DCU

LEARNING INNOVATION UNIT

USEFUL RESOUCES FOR TUTORS/DEMONSTRATORS

Online resources:
- University of Edinburgh: Tutoring and Demonstrating: A handbook. pdf version available free online at http://www.ed.ac.uk/schools-departments/institute-academic-development/learning-teaching/tutors-demonstrators/learning-resources/handbook

- University of Melbourne resources: http://www.tlu.fbe.unimelb.edu.au/teaching_staff/tutors/resources.html

Learning Innovation Unit:

Please see our website (http://www.dcu.ie/ovpli/liu)for details on
- Lunchtime seminars
- Training and workshops

Postgraduate Tutor/Demonstrator Module (GS602)
- Will run in semester 2: details will be disseminated in due course

THE ROLE OF THE DEMONSTRATOR

NOTE: This document provides a general view only. Your particular School/Faculty may have its own specific guidelines on demonstrating.

Questioner Perhaps the most significant role of demonstrators is to probe student understanding of theoretical and conceptual principles. Laboratory exercises should not be conducted mechanically without an eye for the central principle. In the main part, the demonstrator's role is to remind students of the intent of the exercise and to invite them to make connections to the bigger picture. This means employing a comprehensive questioning technique.

Expert consultant Students also need answers and clear direction. Students may need someone to turn to if they are unsure about procedural steps, uncertain about what they are expected to observe or record, or unclear about the objectives of the learning experience. The demonstrator needs to be on hand and willing to offer expert, authoritative advice and commentary.

Salvage agent Occasionally (or maybe even regularly) things will go awry. Equipment does not always perform as expected, experiments may not turn up what was anticipated, and mishaps can occur. Treat these serendipities as opportunities for learning! Bear in mind, and stress to students, that the learning outcomes for a practical class are more to do with the *process* than an end *product.*

Time manager Time is precious in many laboratory classes and students must work to a tight schedule. Even though students have responsibilities for their own time management, demonstrators probably should play a role too. This means keeping an eye on the progress of individuals and groups, and identifying and heading off potential blockage points in the procedures.

Professional model It is easy to overlook the fact that students see you as a role model. Your attitude towards inquiry, the reporting of findings, your behaviour in the lab, all send messages about the standards of the scientific method and what it is to be a professional in your discipline.

Person of responsibility Don't forget that in most labs there are health and safety considerations. You need to be familiar with procedures for an emergency and for the reporting of accidents. Take note of the location of fire extinguishers, fire blankets, safety showers and other safety equipment. You may need to be the first to act in an accident or emergency. As a precaution, remind students of hazards in any procedure they are undertaking, and point out the safety features of the laboratory.

A three-point questioning technique for labs and practical classes
Procedural questions, that ensure student endeavours are focused:

- For how long will you heat this?
- What should be the concentration of the salt solution?

Prompting questions, encouraging student engagement:
- Have you thought about ...?
- Are you remembering to look for ...?

Probing questions, to explore student understanding:
- What do you predict will occur?
- What would you expect to happen if ...?
- How would you design an experiment to ... ?

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THE ROLE OF THE TUTOR

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Leading Discussions

In many areas of higher education, the main activity in small groups is discussion of a relatively informal and often speculative kind. Such discussions usually focus on issues, arguments, debate, personal opinion and response, and the exploration of diverse and often conflicting explanations of human experience. This form is a highly active learning experience for all participants and assumes that students clarify their thoughts by talking. It also happens to be an experience that many tutors find difficult to manage successfully.

Students are often more critical of tutorials than they are of lectures. The major cause of complaint usually comes down to the poor management of the group, especially the failure to encourage participation from all members. The monologue from the 'academic oracle' is totally out of place in discussion sessions. It seems to assume that worthwhile learning only takes place while the teacher is talking. But equally bad is the leaderless or unstructured group where students get to pool their ignorance.

