". This approach ensures that students at the back of the room know from the beginning of the session that they will be involved, and it ensures that you will spread your attention over the whole group.
- Move about at times so that you are closer to students at the back of the room. This may help in solving some of the disciplinary problems, as student will feel involved more of the time.
- Learn some students' names and use these when talking to them, however don't just use the same names week after week.

- If you have a mixed group, identify where the students come from. For instance, at the start of the session ask for a show of hands e.g. “Who are the physiotherapists? Who are the homeopaths?” Then direct questions to, or seek comments from, these groups e.g. “Can I have a view from the homeopaths?” This will help a mixed group of students all feel engaged.
- When a student asks a question, repeat it so that everyone can hear and then answer the question to the class as a whole. Avoid alienating most of the class by having a one-to-one conversation with a particular student!
- Smile at students and thank them for their contributions, questions and attention.
- Arrive early and talk to those student who are also present early.

8. Encouraging students to ask and answer questions in large groups

Students are often shy of contributing or asking questions in large groups. They fear that their contributions will be wrong, or trivial, and that they might get a rebuff. There are some solutions to this:

- If you want the lecture to be interactive always start early, in the first few minutes of the class so that the students do not go into a passive mode. It is much harder to get students to participate, if you talk for twenty minutes before opening it up to them.
- Always start your questioning with simple questions that students will find reassuringly easy to speak out on. Once their confidence has been built up you can move on to more complex issues.
- Always thank a student and give a positive response to a contribution or question.
- If a student has the answer wrong, never ridicule or dismiss them but lead them to a more appropriate answer by careful questioning.
- Get students to formulate their questions or answers in pairs or threes. They will then feel more confident in sharing their ideas with the larger group.
- Ask students to formulate questions and then hand them in at the end of the class (or at a coffee break). You can then address these at the start of the next session and this also provides you with feedback on any areas of misunderstanding or uncertainty.

9. Dealing with latecomers and disruptive behaviour

You must address these issues. By ignoring them you can reinforce that bad behaviour, as students will think it does not matter, and such behaviour is always disruptive of a class.

- You should always be aware of any School/Department policy on latecomers and apply this. If such a policy doesn't exist, make your views on this clear to students and explain how you will treat latecomers. They could be denied access to the room after a certain time, they could be asked to apologise and explain their lateness, they could miss out on materials or input provided at the start (you must be clear that in this case it is their responsibility to get the material from their colleagues, not from you).
- Do not fall into the trap of offering each latecomer a summary of what has been covered so far. This wastes time and can become very irritating for the rest of the class. It is for the latecomer to find out what they missed.
- Always be early and start the class on time. If you are late and wait for latecomers they will arrive even later. You should be a good model for them.
- Other disruptive behaviour (e.g. inappropriate talking, use of mobile phones and text messaging) should also be dealt with. Usually it is sufficient to ask students politely to stop what they are doing and to explain that this is disrupting the learning of the rest of the class. You will find that most of the class will welcome this approach.
- Students may be becoming restless because they have been sitting in a passive mode for too long, introduce a student-centred activity for a few minutes.
- If poor behaviour continues, take a coffee break (if practical) and speak to the students concerned individually and quietly. Alternatively talk to them at the end of the session. Ask them why they are behaving in this way and reinforce the need for them to develop a professional approach which is expected of university level students. Remind them that learning is a partnership and they have obligations to work towards this.
- If the problems continue, consult a more senior member of staff.
- It is helpful to pre-empt poor behaviour by laying down "ground rules" at the start of the module explaining what standard of behaviour you expect. You can ask the students to develop their view of what these "rules" should be, and then remind them of these during the course of the module.

10: Use of Audio Visual Aids (AVAs)

- Know what AVAs are available to you in the lecture room, and have a fall back in case the one you have chosen doesn't work.
- Remember some students are greatly helped if they can see material visually so diagrams and illustrations can be very useful. Try to use a range of visual materials, and make sure they are visible to, and readable by, the entire class.
- AVAs may be a way of providing some change in activity, e.g. a short video on which the students have to answer questions, look for certain points etc. Always have a purpose for watching a video.
- Keep it simple; only use AVAs because they help the student learn, not just because the equipment is there.

- Resist the temptation to put too many different types of AVA in one session, it can become distracting.
- Avoid the pitfall of reducing an interesting topic to a long series of short bullet points (a danger of PowerPoint!).
- Use handouts carefully, and with purpose. There are a number of useful ways they can be used. For example, a handout with gaps in it to be completed might stimulate student activity, a complex diagram (which has been appropriately discussed in the lecture) may be very helpful, key points and questions might stimulate further study. However, a synopsis of the lecture might make the student more passive during the lecture and reduce the amount of processing of the knowledge that they undertake.
- Flipcharts can be good for capturing students' ideas in a spontaneous manner in a small room, but are too small for use in a lecture theatre. The whiteboard or a visualiser can be used for this. These techniques have the added advantage that one can ask students to come forward and contribute.

11: Presentation Skills

Although we tend to concentrate on our presentation skills when lecturing they will not be effective unless the lecture had been carefully designed as indicated above. However, it is important that we have a level of competence in presentation skills. These include the following points.

- Start with smiling at the audience, and introduce yourself. Greet them with "Good Morning" etc.
- Start with stating the purpose and learning outcomes of the lecture.
- Speak so that you are audible, keep a steady pace, take some pauses, and introduce some variety of tone.
- Use language which is accessible to your audience, avoid jargon unless you are talking to specialists.
- Avoid reading directly from your notes or a text, unless it is a very short key section.
- If you are not sure that you are audible check with someone in the back row.
- Maintain eye contact with the audience. Ensure this spans the entire room, not just the middle and the front row.
- As you move from topic to topic during the lecture introduce the change of ideas.
- When you introduce an activity make sure the instructions are clear to the students. It is often helpful to display these visually as well as explaining them orally.
- Ensure that there is time for summarising the main points at the end.

12: Conclusion

In conclusion, the key to successful lectures is to look at them as a learning experience for the students, rather than as a presentational opportunity for the lecturer. A clear purpose and structure will help you achieve a more student-centred approach, even if you are dealing with large lectures in a formal lecture theatre. I hope this guide will help you, please ask for any further input from the Educational Initiative Centre.

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With sincere thanks to colleagues in the Educational Initiative Centre for their input.

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13: Useful references:

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EIC Guides:

- How to use handouts effectively.
- Dealing with Difficult Situations in your Teaching.
- Starting Your Module: Getting the first session right.
- What is Student Centred Learning?

Appendix 1

Sample Plan for Teaching/Learning Session

Module (long term) learning outcomes:

Session (short term) learning outcomes:

Student group (How is the group made up, what is their prior experience relating to this learning, are there any particular factors you should take into account?)

Delivery methods (How will the learning outcomes be delivered in the session?):

- Lecturer activities:

- Student activities:

Resources (What resources will help the students' learning eg. handouts, AVA etc.):

Guideline timetable of events:

Possible ways of assessing learning (What will help you identify that the students are learning during the course of the session? how does the session relate to the module assessment strategy?):

Reflections/evaluation/suggestions for future development: