How tutors can spoil small group work

The things which go wrong do not always stem from students. The following short list shows that our own actions can lead to small group work being unproductive.

- **Tutors sometimes carry on teaching, rather than keeping students working actively.**
  It's all too easy just to keep the small group session going by expanding on what may have been covered in lectures, particularly if the students don't engage actively, or ask questions.

- **Tutors sometimes make students feel uncomfortable.**
  For example, when students turn up but have not done the expected preparation for a small group session, it is natural enough to exhort them to greater efforts in future. However, if they respond badly to such pressure, they become more likely simply to skip a future session if they haven't prepared for it.

- **Tutors sometimes allow domineers, and fail to bring in shy violets.**
  We need to find ways of equalising contributions in small groups, such as using post-its to get everyone to contribute ideas before opening up for discussion. In demonstrations, this may mean that we spend equal time with each member of the group.

- **Tutors sometimes fail to make it clear what each small group session is intended to achieve.**
  It is useful to adopt the practice used for lectures by specifying some precise intended learning outcomes for small group sessions.

- **Some topics may be better covered in large groups**
  For example, exam standards and assessment procedures must be handled in a way that ensures some students don't feel disadvantaged.

> "I always looked forward to the intellectual cut and thrust of leading tutorials – challenging the students to make the links and see the wider implications."
> postgraduate student comment

Five ways to help students to learn well in small group contexts

1. **Help students to love the learning process.** Our best chance to achieve this is through our own enthusiasm for the subject – and making it obvious that we have students' best interests at heart and want them to succeed. If tutors seem bored with a subject, it is hardly surprising that students will not be excited by it.
2. **Help students to take ownership of their need to learn.** We can do this by reminding students of the advantages of learning success, and helping them to see exactly what they need to succeed. This boils down to making it very clear what sort of evidence of achievement they need to be working towards. It can help to remind students that this is going to be perfectly manageable for them, and that even the most complex outcomes are achieved one small step at a time.
3. **Make sure students understand that learning happens by doing.** Help them to see that very little happens just sitting looking at some notes or handout materials, but that learning starts when they try to do something with the materials. Learning happens one step at a time, and even the most difficult tasks can be broken down into small steps. When learning from books, handouts, or on-screen, a useful maxim is "not much learning will happen unless you've got a pen in your hand and are using it". In other words, tutors can help students not to 'drift', but to make notes, jot down questions, practice answering questions, and so on, while working with learning resource materials.
4. **Make sure that students get quick and useful feedback.** To be effective, feedback needs to be timely and encouraging. Instead of describing work as "excellent", or "weak", try to identify exactly what was good or bad so students know what to avoid or replicate next time. Help them to assess their own achievements, and to reflect on things they have done successfully, and to think quite deliberately about what worked in their learning, and why it worked. We can help students to learn from their mistakes. Let them see that getting things wrong at first is a very productive step along the way of getting them right, so they gradually become able to look at learning by trial-and-error as a valid and productive process.
5. **Help students to make sense of things.** Point out the benefits of collaborative learning. Help students to find out how far they have got their own heads round something they have just learned by explaining it to some fellow-students who haven't yet seen the light, and talking them through it until they too have made sense of it. It can be important to prevent students worrying too much about 'not understanding' something – especially when difficult concepts or ideas are involved. Sometimes, the understanding will take its own time. Some things have to be lived with, and worked with for a while before understanding comes. It can be enormously comforting for students who are struggling for a tutor to say "don't worry that you don't yet understand this – just keep practising with it, and the understanding will come in its own time".

Various ways of forming sub-groups

Suppose you've got a larger group of students (twenty upwards) and you want to get them into groups of four or five. There are several approaches to doing this, and each has pros and cons.

- **Let them form their own sub-groups.**
  These are sometimes called 'friendship' groups because of the likelihood of friends already being close to each other, or they may be 'geographical' groups chosen on the basis of who is where in the room when the groups are forming. An advantage is that students who like each other, or know each other, may work well together. A disadvantage is that there will often end up being a 'reject group' based on those students who didn't get quickly into a friendship group, and such students may start the group work on a sadder note.

- **Alphabetical groups.**
  Class lists are one way of predetermining the composition of groups. In a way this forms random groups, but if the same technique is being used by several tutors the group composition may be boringly similar in different subjects.

- **Really random groups.**
  You could go round the larger group, calling out 'A, B, C, D, E...' and giving each student a letter, then ask all the 'As' to collect in this corner, all the 'Bs' over there, and so on.

- **Successively different groups.**
  One way of making this happen is to use sticky labels on which you've already written a three-digit code and onto which students can write their preferred names to use as name badges. The code could consist of:

  - A symbol (triangle, asterisk, square, or sticky coloured dots);
  - A letter (A, B, C, etc);
  - A number (1, 2, 3, etc).

  The first group membership could be all the people with the same symbol. Then the second group task could be groups by letter – the 'As' over here, the 'Bs' there, and so on. Finally the third group arrangement could be all the '1s' here, the '2s' over there, and so on. That way everyone will be in an entirely different group three times over, and students will interact successively with a wide range of the overall number in the whole room.

Deciding on sub-group size

In small group teaching, it can be useful to divide the students into even smaller groups, where the sub-group size depends upon what you intend your students to be doing. Some factors you may want to take into account are listed here.

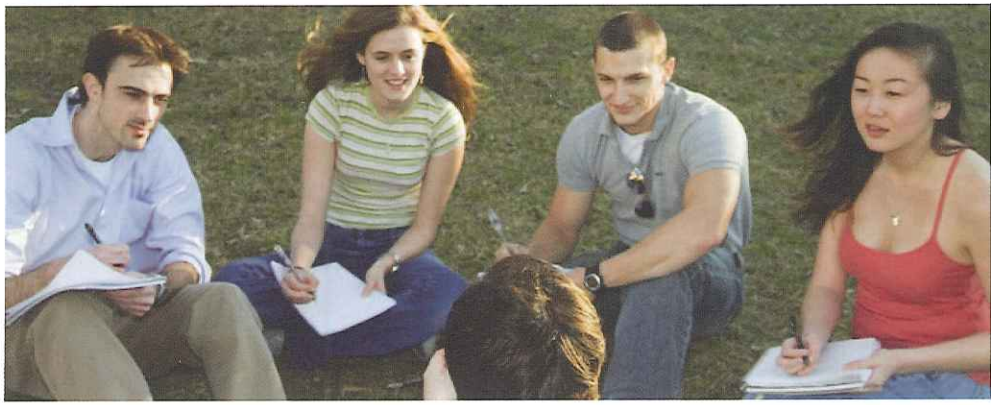
- **Pairs.**
  These aren't really groups, in a sense, but the advantages include the fact that it's not easy for one member to be completely inactive.

- **Threes.**
  This group size is small enough to avoid most of the risks of 'shy violets', and big enough to bring together more experience than a pair. A disadvantage is that trios can often end up in a two against one scenario.

- **Fours.**
  This group size is still small enough to ensure that everyone is encouraged to contribute. Many facilitators find four a preferred group size. Disadvantages can include a tendency for the group to split itself into two pairs, and the lack of a 'casting vote' if the pairs disagree on what to do next or how to approach a task.

- **Fives.**
  Here there is the 'casting vote' opportunity, but the group is getting large enough for the odd 'passenger' or 'bystander' to get away without contributing much.

- **Sixes and more.**
  The main danger becomes passenger behaviours and non-participation.

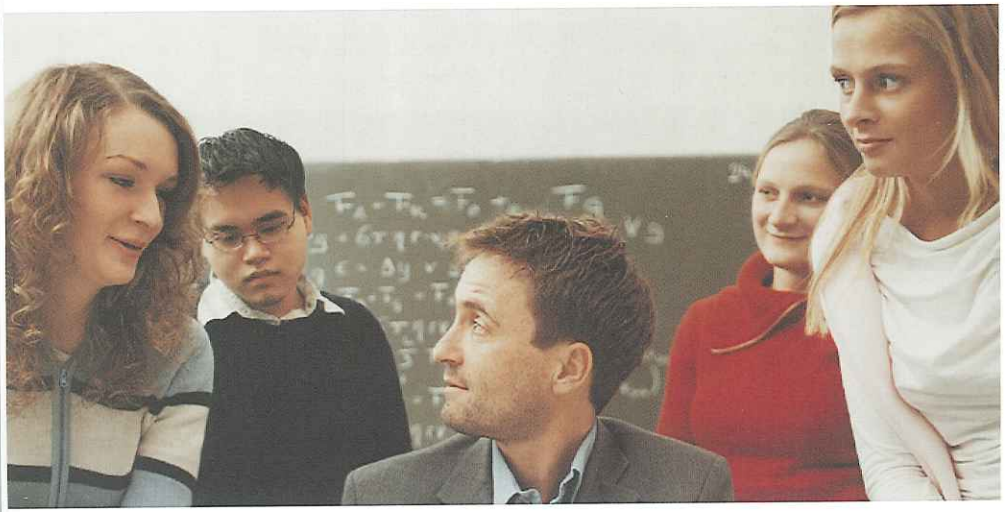


Ten ways to help your student get more from small group sessions

1. **Help your students to become ready for assessment.**
This is the sharp end of tutoring, not least because most students tend to take assessment seriously and personally, so that anything short of outstanding success can be construed as a demoralising failure. You can help your students to avoid this type of disappointment by encouraging them to accurately assess their own achievements. Students are more confident when they feel that the tutor or demonstrator is 'on their side' when it comes to assessment. It is really helpful for students to feel that everything possible is being done by their small group teachers to maximise their chances of succeeding at assessment.

   If tutors or demonstrators are involved in the assessment process, it is important that preparing for assessment should not degenerate into the 'guess what's in the tutor's mind' game. There should be no guesswork involved, and students should have a clear idea of what learning outcomes are going to be assessed. In particular, it helps if tutors or demonstrators help students to make sense of what they have learned, so that they feel they have 'digested' the information involved, and turned it into their own knowledge. Students need to have a sense of ownership of their achievement, well before the time when they are required to demonstrate evidence of their achievement of the learning outcomes.

2. **Negotiate agreements with your small group students.**
The main advantage of learning agreements is that they help students to take ownership of the need to learn.



> "The practical bit is the best bit of the course – when it all comes alive. I much prefer to do science than simply hear about it in lectures"
> undergraduate student comment

Because it is an agreement, they feel they have played a part in working out the timescales involved, deciding what to learn, how best to go about learning it, and at what level the learning needs to take place. The best way of making it feel like an agreement to students is to ensure they see that tutors have their own parts to play in bringing the agreement to fruition.

3. **Help students to make sense of their targets.**
Clarify exactly what is meant by the intended learning outcomes. The problem with learning outcomes is that they are often written in a foreign language to students – 'academese'. Phrases such as 'demonstrate your understanding of...' don't tell students exactly how they are expected to do it.

   They need to know what the evidence will look like when they have 'understood' something to the level required. They need to know what the standards are that will be applied to this evidence. They need to understand the contexts in which this evidence will be generated – whether it is exams, coursework, practical work, independent work and so on. Small group contexts are ideal for helping your students to find out exactly what the intended learning outcomes mean in practice.

4. **Help students to see the importance of becoming better at learning.**
Study skills are important, not just in the context of helping students work their way towards succeeding in their present studies, but for life in general. Students will continue to need to learn new things far beyond the years when they are involved in formal study, and the better they become able to take on new learning targets, and work systematically and purposefully towards achieving these targets, the better the quality of their future lives. Even when an element of learning has proved unsuccessful, there are usually useful study skills lessons to be gained from the experience. Study skills can not be directly 'taught' – they are, like just about everything else, learned through, practice, trial and error, and experience. Tutors can help by using small group learning contexts to help set up practice opportunities, responding to the trial and error, and helping students to learn productively from each others' experience.

5. Help students to manage their time.
Time management is an essential study skill and life skill. The most important single element of time management is 'getting started' on tasks. If something isn't started, it will never get finished. Tutors in small group contexts can help students to get their learning underway by pointing out that it's human nature to find 'work avoidance tactics' which delay getting started. Once identified, avoidance tactics can be counteracted.

A task that has only been started for five minutes is much more likely to become completed than a task which has not yet been started. Tutors can help by making sure that tasks get started during face-to-face contact time, even if only for those vital minutes which will allow students to go away and continue them in their own time and at their own speed.

6. Help students to balance their act.
An important addition to good time management is good task management. In other words, help students to prioritise their tasks. This involves making sure that the important tasks get done, and the less-important ones are not given too much time. Tutors can help students to work out what exactly are the most important tasks, and to place these at the top of the agenda. Tutors can also help by advising on sensible limits for the important tasks, so that they don't swallow up all of students' available time and energy, leaving other tasks unattempted. It can be better to do one hour on each of three tasks than to spend three hours on one task, especially if all three tasks contribute to the assessment agenda.

> "...many things became clear to me as a result of good demonstrators"
> undergraduate student comment

SCENARIO

"In my first year of tutoring I worked on the Business and Law segment. Due to the compulsory nature of the segment, the lecture component had large numbers of students, making active student participation and interaction difficult. The purpose of my tutorials was to allow small groups of students to discuss and engage with the material they had already learned about in lectures.

To my surprise, despite the scope for engagement, most students did not participate in the discussion. They attempted to write down everything I said in order to 'capture' the tutorial. Consequently, the tutorials were didactic rather than shared learning experiences. How could I encourage the students to engage? How could I provide flexibility for unplanned issues, topics and questions? It was a challenge."

WHAT WOULD YOU HAVE DONE?

7. Help students to identify questions, and seek the answers to these questions.
"If I knew what the exam questions were going to be, I could easily prepare for the exam", many students say. But they can know what the questions are going to be. A useful way of helping students to think in terms of questions rather than information is to say "Any important piece of information can simply be regarded as the answer to a question".

Once they know what a question is, they can find out the answer in any of the following ways:.

- look it up in a book or handout;
- look it up on the internet;
- ask other students and see if they know the answer;
- ask other people altogether;
- ask an expert witness – for example you.

Encourage students to make question banks of their own. In other words, get them to jot down all the questions which they might some day need to be able to answer, to demonstrate their learning. Start with the intended learning outcomes, and turn these into long lists of very short, sharp questions. Students will get the message that if they can answer lots of straightforward questions, they can in fact answer much more complex questions, as these just amount to a collection of the shorter ones in practice.

It can be particularly useful to get students to make question banks in small groups, so that the range of questions is better, and to help them to learn from each other's questions. Tutors can give valuable responses regarding which questions are the really important ones, to help steer students to the main agendas of their learning.

8. Help students to become better readers.

Not every student comes from a household where the walls are lined with bookshelves. Not every student devours books. For many students, reading is not a particularly pleasurable activity, unless they are reading something about which they are already passionate.

Tutors can help students to realise that they don't have to devour books. All that may be needed is to use books successfully to find information. In other words, information retrieval (whether from books or websites) does not necessarily mean reading everything in sight, but homing in on what's important. Students should read with questions in mind. If students read a page of text pre-armed with five questions, they are much more likely to get what is intended out of the page than if they just read it passively.

Help students to make good use of headings, sub-headings, contents pages, and the indices of books and articles. Help them to read in 'search and retrieve' mode, so they are looking for particular things, and noting them down as they find them, rather than simply reading page after page vainly hoping that some of the information there will 'stick'.

9. Help students to become successful communicators.

In addition to acquiring discipline-specific knowledge and skill-sets, it can help students in small group teaching sessions to develop effective communication skills if they are encouraged to:

- give short presentations;
- work in pairs/threes and report back to the whole group;
- participate in role-play;
- engage in semi-formal debates;
- summarise group discussions.

SCENARIO

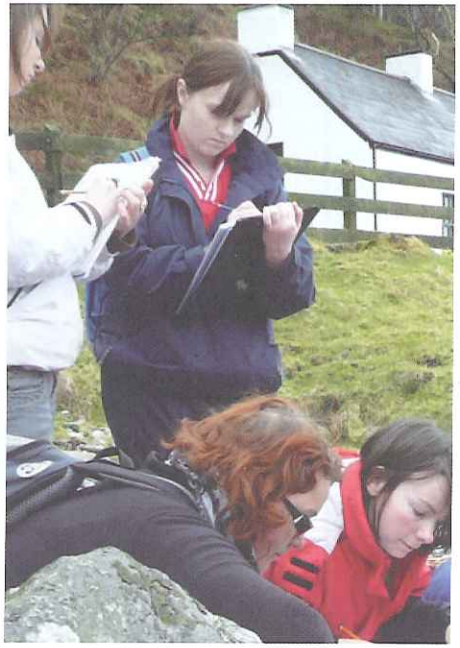
"Last year I was asked to lead a group of 8 undergraduate students for 3 days of fieldwork, and I was told in advance that one of the students in my group was hard of hearing. Many of the fieldwork locations were along the seashore, where depending on weather conditions, the noise of wind and the waves could drown out my voice. One locality was a working quarry, where the student with the hearing disability could not hear any noise of approaching machinery. She was a very able student and I worked well with her, but teaching her was a completely different and more challenging experience than I had expected."

WHAT WOULD YOU HAVE DONE?

10. Help students get their revision act together.

Most students regard revision for tests or exams as a bore. This is all too often because they have previously tackled the job in boring ways. They have tried to 'learn' their subject materials in non-productive ways, and become disillusioned.

A good start is for tutors to reinforce that revision is simply about systematically becoming better able to answer questions – that's what exams and tests actually measure. As with anything else, the best way to become better at something is to do it – and do it again – until it becomes second nature. Students who have practised answering a question seven times in a fortnight are very likely indeed to get it right the eighth time – in the test.



Another way tutors can help students with revision is by alerting them to what areas not to revise. There's no point spending a lot of time and energy on learning something that won't or can't be the basis of a sensible exam or test question.

Similarly, anything that isn't directly related to an intended learning outcome is not on the revision agenda. If it were important it would have been included among those intended outcomes.

Tutors can remind students that what is measured by tests and exams isn't what's in their heads – they usually have to write it down. In other words, it's their evidence of achievement of the intended learning outcomes that is the basis for assessment. The best revision processes involve purposeful practice at evidencing that achievement.

"understanding comes when I'm shown things in nature that I've read about in books – when I examine the evidence for myself and discuss it with demonstrators."

undergraduate student comment

Problems in small group teaching: "What can I do when...?"

... STUDENTS DON'T TURN UP?

In practice, there's little mileage in trying to 'force' students to turn up to any element in their programmes, and when students don't regard small group teaching as particularly important, the problem of absenteeism increases. However, a combination of one or more of the following tactics can improve things sometimes....

- **Make sure it's worth turning up.**
  When the students who are present come away with something they would not have wanted to miss (be it handouts, the dawning of the light of understanding, tasks they found valuable doing, and so on). The word can get around and attendance can improve.
- **Ask some regular absentees "what's wrong?"**
  Sometimes there could be a timetable clash you didn't know about, or travel difficulties relating to a particular time slot. Sometimes, of course, the answer can be 'I didn't find the sessions helpful' and we may need to probe gently into 'why not exactly?' and remain ready to listen to the responses.

- **Keep the assessment agenda on the table.**
  When students can see that each small group session can help them become ready for future exam questions, or help them with coursework assignments, they are more likely to attend.
- **Consider including at least some coursework mark for 'participation'.**
  Don't just include it for attendance however, or the odd student may come along but not join in!

...THE PRACTICAL EXERCISE GOES WRONG?

Mistakes are the catalysts by which we learn, so if a demonstration or experiment fails or goes wrong in some way, turn the potential disaster into a positive experience. Mishaps happen to everyone so...

- **Familiarise yourself with the Health and Safety Code.**
  A little preparation goes a long way towards preventing a mishap turning into a catastrophe.
- **Don't panic.**
  If an accident occurs, deal with it immediately by calling for assistance and/or evacuating the laboratory. All accidents should be recorded so that they can be investigated.
- **Check if this is an isolated incident.**
  Have other groups or individuals in the class encountered a similar problem? Let the course organiser know if there has been a problem with the whole class as there may be a design problem beyond your control to rectify.

- **Explore why things have gone wrong.**
  Get the students involved in analysing what has gone wrong and why. Were the instructions complete? Have all the instructions been followed?
- **Check if the equipment has broken down.**
  If it has, you should call in a technician and not attempt to mend it yourself. The students affected can join with another group, if appropriate.

... STUDENTS REFUSE TO DO A TASK?

This is an awkward one. If all the students won't start your task, it's worse. The following tactics can help...

- **Make sure the task briefing is really clear.**
  Explain again exactly what you want them to do. It can be useful to say 'what it really means is...' and then put it into straightforward language.
- **Show the task on a slide or overhead, or give it out as a handout.**
  Sometimes, students can get the gist of a task better if they can see it and hear it at the same time.
- **Try to find the block.**
  For example, ask students "Which part of the task are you having problems with?" and see if clarifying that part helps them to get started.
- **Break the task into smaller bits.**
  Ask students to just do the first bit now, and then explain the later stages one by one when they're properly under way.
- **Ask them to work in pairs to start with.**
  You can then go round any pairs which still seem reluctant to start the task, and find out more about what could be stopping them.

- **Set a precise deadline for the first part of the task.**
  Sometimes this is enough to get them started.
- **Resist the temptation to keep talking.**
  Give them some time when there's really nothing more going on, and it's clear that you expect them to get stuck into the task. A few seconds of solemn silence may seem interminable to you, but the resistance to getting started with the task may be fading away.

... STUDENTS DON'T GET ON?

This is more likely to happen in small groups than large groups. The following tactics can help:

- **Re-arrange group membership now and then.**
  This can be done randomly, but checking that particular pairs of students who didn't seem to be getting on are then moved apart into different groups.

- **Give them all a task to start on their own.**
  Sometimes if all of the students have already invested some energy in thinking through the topic before the actual group work begins, differences between students are pushed further into the background.
- **Make the first part an individual written task.**
  For example, give out post-its, and ask everyone to jot down a single idea relevant to the task. Then when everyone is armed with at least one idea, the chances of students not getting on with each other can be reduced.
- **Get closer to the people who don't seem to be getting on.**
  Sometimes, your proximity will cause them to bury any differences – for the moment at least. You may also then get the chance to work out what exactly has been causing the confrontation between the students concerned.
- **Watch out for the occasional 'difficult student'.**
  When the same person doesn't get on in group work contexts with different individuals, it can be worth having a quiet word. Occasionally, you'll find the odd student who really doesn't function well in group contexts.

... WHEN STUDENTS WON'T PARTICIPATE?
Students are more likely to contribute if they feel comfortable with others in the group. It also helps if they have a clear idea about what is expected of them and of what material they should cover for each session.

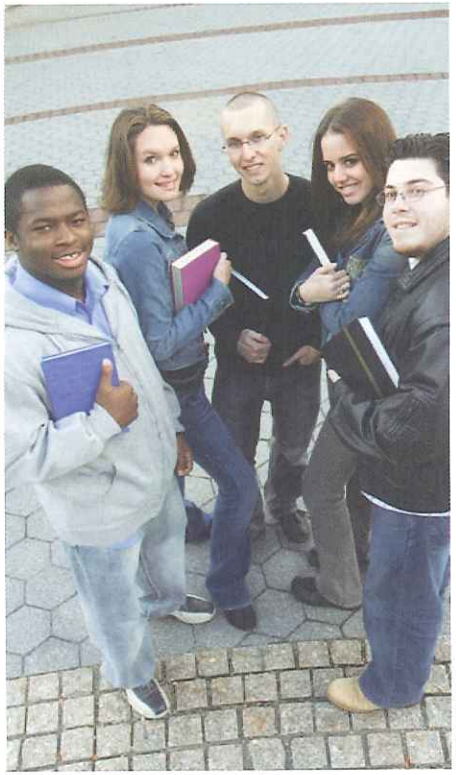
- **Tell students at the outset that non-participation is not an option.**
  If students know that they will have to contribute, they can prepare accordingly.
- **Encourage your students to get to know each other.**
  Introduce some ice-breaking exercises in the first session and follow these up in subsequent sessions by having students work in sub-groups of pairs or threes.
- **Re-arrange group membership regularly.**
  This means that quiet and chatty students move around and don't become too used to working with the same people.

"What's puzzling is that sometimes it seems to go well, and other times it falls flat, and I can't really tell why..."
postgraduate student comment

- **Provide guidelines on material to be prepared.**
  Let students know what material they should have prepared for class. It can also help to distribute a preparation sheet that identifies the main issues that will be covered in class.
- **Ask open questions and allow students time to answer them.**
  Avoid questions that require a response of either 'yes' or 'no', or that can be answered incorrectly. Don't be afraid of silence. Give the students time to respond and resist the urge to answer your own questions.
- **Get the group to participate in a whip.**
  Everyone in the group must provide a response to a stimulus question.
- **Encourage students to give short presentations.**
  Teaching other people is one of the most effective ways of learning.

...A STUDENT DOMINATES THE GROUP?
This is a frequent occurrence. Sometimes the causes are innocent enough – enthusiasm, knowing a lot about the topic, and so on. One or more of the following tactics may help you to balance things out:

- **Set appropriate ground rules at the start of small group work.**
  It can be useful to say a little about leadership and followership – making the point that in many small group situations in real life, too many leaders can mitigate against success, and that everyone needs to be able to follow for at least some of the time.
- **Re-arrange group membership regularly.**
  This means that the domineering student moves on, and doesn't dominate other students for too long.



- **Intervene gently.**
  For example after the domineering student comes to a pause, ask "would someone else now like to add to this please?".

- **Have a quiet word.**
  Do this with the domineering student outside the group context, for example giving suggestions about 'air time' and allowing everyone's views to be heard.

- **Change the dynamic.**
  Appoint the domineering student as chairperson for a particular activity, with the brief not to make any input on that task, but to coordinate everyone else's thinking.

- **Don't fight it too hard.**
  Recognise that domineering is a common human trait, and that domineering people often reach distinguished positions in the world around us, and may be developing relevant skills in small group contexts.

...I DON'T KNOW THE ANSWER?
A common nightmare. You'll feel less concerned about this as you gain experience – but the following tactics can take away some of the worries you may have about this.

- **Give yourself time to think.**
  Repeat the question to everyone, as other students may not have heard the question. Sometimes this extra time is enough to give you a chance to think of how you may respond.

- **Don't try to make an answer up.**
  If it turns out to be wrong, or if you get stuck in the process, you will soon have the full attention of all of the students... not what you really want at this stage.

- **Say "this is a really good question. How many of you can respond to this?"**
  Look for volunteers. Quite often, there will be someone there who is willing to answer it.

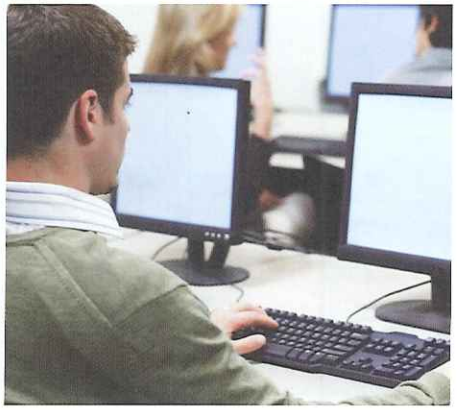
- **Break it down into smaller bits.**
  Then start by responding to one of the bits where you do have something to say. If it's a question that your students don't actually need to know an answer to, say so. "Interesting, but not actually needed for your course" and so on.

- **Admit that at this point of time you don't have an answer to the question, but you will find one by the time of the next session.**
  Invite the student who asked the question to jot it down on a post-it, with their email address, so that you know exactly what the question was, and can respond directly as soon as you've located an answer. But don't forget to share the answer with the whole group at the next session too.

... WHEN TECHNOLOGY LETS ME DOWN?
For example, your PowerPoint slides may disappear, or freeze. Don't struggle for ages (with the undivided attention of the whole group) with a mouse, a remote control, a keyboard, or any other piece of technology. Alternatives include:

- **Smile, rather than sweat!**
  Even if inside you're quite tense about it, it's best to give the impression of being cool about it.

- **Give your students a discussion task to do.**
  This could be something to talk about in pairs, a decision to reach or a problem to solve. It's a good idea always to have such a task ready and waiting. Then when they're all busy and eyes are off you, you can try to rescue the technology.



- **Ask for help.**
  "Anyone know how to fix this please?" quite often brings a competent volunteer from the floor. Sometimes, you can ring up technical support, but it remains advisable to give the students something else to do until help materialises.

- **Recognise when the problem is terminal**
  For example when the bulb has failed in a ceiling-mounted data projector.

- **If it's towards the end of a session, wind up.**
  Remind your students of the intended learning outcomes, and promise to cover anything important that remains outstanding on a future occasion – or to put the relevant slides onto the web. Your students won't mind you stopping a few minutes early.

"In the computer lab, I find it hard to see the screens – so I just ask the students if they need help, then they usually explain what they are trying to do."
postgraduate student comment

Checklist: preparing your small group session

Question	Doesn't apply to me	Don't know	Yes	Planned action
Do I know how many small-group sessions I will be running with this class?				
Do I know whether I'll be taking all of the class in separate repeated sessions, or whether other colleagues will be running parallel small-group sessions alongside mine?				
Do I know whether the small-group sessions will be tutorials (in other words, led by me) or seminars (where I'll get students to prepare and lead elements), or a mixture of both?				
Do I know what activities have been planned for the demonstrations I will be facilitating?				
Do I know whether I will be running associated lectures with the students, or whether the lectures will be given by other colleagues?				
Have I worked out/been provided with the intended learning outcomes for these students in a language I can share with the students?				
Do I know where these small-group sessions fit in to the overall course or module my students are studying?				
Do I know whether I'll be using the same teaching room for all of these sessions with the students?				
Have I prepared/been provided with the task-briefings for work students will do before the sessions?				
Have I prepared/been provided with task-briefings for a range of possible tasks students could do during the sessions?				
Have I prepared handout materials, slides or overheads to accompany these sessions?				
Do I know whether any equipment I may need in these sessions is available in the rooms concerned?				

Review checklist: after running a small group session

Question	Very well	Quite well	Not well	Planned action
Did I introduce and explain the intended learning outcomes clearly to the students?				
Did the session work well in terms of these outcomes – did most of the students achieve the outcomes?				
Did the activities planned for the students work out well in practice?				
Did I manage to involve all of the students actively during the session?				
For seminar-type sessions, did I manage to let students play a full part in delivering their own contributions?				
Did I succeed in getting the students to work together in different combinations, so that they made the most of collaborative working?				
Did I manage not to intervene too readily if the session "got stuck" temporarily?				
How well was I able to use the small-group session to address questions and problems raised by individual students?				
Did I bring the session to a rounded and punctual close?				

What was the best thing about this particular small group session?
What was the least satisfactory thing about this particular small group session?
What is the single most important thing I will do differently next time I run a similar session?

LARGE GROUP TEACHING

For many full-time staff in higher education, lectures are the central part of their teaching. It can be very useful to start lecturing while you are still a postgraduate. Even if you are new to higher education teaching, you have probably done something similar before. For example, you may have given presentations at conferences, which in many respects could be thought of as a similar experience. Actually, giving conference presentations is rather more scary, as the audience is likely to know a lot more about the subject than is typical of students at a lecture.

However, many people find the prospect of giving their first lectures quite daunting. The thought of an hour under the spotlight seems like a long time! In practice, even though most institutions timetable lectures for one-hour slots, it's rarely an hour in practice, as it can take a few minutes to get everyone settled into the room, and it is necessary to have the venue ready for the next class to commence on time.

Where am I now? (insert date) _____

Question	Doesn't apply to me	Not yet	Yes	Date needed	Planned action
Lectures					
Have you got lectures to prepare?					
Do you know roughly how many lectures, and with how many students?					
Will you have one or more series of lectures with the same group of students?					
Have you got the intended learning outcomes for these lectures?					
Have you given lectures before on this topic?					
Have you got handout material on this topic?					
Are you already able to make PowerPoint slides yourself?					
Will you be involved in setting exam questions in connection with your lectures?					
Your own top three further questions, or other specific concerns at this point in time?					
1.					
2.					
3.					

Note-making not note-taking

Left to themselves, your students will often simply try to capture the lecture by copying down things you say, and things you show them. This, however, is just note-taking. Comfortable as it is to have a roomful of people writing down what you say, not much real learning is likely to be occurring. Students can do such copying actions without actually thinking much at all about what they're writing down. It is better to help your students to make notes rather than just take notes.

For example, now and then during your lecture, give them a couple of minutes to make a summary of what you've been talking about. It can then be useful to ask them to compare their summaries with students sitting close to them, and add to their own any interesting or important points that they may have missed.

Don't just 'lecture'

A notional one-hour lecture doesn't boil down to sixty minutes worth of 'content', as the intended outcomes need to be introduced and then debriefed, and your class needs to settle in, and leave. So we're normally thinking about no more than 45 minutes for the delivery part of your lecture. But in practice, 45 minutes is too long for you to deliver and too long for your students to receive. Concentration spans are much shorter than 45 minutes.

It is better to break your lecture down into some shorter elements, for example no more than ten minutes at a time talking to your students, interspersed with getting them to do things. Examples might be making notes, asking you questions, answering questions you ask them, and so on.

Already the scary prospect of giving a one-hour lecture is more manageable – all you need to do is to arrange a few episodes of talking to your students, and intersperse it with episodes of them doing things (giving you the chance to catch your breath, regain your composure, and plan what exactly to do next).

Begin with learning outcomes

It is good practice to explain to your students what they should be getting out of the lecture. Often, the syllabus of a course or module will already be expressed in terms of such outcomes, and for a lecture you will normally need to focus on just a few of these. However, the learning outcomes as written into course documentation may not be very clear. For example, they may be expressed in vague terms such as 'students will deepen their understanding of...'.

To start a lecture well, it is much better to be able to say to the students: 'by the end of this lecture, you will be able to...' and then to list three or four things. There are all sorts of words and phrases that help to clarify what 'understand' may have meant including 'explain', 'discuss', 'argue that', 'compare and contrast', 'prove that', 'describe the origins of', and so on.

In practice, it can work better to present the intended learning outcomes for a particular lecture a few minutes into the event, so that all of your students have got there and settled in. If you spend the very first few minutes recapping what you have covered in previous lectures, latecomers have a chance to arrive, and the class is settled by the time the learning outcomes are displayed. If, of course, you're about to give the very first lecture in a series, you may need to do something different. You could gently quiz your students to find out how much they may already know of what you're about to start teaching them.

> "I'm not sure what to do when students are checking their text messages... I don't want to seem heavy-handed."
> postgraduate student comment

It's useful to let students see the intended learning outcomes as well as hear them. For example, show them as a slide or overhead, but also talk the class through them, making the most of tone of voice, body language and eye contact. This will help your students to see what the intended outcomes actually mean in practice.

Don't just read the slide out to them. Students can read from a screen or a handout quite a lot faster than we can talk, and get quite bored (or even irritated) listening to things they can already see for themselves.

A slide listing the intended learning outcomes can take care of your last few minutes of your lecture if, near the scheduled end of the lecture, you return to that slide.

Hint: If you are using PowerPoint slides, make your very last slide one that repeats the intended learning outcomes. You can get instantly to that last slide simply by entering '99' (or any number greater or equal to that of the number of that last slide) at the keyboard and pressing' enter'.

Even if you haven't managed to get through all of the slides in your presentation, you can seamlessly go to that rounding-up slide. Now ask your students about how well they feel that they have achieved the outcomes. You might get them to show for each outcome in turn whether they feel they have 'completely achieved' or 'partly achieved' or 'not yet achieved' it by show of raised hands – two, one, and none respectively. This reminds the students of what they should now be able to do, but also lets you know how well your lecture worked.

Making the most of handouts

Students like handouts. Sometimes handout materials are issued directly in lectures, or before lectures, in print, or electronically. Alternatively, handouts are issued at the end of lectures, or placed on an intranet after the lecture.

The trouble with handouts is that your students can switch off mentally during your lectures if they feel that all of the information is in their handouts. Sometimes when students coming out of lectures are asked "tell me what the lecture was about?" they admit "Sorry, I don't know yet – I've got the handout, but I haven't read it properly yet".

If they have the paper versions with them at the lecture, it can be quite tedious for them if you simply talk through what they can already see in front of them. It is much better to make sure that what they take away from the lecture is quite a lot more than just the information in their handouts. For example, get your students to make important extra notes expanding on important elements in the handouts, or deepening their thinking about the key issues you're introducing in your lecture.

What works best is to make handout materials interactive so that students do things with the handout during the lecture, and come out with something to which they have added value through their own ideas and thoughts.

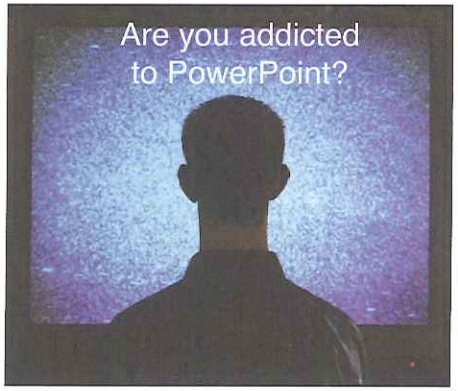
One worry many lecturers share is 'getting through all of the material' in a lecture or in a module. Handout materials afford the luxury of the option to focus on just some of the content, and to explain to your students that 'other parts we are not going to talk about today are included in your handout – don't forget that you need these parts as well when you prepare for your exam' and so on.

Designing slides for lectures

Most lecturers use slides or overheads. In some subjects, the slides can be quite sophisticated, containing diagrams, photos, charts, graphs, drawings, and other sorts of visual information. In other subjects, slides tend to be mostly print on the screen, bullet points giving the main sub-topics that are going to be discussed, or questions which are going to be addressed in the lecture.

However, it can get quite boring for students if all the slides are just print, and most lecturers now deliberately put in visual stimulus on at least some of their slides. Don't overdo it – decorative graphics can actually impede learning. Students perform worse on recall and recognition tasks and have greater dislike for slides with pictures that are not relevant.

Slides allow students to see things on the screen at the same time as they hear about them from you, and this provides a better chance to make sense there and then of the topic in hand. Usually, you can see your slides on a computer screen in front of you,



without turning round to the main screen onto which the image is projected, which means you can talk about your slides without turning your back on your audience.

Slides are also a useful comfort blanket for us as lecturers. A well-produced set of slides gives an immediate impression of a professional and credible lecture, even for novice lecturers. Slides can also be a way of making our lectures much more flexible, and allowing a dynamic response to what actually happens in the session. For example, it can be useful to have prepared (say) 15 slides,

Hint: It can be useful to have handouts with blank boxes for students to write into during lectures. In other words, have spaces for them to do tasks at a few points in your lecture. Rather than actually print the task briefings on the handout materials, it works better simply to put 'Task 1', 'Task 2' and so on in the empty boxes. This helps to stop students getting ahead of where you want them to be, but more usefully it gives you the chance to adjust the actual tasks depending on how the class seems to be getting on with the subject, and depending on the amount of time you find you have available.

It is useful to have slides or overheads ready for a few alternative tasks, so that you can decide exactly what you want the class to do at each particular time. Also, if your students happen to ask an important question, you can sometimes turn it into a task for all of them to try for a couple of minutes, before you answer the question. (This can give you the luxury of a couple of minutes to get your own answer ready).

Hint: If using PowerPoint slides, prepare paper copies of all of your slides, say two per page, and lay these out in front of you if possible at the start of your lecture. Write clearly the numbers of the slides on your paper copies. When giving your presentation, you can go to any slide at any time, and in any order, simply by keying in '5' then 'enter' to go to slide 5, '23' for slide 23, and so on.

This is particularly useful when students ask a question and you may want to go back to an earlier slide, or for when time is running out and you want to skip ahead to a later slide. It gives you full control of which slides you show when, without having to clumsily run backwards or forwards though slides you're not actually going to use on that occasion. Remember, however to tick off on your paper copy which slides you did in fact use (or not use) so that later you still have a record of exactly what you covered in that particular lecture.

but only to intend to use 10 of them at the session, with the others being there in case there is time to go into more depth about particular aspects, or to have a ready answer available for anticipated questions from our students.

"At first it was difficult to get students to ask questions... but as they got to know me it became easier."
postgraduate student comment

Ten tips for good slides

1. **Don't put too much on any slide.** A few questions, headlines or bullet points are better than solid paragraphs. Detailed information is best left to handout materials.
2. **Use large fonts,** to ensure that everything can be read from the back of the room. Check this out – or get a colleague to run quickly through your slides with you sitting at the back yourself.
3. **Check which colours work well.** Some text colours (notably orange and red) don't come across clearly at the back of the room. The software allows you to have dark text against light backgrounds and vice-versa. However, light text against dark backgrounds works rather badly if you can't dim the lighting in the lecture room (for example if there are windows without good blinds).
4. **Try to fill only the top half or two-thirds of any slide.** Students may have to peer around each other's heads to see anything right at the bottom of a slide – you can tell when they move their heads as you reveal a 'last bullet point' on a slide!
5. **Use pictures, cartoons, and graphs,** when they help to bring your subject to life.
6. **Don't include detailed graphs, tables or flowcharts,** if the detail would not be clearly visible at the back of the room. Such detail is better in handout materials than on-screen in the lecture room.
7. **Don't include 'slide numbers'** on slides (the software allows automatic numbering if that's what you wanted). Not including slide numbers gives you the freedom to pick-and-mix your slides, without your students realising that you're skipping some of them!
8. **Use 'surprise slides'.** Surprise your students with unexpected quotations, or even 'fun' slides. If you're going to do this, or pick-and-mix from your slides as in the hint above, only issue handouts for the slides you did actually use after the lecture, bearing in mind students with special education needs such as those with dyslexia.
9. **Don't cause 'death by bullet point'.** It gets tedious for students if successive bullet points always come one at a time in exactly the same predictable way.
10. **Learn from other people's use of slides.** Whenever possible sit in on colleagues' lectures, and conference presentations and see what works well for others – and what doesn't.

Hint: remember to switch the slides right off – and know how to get them back easily. There are few things worse than a slide staying up on screen too long after it has been used – for example when you've moved on to talk about something else, or are answering a question from your audience. It then just becomes a distraction for your students. An easy way of switching your slides off when using PowerPoint is to press 'B' on the keyboard – 'B' for black. When you want your slide back, all you need to do is press 'B' again – 'B' for back. This is far safer than risking switching off the data projector with its remote control – some machines take several minutes to warm up again if switched off.

Questions and answers

A good lecture should be a shared learning experience for all present. Any student who misses the lecture should have missed something much more than just the PowerPoint slides, or handouts.

Questions and answers work both ways. During your lecture, you've got the opportunity to help your students to think. Asking them questions helps them to make sense of the topic and lets you know how well they are doing this. It also alerts you to areas where they are not yet able to understand the subject material being addressed. Allowing, and indeed encouraging, students to ask you questions helps you to find out what your students still need from you on their journey towards achieving the intended learning outcomes.

Encouraging student questions

What not to do: don't simply ask "any questions?" now and then. Why not? Usually there's no response, especially if you ask towards the end of your lecture. Students are likely simply to take your question as a sign to start packing up their pens, handouts, and kit.

Also, when students do take advantage of your offer to respond to their questions, you tend to get questions from the relatively confident students, instead of those who most need to have their questions answered. On the whole, students are shy at asking questions in lectures, not least because of the fear that they may ask a 'silly' question and then feel embarrassed. Even when we assure them "better to feel silly for a moment than to remain ignorant for a lifetime", voicing a question in a lecture is a risky prospect for most students. That's why they tend to come up to you at the end and ask their questions individually – but with schedules to keep, and the next class coming in shortly, that's not an ideal alternative in practice.

Some suggestions for when students do ask you questions in lectures include:

Hint: a useful way of getting questions from a large group of students is to pass some post-its around. Ask all the students to jot down any questions they have, one per post-it, and either to pass them down to you, or to stick them on a wall or door on their way out of the lecture. You can then gauge which questions are the most prevalent ones, and answer them in your next lecture, and note also what the other questions tell you about how the overall learning is progressing in the group.

- Repeat the question to everyone – many may not have heard the question, and your answer won't make any sense if they don't know the question.
- Even if it is a silly question, don't make it's owner feel silly – just answer it quickly and kindly.
- If you don't know the answer don't make one up – say that you'll find out, or ask if anyone else has an answer.

Encouraging student answers

In large group lectures in particular, students can be quite reticent about answering your questions. They may fear looking stupid, or 'being caught out' when they haven't been paying attention. Here are some 'don'ts' for asking questions in your lectures.

- Don't ask the whole class a question and then answer it yourself. That just causes the class not to take your questions seriously.
- Don't pick on the same students each time you ask a question – for example the ones who happen to have eye-contact with you. That just discourages students from looking at you.
- Don't just pick on students near to you – that allows those at the back to become even more switched-off than they may be already.
- Don't choose a student and then ask your question. That causes everyone else not to even try to think of an answer to your question.

Question, pause, pounce!
The best way to ask students questions in your lecture is this three-stage approach:

1. Ask the question.
2. Wait for enough time (at least 8 seconds) for most students to be ready to give at least some level of answer.
3. Pounce – pick a student at random.

This means more students think of an answer – their learning is more active.

Don't intimidate students

When you pick a student who can't (or won't) answer a particular question, move on fairly quickly to another student. If students come to fear the prospect of being asked a question in a large group situation, they may well opt not to attend at all.

Hint: Where possible, show your questions on-screen, so that students can see it as well as hear it. It also makes the questions seem more important to students, and they're more likely to take on board that these are questions that they need to become able to answer.

Another hint: If you're issuing handouts in your lecture, it only takes a minute or two to pencil onto corner of each copy a number, 1 to 257 for example. You can then ask students to note the number on their handout, and also to notice the numbers on their neighbours' handouts. You can ask your question, pause for a moment, and then say "whoever has handout number 78 please?" You may notice this particular student 'shrinking', but people close to the student will point out the student concerned. Then when you've asked your next question, you can return to the owner of handout 78 and ask "now you pick a number between 1 and 257 please", and from now on it isn't a matter of you picking on particular students to answer your questions – they have ownership of the process.

"It's nice when we get a chance to chip in and say what we think"
undergraduate student comment

More tips on giving lectures

1. **Always link lectures to assessment.** Give students cues and clues about how this particular lecture 'counts' in due course. Whenever you say "You'll need today's material for exam questions" you'll notice students jotting something down.
2. **Lecturers should be seen and heard.** Use a mic 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. Don't dim the lights to show your slides at the expense of students no longer being able to see you.
3. **Don't keep slides up too long.** Students will keep looking at the screen, even when that screenful is quite finished with. Get them to look at you now and then.
4. **Don't bore the audience to death by bullet points.** Make different slides look different. Include some charts or pictures, where possible. If you're confident with technology, put in some optional very short video clips now and then – but nothing which would matter if it didn't work straightaway.
5. **Try to cause the students to 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.
6. **Think of what students will be doing during the lecture.** Don't worry too much about what you will be doing, plan to get your students' 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.
7. **Don't put too much into the lecture.** It's better to get students thinking deeply about a couple of important things, than to tell them about half-a-dozen things and lose their attention.
8. **Bring in some appropriate humour.** The odd funny slide, or amusing anecdote, or play on words can work wonders at restoring students' concentration level. Then follow something funny up with an important point, while you've still got their full attention. But don't use humour if it's not working!
9. **Keep yourself tuned into WIIFM.** 'What's in it for me?' is a perfectly intelligent question for any student to have in mind. Always make time to remind students about why a topic is included, and how it will help them in due course.
10. **Don't over-run.** At least some of your students 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.
11. **Pave the way towards your next lecture.** After reviewing your learning outcomes, show (for example) a slide with three questions which will be covered in next week's instalment.

(Adapted from Race and Brown 2005.)

I'm feeling very nervous...

You're not alone. Even many very experienced lecturers are quite nervous, especially with a new group, or a subject they don't know well. Some tactics which can help include:

- Smile! You'll notice that at least some of the students will smile back – this immediately makes you feel better.
- Have good prompts available. It's reassuring to have (for example) a list of your slides, so that you won't be nervous about losing your place in the lecture.
- Ad-lib an explanation of the importance of a point you've just recently been making. Sometimes the very fact that you're making a spontaneous addition is relaxing in its own right.
- Bring in your students. For example, ask them a question along the lines "How many of you have already come across...?" or "How many of you have never yet heard of...?"
- Don't be afraid to pause for a short while, and take a deep (quiet) breath.

> "It is not until I get to talk with students and hear them think out loud that teaching comes alive for me. I love it."
> postgraduate student comment

What if I forget where I am?

Forgetting where you are in the lecture happens to most lecturers now and then, so don't feel that there's something wrong with you if it happens. Your choices include:

- Give your students something to do for a couple of minutes. Have a slide or overhead already prepared for such an eventuality. Make the activity seem a perfectly natural step for your students, for example by saying "Now would be a really good time for you to think for a minute or two about..." and then put up your task briefing. While the students are doing the task, you've got time to sort out where you are, and get ready to resume your lecture. Make sure to first debrief students' work on the short task.
- Minimise the chance of losing where you are by having a print-out of your slides, so that you can quite quickly see what you've done and what you were talking about.
- Ask students to jot down the two most important things they have learned so far from your lecture. Then ask them to compare with those sitting close to them. Then ask for volunteers to tell you what they have learned. This often helps you to regain a feel for exactly what had been happening in their minds up to the point at which you lost your way.
- If you are very confident, you could say "Oops, I've lost it! Anyone like to remind me what I was going to say next?" At least then, you'll have the full attention of your students for a moment – and they normally respond well to lecturers just being human.

What if they stop attending?

One reason for a drop off in attendance could be, of course, that your students are getting bored – or tired – or are busy trying to catch up on someone else's assignment deadline. Whatever the cause of absenteeism, one or more of the following tactics may help.

- Don't wait an inordinate time for more students to appear. Those who came punctually deserve to be getting some value, so get started even if the audience is sparse.
- Find ways outside the lecture room to ask a few students why they missed a particular session. Don't rail at them and tell them how unwise they are being – keep to fact-finding until you know more about what is going on.
- Link each and every lecture firmly to the assessment agenda. Students don't like to miss out on clarification of what a typical exam question could reasonably ask of them.
- Don't vent your frustration on the students who do turn up. If anything, you should make them feel all the more welcome and valued.
- Try for added value. Make sure that the students who do turn up feel that it has been well worth turning up. Give them a useful and enjoyable learning experience – and handouts they would have missed had they not turned up.

Late attenders and disruptions

This is a balancing act. There will usually be some students who arrive late, but sometimes the problem becomes more significant in certain time-slots and at particular times in a module.

- Don't gradually get more and more annoyed! The next student to arrive may have a very good reason for being late. Resist the temptation to be sarcastic ("How good of you to join us today"). Mostly, students who come in late don't actually enjoy being late, and if they get a rough ride from you, next time they're late they may well decide not to risk coming in at all.
- If the late-coming is noisy (loud doors, shoes on solid floors, and so on), pause until it will be possible for everyone to hear you properly again. The students themselves will get tired of having to wait for latecomers, and will often show their own disapproval, sparing you from the need to do so.
- If necessary, agree some ground rules with the whole group. For example, if quite a lot of the students have had to come from another session at the other end of campus, negotiate to start promptly five minutes after the normal time.
- Build in a little 'warm-up' time at the start of each lecture. In other words, start doing something useful with the students (for example reminding them of three important points from last week, or quizzing them gently).

Students won't stop talking

Many lecturers get upset by this, and clearly if students can't hear you over each others' chatter, the situation becomes untenable.

- Don't just carry on trying to ignore it. That often makes the problem get worse. Pause, looking at the people who are talking until they stop – all eyes will focus on them and they will stop.
- Don't necessarily assume they're just being rude. Sometimes, one will have asked another to explain or repeat something that has been missed. Sometimes they could be translating what you say into another language for each other.
- Acknowledge that you may have been talking for too long, and give them something to talk about with near neighbours. In other words, legitimise their talking for a few minutes, and let them get the need to talk out of their system.
- Note any persistent 'talkers' but resist the temptation to confront them in front of the whole group. Instead, find a time to talk to them on their own, and explore how they are finding your lectures.
- Don't ask an 'offender' to leave! If they actually refuse to leave, you will have a much more difficult problem to deal with. Never issue a threat that you would not in practice be able or willing to implement.

PRECONCEPTIONS CAN BE DANGEROUS

"I prepared material on the Critical Legal Studies movement of the 1970s. CLS aims to illustrate the illegitimacy of law itself by revealing the dichotomy between legal rules and the law in practice. I thought students would be interested in the technique of thrashing, illustrating that law has intellectually unstable methods of punishment.

Attorneys can manipulate the law to transform vigilante justice into self-defence, or prosecute peaceful anti-Vietnam war protestors for political reasons. I used various media including video clips of real life trials to show CLS is not an abstract theory. To my disappointment the students grasped the basic elements but failed to appreciate the effects of political philosophy.

Students felt it was an outdated theory which did not apply to the Irish legal system. I had failed to appreciate their formalist training up to this point, neglecting Ausubel's point that the single most important factor influencing learning is what the learner already knows."

WHAT WOULD YOU HAVE DONE?

I've run out of material!

If you've got to the end and there are still 15 minutes left, then possibilities include:

- Say "this is a good place to stop this particular session" and re-visit the intended learning outcomes for a moment or two, then wind up. Your students will not be terminally disappointed.
- Have with you a revision activity – for example a set of short, sharp quiz questions on your lectures to date with the group, and give them a quick-fire quiz until the time has been used up.
- Give out post-its, and ask students to write any questions they would like to ask about the subject on them, and pass the post-its down to you. Choose which questions to answer with the whole group until the time is used up.
- Put up a slide of a past exam question on the topic you've been covering, and explain to students a little about what was be expected in answers to that question.
- Ask the students to write down the two most important things they now know, that they didn't know when the lecture started. Then get them to compare with their neighbours, and invite volunteers to read out a few such things.
- Give a brief overview of what's coming next – for example showing the students the intended learning outcomes for the next lecture.

Checklist: preparing your lecture

Question	Don't know	Not yet	Yes	Planned action
Do I know how many lectures I will be giving to this class?				
Do I know roughly how many students may be there?				
Have I found out what these students are likely to know already about the topic of the lecture?				
Do I know where my particular lecture fits in to the overall course or module my students are studying?				
Have I been to see the actual lecture room I expect to be using?				
Have I got intended learning outcomes for this lecture?				
Have I turned these into the actual learning outcomes I will introduce at the start of my lecture?				
Have I prepared slides or overheads to accompany my lecture?				
Have I checked out that I can work the equipment I need in this particular venue? Is all the equipment already there?				
Have I prepared any handout material I want students to have in their hands during my lecture?				
Have I had the opportunity to talk about my particular lecture to other colleagues who already work with these students?				
Have I tested that I can be seen and heard well in this lecture venue?				

Review checklist: use this after one lecture each week for the first term.

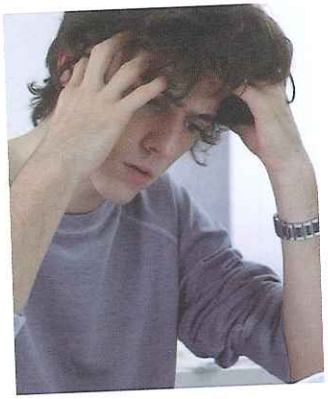
Question	Very well	Quite well	Not well	Planned action
Did I introduce and explain the intended learning outcomes clearly to the students?				
Did I manage to speak confidently and clearly?				
Did I give the students some things to do during the lecture?				
Did I manage to actively involve all of the students during the lecture?				
Did my slides or overheads help the students to make sense of the subject?				
Did my handout materials work well with the students?				
Did I engage the students by asking them questions during the lecture?				
Did I succeed in getting the students to answer my questions?				
Did I return to the intended leearning outcomes and find out how the students felt they had got on with them?				
Did I bring the session to a rounded and punctual close?				

What was the best thing about this particular lecture?	
What was the least satisfactory thing about this particular lecture?	
What is the single most important change I intend to make next time I give this particular lecture?	

ASSESSMENT AND FEEDBACK

Assessment is crucially important because it affects students' whole lives and careers. Feedback is vital to students, so that they can be praised for what they do well, learn from their mistakes, and improve their performance on the basis of our feedback.

Postgraduate involvement in undergraduate assessment varies considerably. Some postgraduates may be involved in setting and marking exams; others may mark exams or assessments which they did not set; others will be involved in preparing students for various assessments that they have not set and will not mark. Postgraduates often provide oral feedback on performance in demonstrations and seminars; written feedback on written assignments; and general guidance on the assessments and assignments that form part of the module. Whatever your degree of involvement in the process, assessment is an inescapable dimension of teaching.