Opting out of leadership is not an option for good teachers of small groups. Leading and managing productive group discussion is never as easy as it looks. Tutorials sometimes suffer because they are not given anywhere near the planning and preparation they deserve. Perhaps there is a tendency to be lulled into a casual approach by the relative informality of the tutorial. To maintain the benefits of informality, and to achieve worthwhile learning at the same time, demands not just a high level of interpersonal skills and concentration, but a particular attitude that focuses on students learning rather than teachers teaching.

Running a discussion requires the leader to shift roles constantly, from stage-setter of debate to instructor, from prober producing thoughtful responses to commentator summarising the issues. Defining and being alert to the changing needs of the group and educating them in the literal sense of the word - leading out - is teaching at its best. The key skills involved are watching, listening, questioning and summarising.

If you are having problems with these skills you might enlist the help of a critical friend. Sitting in with someone who has a reputation for outstanding small group teaching is often useful. Then invite that person along to watch you and to give feedback.

Facilitating participation

A common complaint of teaching staff is that students do not participate in discussion because they are not prepared. Before blaming the students it is

important to check that they have been well briefed about the work and that the resources required for their contributions are available. Assuming that these things are in order, it is then important to check if the students are in fact unprepared or whether they are prepared but too anxious and inhibited to contribute. A quick anonymous quiz can sort this out. If it is true that the students regularly come unprepared, you can try some of the strategies described elsewhere in this guide, such as providing them with questions to focus their reading or linking preparation to assessment. If the students are prepared but are still reluctant to participate, some of the following factors may be involved.

Factors that inhibit participation
From the student perspective, a number of factors prevent them from participating in group discussions, although many students these days have considerable experience of contributing to group discussion in secondary school. A theme that runs through the comments below is the need for clear ground rules. In *Learning through small group discussion* (1978), Jean Rudduck has provided a student's eye view of the problems of participating in small groups:

- *Making a contribution.* Even students who are confident speakers in other settings can be reduced to mumbling if they are 'not proficient in the language of the discipline'. By the time they have got their thoughts together the discussion has moved on or, more usually, back to the leader. Students need to be given the time and opportunity to come to grips with the discourse of the leader. Making the expectations abundantly clear is a big help. The linear nature of contributions can be an inhibitor. Waiting 20 minutes for the spotlight to fall on them can raise student anxiety. It is a good idea to give everyone the chance to make a brief contribution early on to get past the nervous stage.
- *Understanding the conventions.* Rudduck reports from videotape analysis how guarded students are about making moves. They resort to note-taking because it is safe. The task for the leader is to let them know what is acceptable and welcome in areas such as acknowledging confusion or misunderstanding, or interrupting to ask questions.
- *Knowing enough to contribute.* While students are often responsible for their own lack of preparation, it is sometimes a case of blaming the victim. A good group leader eliminates the obvious causes of student ignorance like the unavailability of reading. Other problems occur with the dominant knowledgeable student who is allowed to embarrass less confident students. The worst result of leader dominance and impatience in these circumstances is a conspiracy of silence from the group.
- *Being assessed.* This is a key factor inhibiting responses and requires skilful management. Rudduck points out that the discussion group ought to be a place where students feel they can take risks with ideas. Assessment can destroy a secure structure if handled badly. Again much of the anxiety can be reduced by careful briefing and definition of the tasks involved.

In addition, there are characteristics of the students that make group functioning difficult. Personality factors of individual students such as shyness or aggression can combine to undermine a group.

All these inhibitors have to be managed so that learning can be enhanced. Management problems are closely related to the style of the leader. Aside from the repressively formal group where there is fear of divergence, the group will contribute less when the tutor:

- Breaks the flow of discussion. For instance, to correct students constantly on points of detail. Suggestion: try keeping notes of minor confusion and allocate a regular time near the end of the session for clarification.
- Asks closed questions. This is just one question problem but it is one of the worst. See the section in chapter four on questioning for suggestions on variations and alternative strategies.
- Ignores responses. A cardinal sin. Reinforcing even the most tentative or trivial initial responses will set up a benign cycle for group participation. Not bothering to learn student names won't help. Ridicule, sarcasm and deriding previous student experience in the subject will guarantee non-participation.
- Shows impatience. It may be the hundredth time you have been through the exercise or debate but for the students it is the first. Trying to see the problem from their perspective makes an enormous difference to the attitude of the tutor.
- Is too formal. As with lectures, the answer is to develop a conversational style. Relax and try to be yourself. Student participation is also lowered when the teacher appears very knowledgeable. The solution is not to feign ignorance but to concentrate on defining problems rather than providing solutions. It helps to show that you are not infallible and that your curiosity is alive and well.

Activities for discussion groups

There are many ways of varying student activity to increase the effectiveness of discussions. None of these techniques is a substitute for the creative management of a group - listening to student responses, building on what they say, and seizing the teachable moment with enthusiasm. Most of the techniques involve breaking the group up for short problem-solving sessions. This reduces the anxiety of individuals being placed in the spotlight to give answers. It also encourages group cohesion. Try some of these:

- *Buzz groups.* These are simply mini-groups with set tasks, which are usually of a problem-solving type, but can include discussion of opinions on an issue. When the group is just forming it is best to get students to work in pairs at first then build up to groups of three or four.
- *Snowballing.* A variation of buzz groups that starts with individual work - reading a case study for example - and then moves to working in pairs with students comparing notes. The next stage is to form groups of four or five to prepare a report for presentation to the whole group.

These mini-group activities are being used more and more in university classes. The problem with even a successful discussion group of twenty people is that, though the discussion may be lively, some reticent members of the group will find it very hard to 'get in'. This does not mean that they will not benefit from the discussion, but they are missing the opportunity to participate fully. Mini-groups have the advantage of allowing students to articulate views in a small, non-threatening group prior to general discussion. With students who are extremely reluctant to speak, discussion in pairs can be very useful: it is difficult to avoid talking in a group of two. Of course students' personalities and preferences must be respected, but it is a rare student who really dislikes talking in any circumstances; most just need to be given an appropriate opportunity.

One pitfall of mini-grouping is the possibility of lengthy, even boring 'report-back' sessions. You need to think creatively to avoid this: for example, ask for two important points from each group or ask groups only to add additional points as they report. At times, you can select one group's points to start a general discussion. Variety of approach is the key.

There are some constraints on the use of these techniques. Ideally you need some spare space and movable furniture, although it is still possible to organise without these if students are prepared to sit on floors or desk tops. The main difficulty is with managing time. Mini-group discussions do tend to take more time than general talk and teachers who wish to use them extensively often restructure class sessions to give themselves longer tutorials. You may not be in a position to do this. However, even in a one-hour tutorial, it is possible to use short, sharp exercises of ten minutes or so to stimulate student thinking and talking. The subsequent general discussion is likely to be livelier and more focused.

There are many references in which you will find more ideas for different ways of organising discussion, some of which are listed in the Reference section. Activities such as those outlined add variety but note that over reliance on them can make 'busy work' and may well distract from the main task of learning. Students can find them unhelpful if they are not used selectively and strategically. Personal enthusiasm, a love of the subject and active leadership are far and away the best qualities for making discussion groups a worthwhile experience for you and the students.

Ideas for tutorials
- Build up a summary of main points on a whiteboard or overhead projector as the session proceeds.
- Continually use examples to illustrate key issues and ideas. Think of analogies and practical examples that relate to students' own experiences and contemporary issues that help to illustrate key points.
- 'In other words ...'. Don't be shy about repeating yourself when you are explaining concepts or presenting information. Some redundancy is a helpful way to reinforce learning. Try rephrasing information or presenting ideas from an alternative angle.
- Ask students to draw concept maps. Concept maps are a simple graphical representation of the relationships between ideas and principles. They are an excellent way of encouraging students to take a wider view and to reflect on where ideas fit together; they help students to discover their areas of uncertainty for themselves. They are also a good diagnostic device for teachers, because they can help pin down misunderstandings. If you would like more information on concept mapping, please contact me.