Summative and formative

'Summative' assessment is normally measured at the end of an element of learning – for example end-of-module exams. Students usually get the results as marks or grades, and may sometimes not get any further feedback.

'Formative' assessment is normally used during the course of a module, and even though the marks or grades may count towards students' overall awards, the feedback they receive is intended to help them to identify weaknesses, and build on strengths, to make their next piece of assessed work better. With large classes, the time required to give students effective formative feedback increases. The danger here is that the quality of the feedback is reduced by the pressure of large student numbers.

HELP!

In the first year of my PhD, I was assigned to correct a final year honours module that I had myself taken. I have no formal teaching qualifications, but lecturing and demonstrating is a prescribed part of my PhD education.

I had to correct 10 problem sets for seventeen students each week. I was given no marking scheme or total mark for each problem. In addition, some problems had more than one solution, each of which was equally valid. Also, some problems were more difficult than others so I was not sure how many marks to allocate.

WHAT WOULD YOU HAVE DONE?

It matters to students

Students are often quite strategic about their learning – if it counts towards their overall qualifications they will do it – if it doesn't, many won't! This is a common response to the situation students often find themselves in – a heavy burden of coursework assessment and looming exams. Not surprisingly, the huge amount of personal investment in work that counts towards a qualification means that higher education students are often dissatisfied with their experience of assessment and feedback. Assessment matters to students.

Students who are highly successful in assessment are probably perfectly satisfied with the feedback they get. Student dissatisfaction with assessment and feedback is usually attributable to students who fare less well. They may believe they could have done better if they had been given enough early formative feedback to improve their performance.

The sharp end

Because assessment is so important to students, emotions can run high. Students can be very sensitive to the language we use when we give them feedback. It is all too easy for us, despite our best intentions, to damage their motivation in our attempts to give them constructive feedback on weaknesses in their work. This danger is exacerbated if we do not have enough time to phrase our feedback carefully. Assessment and feedback require careful planning and management.

Fit for purpose

Assessment has to be valid, reliable, transparent, authentic – and manageable! Why do we need these characteristics for assessment and what do they actually mean in practice?

Validity is about making sure that we're using assessment to measure exactly what we set out to measure – that is, students' evidence of achievement of the intended learning outcomes. We need therefore to make sure that we know exactly which intended learning outcomes each element of assessment is addressing. But sometimes validity can be compromised by the form of assessment we choose – for example traditional exams sometimes end up measuring how well students can write about what they know, rather than how well they have grasped the subject.

Reliability is about making sure that we're being fair and consistent, and that each mark or grade is accurate and realistic. In practice, this means creating a well-honed marking scheme for each element of the assessed work, whether it is an exam question, an essay, a report, or any other task, so that we can be sure we are being equally fair to all students. When there is a really good marking scheme, different assessors will agree on the marks to be awarded for particular exam answers or assignments. Also, there will not be any variation in the standard of assessment on the journey from the first piece of work you mark, down to the last one in the pile.

Transparency means we have to make sure that our students know how assessment works. They need to know what we are looking for in an excellent answer. They need to know what they must do to reach a pass mark. They need to know what would not get them a pass.

In other words, we need to help our students to see that what is being assessed is their evidence that they have achieved the intended learning outcomes, and that these outcomes are useful to them as goalposts for their study.

Authenticity has two sides. We need to be be sure that what we are marking is indeed the work of the students concerned – in other words that they haven't copied it, or plagiarised from the Internet. In traditional exam situations, we're fairly sure about whose work it is. But plagiarism is largely a problem of our own making. We need to design out plagiarism in coursework assessment by making what we assess specifically students' individual efforts (for example critical incident accounts, reflective logs, and so on). The other side of authenticity is about how 'real life' our assessment is in practice. For example, we can't expect to measure drama performance skills effectively by asking students to sit in an exam room and write about drama performance skills.

Manageability also has two sides. Assessment needs to be manageable both for us and for our students. We need to streamline assessment so that it is of high quality, making judgements on important things, and not just ticking off routine things such as spelling, punctuation and grammar. When students themselves are overloaded with assessment, they may be driven to surface-learning mode, learning things rapidly just for the exam or assignment, then forgetting them just as quickly.

Beyond exams, essays and reports

Traditionally in higher education, there has been too much emphasis on written assessment. Students' qualifications have depended too much on their skills relating to quite a narrow range of ways of demonstrating their achievement of the intended learning outcomes such as answering exam questions, writing essays and writing reports. There are many alternatives, including:

- **Computer-marked multiple-choice tests or exams:** Once set up, the computer handles all the marking, and can even cause feedback to be printed out for candidates as they leave the test venue, or indeed give them instant on-screen feedback if the main purpose is feedback rather than testing. Care has to be taken, however, when designing multiple-choice questions for testing purposes. Done well, the questions are known to discriminate reliably between students at different ability levels in the subject concerned.
- **Short-answer exams or tests:** these reduce the effect of students' speed of writing, and can cover a greater breadth of syllabus in a given assessment element than when long answers are required.
- **Annotated bibliographies:** for example where students are asked to select the most relevant five sources on a particular idea or topic, then review them critically, comparing and contrasting them in perhaps 300 words. This can cause students to think more deeply about the topic than they may have done if writing a 3000-word essay. Annotated bibliographies are also much faster to mark.
- **Portfolios of evidence:** these can take even longer to assess than essays or reports, but can test far more than mere essay-writing or report-writing skills.
- **Oral presentations:** these focus on important skills that would not be addressed or assessed through written assessment formats.
- **In-tray exams:** much more 'real life' testing situations, where, instead of a question paper on the exam-room desk, there is a collection of paperwork which students study and use to answer relatively short, sharp decision-making questions that are issued every now and then during the exam.
- **Open-book (or 'open-notes') exams:** where students don't have to rely on memory, and have with them the texts or notes of their choice (or a known-in-advance selection of texts and handouts), and where the exam questions test what they can do with the information already on their desks.
- **Vivas (oral exams):** can be a better measure of students' understanding, as their reactions to on-the-spot questions are gauged and there is no doubt about the authenticity of their answers (such doubts can colour the assessment of various kinds of written work).
- **Poster displays:** where students' individual or collaborative design and originality can be among the attributes measured.

Setting exam questions

Often, it is only when we first mark exam scripts that we become aware of just how sensitively the questions need to be designed. The assessment criteria and marking schemes need to be laid out clearly to anticipate as many different ways as possible that even the most unambiguous looking question can be answered in practice. The suggestions below are extracted from Race *et al* 2005 and may help to spare you from some of the headaches which can result from hastily written exam questions.

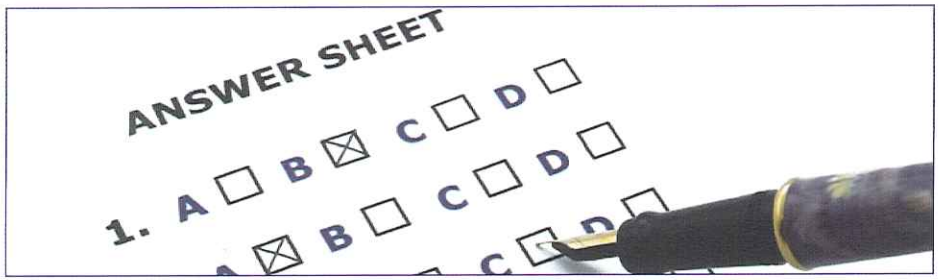
- **Have your intended learning outcomes in front of you as your draft your questions.**
  It is all too easy to dream up interesting questions which turn out to be tangential to the learning outcomes. Furthermore, it is possible to write too many questions addressing particular learning outcomes, leaving other outcomes unrepresented in the exam.

- **Keep your sentences short.**
  You are less likely to write something that can be interpreted in more than one way if you write plain English in short sentences. This also helps reduce any discrimination against those students whose second or third language is English.

- **Work out what you are really testing.**
  Is each question measuring decision-making, strategic planning, problem solving, data processing etc., or is it too dependent on memory? Most exam questions measure a number of things at the same time. Be up-front about all the things each question is likely to measure. In any case, external scrutiny of assessment may interrogate whether your questions (and your assessment criteria) link appropriately with the published learning outcomes for your course or module.

- **Don't measure the same things again and again.**
  For example, it is all too easy in essay-type exam questions to repeatedly measure students' skills at writing good introductions, well-structured arguments and firm conclusions. Valuable as such skills are, we need to be measuring other important things too.

- **Include data or information in questions to reduce the emphasis on memory.**
  In some subjects, case-study information is a good way of doing this. Science exams often tend to be much better than other subjects in this respect, and it is appropriate to test what candidates can do with the data rather than how well they remember facts and figures.



- **Check the timing.**
  You'll sometimes find that it takes you an hour to answer a question for which candidates have only half-an-hour. Assessors setting problem-type questions for students often forget that familiarity with the type of problem profoundly influences the time it takes to solve it. Students who get stuck on such a question may end up failing the exam more through time mismanagement than through lack of subject-related competence.

- **Decide what the assessment criteria will be.**
  Check that these criteria relate clearly to the syllabus objectives or to the intended learning outcomes. Make it your business to ensure that students themselves are clear about these objectives or intended outcomes, and emphasise the links with assessment. When students are aware that the expressed learning outcomes are a template for the design of assessment tasks, it is possible for them to make their learning much more focused.

- **Work out a tight marking scheme for yourself.**
  Imagine that you are going to delegate the marking to a new colleague. Write it all down. You will find such schemes an invaluable aid to share with future classes of students, as well as colleagues actually co-marking with you, helping them to see how assessment works.

- **Proof-read your exam questions carefully.**
  Be aware of the danger of seeing what you meant, rather than what you actually wrote. Even if you are very busy when asked to check your questions, a little extra time spent editing your questions at this time may save you many hours sorting out how to handle matters arising from any ambiguities or errors which could have otherwise slipped through.

- **Don't do it on your own.**
  Make sure you get feedback on each of your questions from colleagues. They can spot whether your question is at the right level more easily than you can. Having someone else look at your draft exam questions is extremely useful. It is better still when all questions are discussed and moderated by teams of staff. Where possible, draft questions with your colleagues. This allows the team to pick the best questions from a range of possibilities, rather than use every idea each member has.

- **Get one or two colleagues to answer your questions – or answer them yourself.**
  Sometimes even sketch answers can be helpful. This may be asking a lot of busy colleagues, but the rewards can be significant. You will often find that they answered a particular question in a rather different way than you had in mind when you designed the question. Being alert in advance to the ways that different students might approach a question gives you the opportunity to accommodate alternative approaches in your marking scheme. It can afford an opportunity to adjust the wording of your question so that your intended or preferred approach is made clear to students.

Designing marking schemes

Whether you are marking exam answers or students' assignments, the time spent devising a good marking scheme can save you hours when it comes to correcting a whole pile of scripts. It can also help you to know (and show) that you are doing everything possible to be uniformly fair to all students. If you are a tutor or demonstrator on a course, ask for the marking scheme from the course co-ordinator. If one isn't available, devise one, and check its suitability with the course co-ordinator. The following suggestions may help.

- **Write a model answer for each question, if the subject matter permits.**
  This can be a useful first step towards identifying the mark-bearing ingredients of a good answer. It also helps you gauge the time it actually takes to answer the question well. If you have difficulties answering the questions, the chances are that your students will too. Making model answers and marking schemes for coursework assignments can give you good practice at writing exam schemes.

- **Make each decision as straightforward as possible.**
  Try to allocate each mark so that it is associated with something that is either present or absent, or right or wrong, in students' answers.

- **Aim to make your marking scheme usable by a non-expert in the subject.**
  This allows your marking schemes to be used as resources for students themselves, perhaps on next year's course.

- **Aim to make it so that anyone could mark given answers, and agree on the scores within a mark or two.**
  It is best to involve colleagues in piloting the first draft marking schemes. They will soon help you to identify areas where the marking criteria may need clarifying or tightening up.

- **Allow for 'consequential' marks.**
  For example, when a candidate makes an early mistake, but then proceeds correctly thereafter (especially in problems and calculations), allow for some marks to be given for the ensuing correct steps even when the final answer is quite wrong.

- **Pilot your marking scheme by showing it to others.**
  It is worth showing marking schemes to people who are not closely associated with your subject area. If they can't see exactly what you are looking for, it may be that the scheme is not yet sufficiently self-explanatory. Extra detail you add at this stage may help you to clarify your own thinking, and will assist fellow markers.

- **Look at what others have done in the past.**
  If it is your first attempt at a marking scheme, looking at other people's ways of doing them will help you to focus your efforts. Look at marking schemes from other subjects that your students may be studying, to help you tune into the assessment culture of the overall course.

- **Learn from your own mistakes.**
  No marking scheme is perfect. When you first start applying it to a pile of scripts, you may need to adjust it. Keep a note of any difficulties you experience in adhering to your scheme, and take account of these next time you have to make one.

Marking students' work

When you are under pressure to mark a lot of work in a short time the following suggestions may help you to do the job fairly and efficiently:

- **Be realistic about what you can do.**
  Put work for marking into manageable bundles. It is less daunting to have ten scripts on your desk and the rest out of sight than to have a large pile threatening you as you work.

- **Devise your own system of tackling the marking load.**
  You may prefer to mark a whole script at a time, or just Question 1 of every script first. Do what you feel comfortable with, and see what works best for you.

- **Avoid halo effects.**
  If you've just marked a brilliant answer, it can be easy to go into the same student's next answer seeing only the good points and passing over the weaknesses. Try to ensure that you mark each answer dispassionately. Conversely, when you look at the next student's answer, you may be over-critical if you've just marked an excellent one.

- **Watch out for prejudices.**
  There will be all sorts of things which you like and dislike about the style and layout of students' work, not to mention handwriting quality in exam scripts. Make sure that each time there is a 'benefit of the doubt' decision to be made, it is not influenced by such factors.

- **Recognise that your mood can change.**
  Every now and then, check back to work you marked earlier, and see whether your generosity has increased or decreased. Be aware of the middle-mark bunching syndrome. As you get tired, you can be tempted to give a middle-range mark. Take a break when you need it and ensure that you look at each script afresh.

- **Take account of the needs of second markers.**
  If someone else will be double-marking the work, don't make written comments on the scripts themselves, to avoid prejudicing the judgement of a second marker (unless second copies of each script are available for double marking).

Make the most of feedback

It used to be the case that there were two main ways of giving students feedback on their work:

- Handwritten comments on students' work.
- Face-to-face feedback, where tutors or demonstrators discuss students' work individually, or in small group tutorials.

Although these two methods are still in use, in many disciplines there are just too many students needing feedback for either process to be practicable any longer. Fortunately, word-processing technology and communications technologies have extended our repertoire of methods of giving students written feedback. We can now choose from options including:

- Statement banks, from which we can draw often-needed feedback explanations from a collection of frequently used comments which apply to the work of many students, and stitch these comments together to make a composite feedback message to individual students.

- Emailing feedback directly to students so that they can study our feedback in the comfort of privacy at their computers.
- Building an overall general collection of feedback comments to the class as a whole, based on common errors and frequent difficulties. You could post this on an electronic discussion board which each student can view, and then email individual students with any specific additional feedback they need.
- Using assignment return sheets will enable you to map your feedback comments to students more systematically (for example feedback based on the intended learning outcomes or the assessment criteria for the assignment).
- Creating an overall feedback report on a task set to a large group of students, covering all the most important mistakes and misunderstandings, referring individual students to the sections relevant to their own work, and adding minimal individual feedback to students, addressing aspects of their work not embraced by the general report.
- Model answers: these can show students a lot of detail which can be self-explanatory to them, allowing them to compare the model answers with their own work and see what they have missed out or got wrong.
- Giving feedback in a lecture, allowing us to cover all the most important points we need to make, and also allowing students to see how their own work compares with that of their fellow students.

- Using the 'track changes' facilities in word-processing packages to edit students' electronically-submitted essays and reports, so they can see in colour the changes we've made to their work at the click of a mouse on their own screens. This sounds complex, but in practice can be a very quick way of giving a lot of detailed feedback, and the feedback is in exactly the right place amid their words, not in a margin or over the page.

Feedback should be:

- **Timely – the sooner the better.**
  There has been plenty of research into how long after the learning event it takes for the effects of feedback to be significantly eroded. Ideally feedback should be received within a day or two, and even better if sooner, as is possible in some computer-aided learning situations, and in some face-to-face contexts. When marked work is returned to students weeks or even months after submission, feedback is often totally ignored because it bears little relevance to students' current needs. Many institutions nowadays specify in their Student Charters that work should be returned within two to three weeks, enabling students to derive greater benefits from feedback. When feedback is received very quickly, it is much more effective, as students can still remember exactly what they were thinking as they addressed each task.
- **Personal and individual.**
  Feedback needs to fit each student's achievement, individual nature, and personality. Global ways of compiling and distributing feedback can reduce the extent of ownership that students take of the feedback they receive, even when the quality and amount of feedback increases.
- **Articulate.**
  Students should not have to struggle to make sense of our feedback. Whether our messages are congratulatory or critical, it should be easy for students to work out exactly what we are trying to tell them. They should not have to read each sentence more than once, trying to work out what we are really saying.

- **Empowering.**
  If feedback is intended to strengthen and consolidate learning, we need to make sure it doesn't dampen learning. Of course, this is easier to ensure when feedback is positive, but we need to look carefully at how best we can make critical feedback equally empowering to students. We must not forget that often feedback is given and received in a system where power is loaded towards the provider of the feedback rather than the recipient – for example where we are driving assessment systems.

- **Manageable.**
  There are two sides to this. From our point of view, designing and delivering feedback to students could easily consume all the time and energy we have – it is an endless task. And from the students' point of view, getting too much feedback can result in them not being able to sort out the important feedback from the routine feedback.

- **Developmental.**
  Feedback should open doors, not close them. In this respect, be particularly careful with the words used when giving feedback to students. Words with 'final language' implications such as 'weak' or 'poor' can cause irretrievable breakdowns in the communication between assessor and student. To a lesser extent, even positive words such as 'excellent' can cause problems when feedback on the next piece of work if it is only 'very good' – why wasn't it excellent again? In all such cases it is better to praise exactly what was very good or excellent in a little more detail, rather than take the short cut of just using the adjectives themselves.

Maximising learning payoff

The following suggestions are adapted from Race *et al* 2005 and aim to give some practical ways in which you can increase the learning payoff from your feedback to students.

- **Provide students with a list of feedback comments given to a similar assignment, prior to them submitting their own.**
  You can then ask students, for example in a large group session, to attempt to work out what kind of marks an essay with specific comments might be awarded. This helps them to see the links between feedback comments and levels of achievement, and can encourage them to be more receptive to critical comments on their own future work.

- **Let students have feedback comments on their assignments prior to them receiving the actual mark.**
  Encourage them to use the feedback comments to estimate what kind of mark they will receive. This could be then used as the basis of an individual or group dialogue on how marks or grades are worked out.

- **Focus your comments on students' work, not on their personalities.**
  Comments need therefore to be about the work rather than the student. This is particularly important when feedback is critical.

- **Get students to look back positively after receiving your feedback.**
  For example, ask them to revisit their work and identify what were the most successful parts of the assignment, on the basis of having now read your feedback. Sometimes students are so busy reading, and feeling depressed by the negative comments, that they fail to see the positive aspects.

- **Ask students to respond selectively to your feedback on their assignments.**
  This could include asking them to complete sentences such as:

"The part of the feedback that puzzled me most was..."

"The comment that rang most true for me was..."

"I don't get what you mean when you say..."

"I would welcome some advice on..."

- **Ask students to send you an email after they have received your feedback, focusing on their feelings.**
  In particular, this might help you to understand what emotional impact your feedback is having on individual students. It can be useful to give them a menu of words and phrases to underline or circle, for example including: exhilarated, very pleased, miserable, shocked, surprised, encouraged, disappointed, helped, daunted, relieved (and so on).

- **Ask students to tell you what they would like you to stop doing, start doing, and continue doing in relation to the feedback you give them.**
  This is likely to help you to understand which parts of your feedback are helpful to specific students, as well as giving them ownership of the aspects of feedback they would like you to include next time.

- **Don't miss out on noticing the difference.**
  Comment positively where you can see that students have incorporated action resulting from your advice given on their previous assignment. This will encourage them to see the learning and assessment processes as continuous.

Review checklist: after giving feedback

Question	Don't know	Not yet	Yes	Planned action
Is my feedback timely – will the student receive my feedback within two weeks of submitting the assignment?				
Is the feedback I have given relating to the student's work?				
Have I identified which aspects of the work are good, and why?				
Have I identified which aspects of the work could be improved, and how they could be improved?				
Have I given feedback on the specific content of this piece of work?				
Have I made some of the feedback generic enough to be applied to other work in future?				
Have I used demoralising language?				
Have I given too much feedback?				
Have I given too little feedback?				
Is my feedback clear and easy to understand?				
Have I encouraged students to contact me if they don't understand my feedback?				

Shifting the focus

"My concern relates to my desire to make the tutorials interesting and relevant to the students. Before my first tutorial in October I had many questions rushing through my mind. Would I be able to fill the hour? Would anyone show up or keep coming? Would the student find me annoying or boring? Would any of them talk? These concerns were very real in my mind and to some degree are still present.

Having attended a number of seminars on the Teaching and Learning course for postgraduate students I began to see the focus I had was more about me than the students. I was worried about how they would perceive me and whether they would see me as someone who was fun and interesting or someone who was boring. I realised I needed to shift the focus onto them and their needs. In the session on 'good teachers I had known', I realised that what was helpful about them was that they listened to the students and put students' needs first. This has had a profound influence on my teaching. I have realised that tutorials are more about students' learning than tutors' teaching. Obviously I still have some way to go before I could be considered a great or inspiring teacher but I have tried to shift my focus and remember that the important people are the students not me."

It's there if you go looking

"My receipt of research funding meant I was not engaged as a teaching assistant within my department. I always felt I was missing out on a really valuable experience and the chance to discover what teaching at third level might be like. It was clear that the workload attached was substantial, but my peers relayed to me the enjoyment they got from the tutoring duties and how it was a great learning experience.

Coming into the 4th year of my Ph.D, and having attended postgraduate training modules, and NAIRTL seminars, I realised the value of gaining teaching experience, its desirability among job applicants, and how it is often there if you go looking. A conversation with both of my supervisors yielded some promise and I am set this year to give two undergraduate lectures in geography, accompany a field class expedition, and facilitate two MSocSc seminars. In all instances the topics for teaching, relating to disability, are areas I am comfortable with as they are at the core of my research interest."

Good Luck!

We hope that reading through this book has provided you with some insights into the challenges and rewards that await you when you begin teaching. No challenge is insurmountable, and we hope that the strategies outlined have made you feel more comfortable and confident as you start your teaching. Check out what training resources are available to you within your university and remember that your teaching colleagues are one of the most valuable resources available to you. We wish you every success in your teaching endeavours

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Useful websites

All links accessed 10th February 2010.