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TUTOR AND DEMONSTRATOR ROLES: AN OVERVIEW

NOTE: This document provides a general view only. Your particular School/Faculty may have its own specific guidelines on tutoring/demonstrating.

WHAT DO TUTORS AND DEMONSTRATORS DO?

Tutors lead tutorials which can be described as regular meetings of students (which are faciliated by a tutor) to discuss a topic. It is very similar to a seminar (a more advanced type of tutorial) and a workshop (a "doing" session). The format of tutorials may vary depending upon the subject, the tutor, the topic and the students.

While **demonstrators** may work more on a one-to-one basis with students than most tutors, it does not mean that the demonstrator role is not a teaching one. Demonstrators provide active assistance to students in laboratories, guiding learning, prompting ideas, questioning understanding, stimulating thinking. Demonstrators have the opportunity to build strong supportive teaching-learning relationships with students as they work with them on practical and applied activities.

Whether a tutor or demonstrator, both work with groups of individuals, and they all:
- provide guidance
- facilitate discussion
- provide a clear sense of direction and purpose
- are able to lead students when they get lost
- bring up points the students may have overlooked
- alert students to mistakes of fact
- explain things the students don't understand
- demonstrate and guide the development of skills and their application.

Effective tutors and demonstrators:
- make their role clear to students
- make the objectives of their methodology explicit to students
- clarify the expectations they have of their students
- plan their sessions, even if they have received detailed guidelines from the course coordinator
- provide clear tasks for students
- model appropriate behaviour
- provide a favourable learning environment
- keep their students informed
- develop active listening skills
- focus on process as well as content.

Effective tutorials and lab sessions help students to develop:
- analytical skills

- deep approaches to the processing of information
- skills in teamwork, co-operative learning, resolving differences and conflict resolution
- key communication skills including presentation; listening; debating and responding to non-verbal behaviour
- responsibility for their own learning
- the habit of talking and listening.

Developing questioning skills

The quality of interactive teaching and learning hinges a good deal on the ability of the group leader to sustain a 'discussion'. An effective questioning technique is a vital element. A good questioning technique will allow you to:
- gain insights on the level of students' knowledge;
- develop the communication skills and confidence of students;
- raise issues and complexities to extend and refine students' analysis;
- challenge students to defend their positions and strengthen their arguments;
- stimulate creative thinking;
- involve all students actively in the learning;
- encourage students to become self-directed learners; and,
- provide recognition and reward to students.

Not everyone is a good questioner when they commence teaching, but it is a skill which you can fine-tune and polish. The following suggestions should be helpful.

1. Remember to use a range of questions. Closed questions, such as 'Did the state budget deal with unemployment?', invite a yes or no answer and do not encourage students to open up. Open questions, such as 'What is the likely impact of the budget on unemployment?' cannot be answered yes or no, and invite a more detailed response. Forced answer questions seek a choice between alternatives that you offer, as in 'Was the budget adventurous or conservative?'. Endeavour to ask open questions, for generally they allow productive interaction. Carefully worded forced answer questions can also be useful, if the alternatives are designed to give students a starting point. Students may view closed questions as rhetorical or patronising. Work hard at pitching question at an appropriate level. Students will be less likely to respond if questions are either too difficult or too easy. If in doubt, try rephrasing. Remember that an absence of student response may indicate a poor question rather than lack of understanding on their part. Often a question will draw no response because it is too general and vague: 'What do you think of this idea?' It can help to narrow the focus and start at a more detailed and concrete level. A question can also be too convoluted, and require rephrasing and clarification. Vary the level of questions to allow students of different capabilities to participate.