CAPSL, TCD
www.tcd.ie/CAPSL/academic_practice/index.php?page=postgrads

Ionad Bairre, UCC
www.ucc.ie/en/teachingandlearning/

CELT, NUIG
www.nuigalway.ie/celt/

London School of Economics handbook
www.lse.ac.uk/intranet/staff/teachingAtLSEgraduateTeachingAssistantsHandbook/Home.aspx

University of Edinburgh tutoring and demonstrating handbook
www.tla.ed.ac.uk/services/tutdems/handbook.htm

University of Queensland tutor training manual
www.tedi.uq.edu.au/downloads/TutorTrainingManual.pdf

University of San Diego, California Graduate teaching assistant handbook
http://ctd.ucsd.edu/resources/tahandbook.pdf

APPENDIX: THE NATIONAL FRAMEWORK OF QUALIFICATIONS

The National Framework of Qualifications comprises ten levels. For each level, standards of knowledge, skill and competence have been set out in generic ranges. The standards associated with each level define the outcomes to be achieved by learners seeking to gain awards. Thus the awards recognise learning outcomes – what a person with an award can do, and understand – rather than time spent on a programme.

The diagram illustrates the outline National Framework of Qualifications. The ten-level structure is shown as segments in a fan. The framework contains an initial set of fifteen award types for which descriptors have been published, and which are listed in the outer rings. The diagram also illustrates the various bodies whose awards are included in the Framework.

On page 74 additional information about awards levels 6 to 10 are outlined. Further information can be found at the website of the National Qualifications Authority of Ireland **http://www.nfq.ie.** Graphics and tables reproduced with the kind permission of the NQAI.

Level 6
Learning outcomes at this level include a comprehensive range of skills which may be vocationally-specific and/or of a general supervisory nature, and require detailed theoretical understanding. The outcomes also provide for a particular focus on learning skills. The outcomes relate to working in a generally autonomous way to assume design and/or management and/or administrative responsibilities. Occupations at this level would include higher craft, junior technician and supervisor.

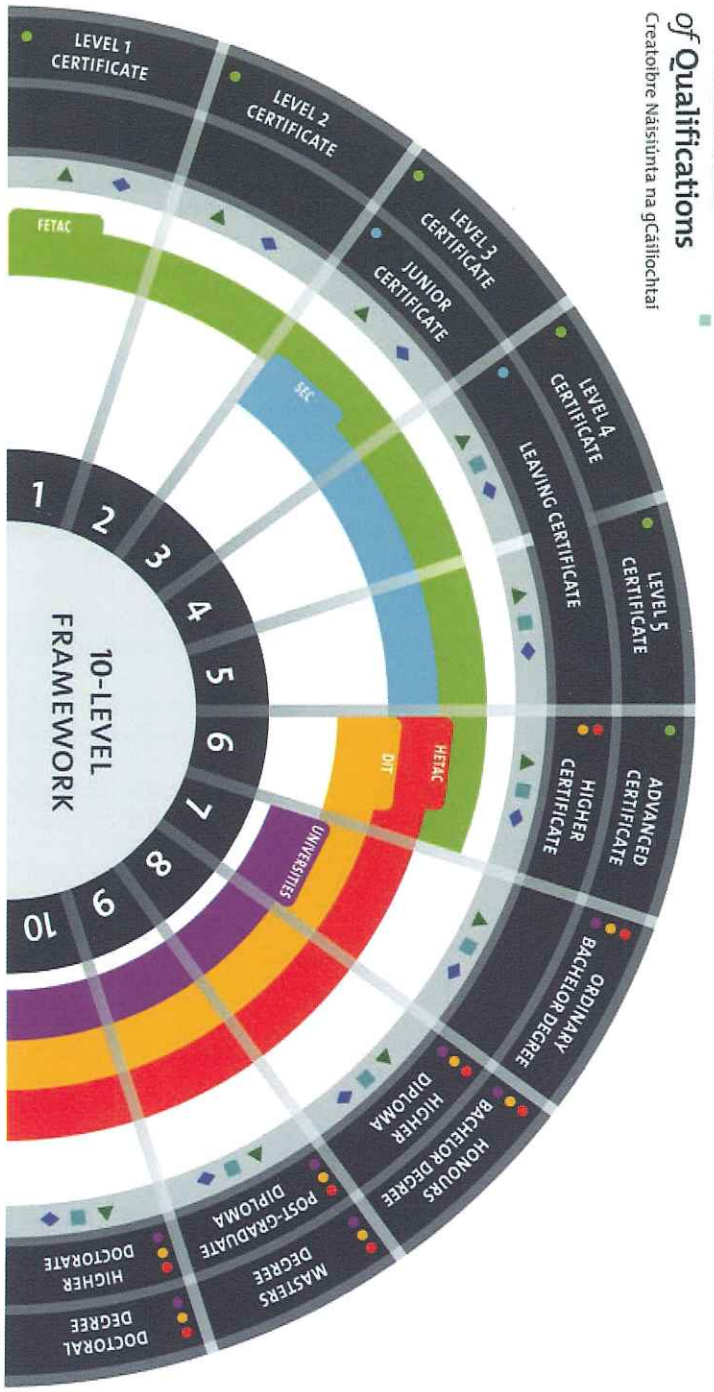
Level 7
Learning outcomes at this level relate to knowledge and critical understanding of the well-established principles in a field of study and the application of those principles in different contexts. This level includes knowledge of methods of enquiry and the ability to critically evaluate the appropriateness of different approaches to solving problems. The outcomes include an understanding of the limits of knowledge acquired and how this influences analysis and interpretations in a work context. Outcomes at this level would be appropriate to the upper end of many technical occupations and would include higher technicians, some restricted professionals, and junior management.

Level 8
Innovation is a key feature of learning outcomes at this level. Learning outcomes at this level relate to being at the forefront of a field of learning in terms of knowledge and understanding. The outcomes include an awareness of the boundaries of the learning in the field and the preparation required to push back those boundaries through further learning. The outcomes relate to adaptability, flexibility, ability to cope with change and ablity to exercise intiaitive and solve problems within their field of study. In a number of applied fields the outcomes are those linked with the independent, knowledge-based professional. In other fields the outcomes are linked with those of a generalist and would normally be appropriate to management positions.

Level 9
Learning outcomes at this level relate to the demonstration of knowledge and understanding which is the forefront of a field of learning. The outcomes relate to the application of knowledge, understanding and problem-solving abilities in new or unfamiliar contexts related to a field of study. The outcomes are associated with an ability to integrate knowledge, handle completely and formulate judgments. Outcomes associated with this level would link with employment as a senior professional or manager with responsibility for the work outputs of teams.

Level 10
Learning outcomes at this level relate to the discovery and development of new knowledge and skills and delivering findings at the frontiers of knowledge and application. Further outcomesat this level relate to specialist skills and transferable skills required for managing such as the abilities to critique and develop organisational structures and initiate change.

National Framework of Qualifications
Creatoibre Náisiúnta na gCáilíochtaí



KEY

FETAC - Further Education and Training Awards Council
SEC - State Examinations Commission *(Department of Education & Science)*
HETAC - Higher Education and Training Awards Council
DIT - Dublin Institute of Technology
Universities

AWARDS IN THE FRAMEWORK

There are four types of award in the National Framework of Qualifications:

Major Awards: are the principal class of awards made at a level

Minor Awards: are for partial completion of the outcomes for a Major Award

Supplemental Awards: are for learning that is additional to a Major Award

Special Purpose Awards: are for relatively narrow or purpose-specific achievement

National Framework of Qualifications

	Level 6 Advanced Higher Certificate	Level 7 Ordinary Bachelor Degree
Knowledge *Breadth*	Specialised knowledge of a broad area.	Specialised knowledge across a variety of areas.
Knowledge *Kind*	Some theoretical concepts and abstract thinking, with significant underpinning theory.	Recognition of limitations of current knowledge and familiarity with sources of new knowledge, integration of concepts across a variety of areas.
Know-how & Skill *Range*	Demonstrate comprehensive range of specialised skills and tools.	Demonstrate specialised technical, creative or conceptual skills and tools across an area of study.
Know-how & Skill *Selectivity*	Formulate responses to well defined abstract problems.	Exercise appropriate judgement in planning, design, technical and/or supervisory functions related to products, services, operations or processes.
Competence *Context*	Act in a range of varied and specific contexts involving creative and non-routine activities; transfer and apply theoretical concepts and/or technical or creative skills to a range of contexts.	Utilise diagnostic and creative skills in a range of functions in a wide variety of contexts.
Competence *Role*	Exercise substantial personal autonomy and often take responsibility for the work of others and/or for allocation of resources; form, and function within,multiple complex and heterogeneous groups.	Accept accountability for determining and achieving personal and/or group outcomes; take significant or supervisory responsibility for the work of others in defined areas of work.
Competence *Learning to learn*	Learn to evaluate own learning and identify needs within a structured learning environment; assist others in identifying learning needs.	Take initiative to identify and address learning needs and interact effectively in a learning group.
Competence *Insight*	Express an internalised, personal world view, reflecting engagement with others.	Express an internalised personal world view manifesting solidarity with others.

Level 8 Honours Bachelor Degree/ Higher Diploma	Level 9 Masters degree Postgraduate Diploma	Level 10 Doctoral Degree
An understanding of the theory, concepts and methods pertaining to a field (or fields) of learning.	A systematic understanding of knowledge at, or informed by, the forefront of a field of knowledge.	A systematic acquisition and understanding of a substantial body of knowledge which is at the forefront of a field of learning.
Detailed knowledge and understanding in one of more specialised areas, some of it at the current boundaries of the field(s)	A critical awareness of current problems and/or new insights, generally informed by the forefront of a field of learning.	The creation and interpretation of new knowledge, through original research, or other advanced scholarship, of a quality to satisfy review by peers.
Demonstrate mastery of a complex and specialised area of skills and tools to conduct closely guided research, professional or advanced technical activity.	Demonstrate a range of standard and specialised research or equivalent tools and techniques of enquiry	Demonstrate a significant range of the principal skills, techniques, tools, practices and/or materials which are associated with a field of learning, develop new skills, tlechniques, tools, practices and/or materials.
Exercise appropriate judgement in a number of complex planning, design, technical and/or management functions related to products, services, operations or processes, including resourcing.	Select from complex and advanced skills across a field of learning, develop new skills to a high level, including novel and emerging techniques.	Respond to abstract problems that expand and redefine existing procedural knowledge.
Use advanced skills to conduct research, or advanced technical or professional activity, accepting accountability for all related decision making; transfer and apply diagnostic and creative skills in a range of contexts.	Act in a wide and often unpredictable variety of professional levels and ill-defined contexts.	Exercise personal responsibility and largely autonomous initiative in complex and unpredictable situations, in professional or equivalent contexts.
Act effectively under guidance in a peer relationship with qualified practitioners; lead multiple, complex and heterogenous groups.	Take significant responsibility for the work of individuals and groups; lead and initiate activity.	Communicate results of research and innovation to peers, engage in critical dialogue, lead and original complex social processes.
Learn to act in variable and unfamiliar learning contexts; learn to manage learning tasks independently, professionally and ethically.	Learn to self-evaluate and take responsibility for continuing academic/professional development.	Learn to critique the broader implciations of applying knowledge to particular contexts.
Express a comprehensive, internalised, personal world view, manifesting solidarity with others.	Scrutinise and reflect on social norms and relationships and act to change them.	Scrutinise and reflect on social norms and relationships and lead actions to change them.