2. Allow adequate time for response. Not waiting long enough for a response is a common error, particularly if people are nervous or unsettled. Be prepared to wait a number of seconds, though you may find the pause builds up a slight tension. Some tutors count to ten or fifteen before trying again. Eye contact may encourage a student who is considering a response. But don't prolong the silence to a point where it is painful for all. It is a delicate balance, one that you learn to judge with practice. The object is to allow time for reflection without turning the pause into an embarrassment. A useful strategy is to signal that a short silence is quite okay. You might say, 'Now this is a complex question, so I'll give you a little while to think about it.' Another is to give students the opportunity to discuss the question first in pairs and jot down a few ideas.

3. Respond appropriately to all answers. Encourage and reward students. An inaccurate or inappropriate response from a student requires attention; it is usually possible to acknowledge sound elements within the response while at the same time indicating its shortcomings. Sometimes it is appropriate to ask students to tighten their arguments or clarify their opinions, with your support and encouragement. Students should expect that they might be asked to explain or support their answers or opinions. Use probing questions such as, 'Can you explain what you mean by that?' and 'What kind of evidence do you need to support that argument?'. Be provocative. Challenge with alternative points of view. Be prepared to redirect questions to allow a number of student answers to build to a coherent whole. Draw on student contributions, using their points as the basis for further questions: 'Alexis has argued that x is the case. Does this conflict with Jenny's earlier point about y?'

Obviously you should not use questions to expose student inadequacies, to embarrass or to reprimand. Effective teachers create a climate in which students feel confident about answering questions and also about asking questions of the teacher and of each other. Students will be uncomfortable if they feel they may be demonstrating their ignorance and be open to peer ridicule. Developing a classroom environment in which students feel comfortable asking questions on the subject matter and their understanding of it requires patience and time.

Whether you should direct questions to particular individuals is a matter of judgement, depending on the confidence of students and the atmosphere of the group. Many experienced teachers prefer not to do this until they are sure that the group is working well, and even then use the strategy sparingly.

Encouraging attendance
Students will attend tutorials and practical classes if they believe it is in their interests to do so. This probably means departments should give thought to the design of strategic assessment practices. It also means that the classes themselves must be conducted with skill and interest in student progress; the teaching must tap into the concerns of students and their personal objectives.

Generally, attendance at tutorials and practical classes is not compulsory; however most departments actively encourage students to attend. Broadly speaking, activities undertaken in tutorials are usually closely related to assessable work and students are made aware that participation in tutorials should enhance their chances of success. Your department may have attendance or participation requirements that contribute to assessment, and these may provide more direct incentives for students to attend class. Some departments have a hurdle requirement of 50 per cent attendance. Along similar lines, participation during tutorials may be assessed, contributing to perhaps five to ten per cent of the overall grade. Other departments award additional marks (up to perhaps five per cent) if exercises completed in tutorials are handed in. In other cases, students are alerted to the fact that attendance may be taken into account in awarding an overall pass when the department is facing borderline pass/fail decisions. If any of these practices are in place you will be required to keep accurate records of student attendance. The keeping of all formal records (including comments on student achievement) must be undertaken thoroughly and professionally. These documents are 'on the record' and may be referred to in cases of appeal. Gratuitous personal remarks should not be recorded.

Tutors are sometimes expected to contact students who have not attended for several sessions, or to inform subject coordinators so that letters can be sent to these students. If you find that class attendance is dropping off, it may be the

result of factors outside your control. Nevertheless, it is probably worth conducting a small investigation to determine whether or not there is student disquiet, and, if so, whether steps can be taken to address the cause.

Encouraging participation

While attendance is necessary, it is not the primary goal, which is student participation. Unfortunately, linking attendance to assessment is not always successful in educational terms - it can create passive attendance. Clearly, physical presence does not mean active intellectual engagement.

The issue of participation is a complex one because quiet students are not necessarily non-participants. It is perhaps best to define a 'participant', in rather general terms, as someone who is engaged with the subject matter, who is involved with the learning tasks at hand, and who generally abides by the norms of the group and the ground rules for interaction that have been established. In these terms, quiet students may indeed be good participants. However, since the articulation and testing of understandings, arguments and opinions is an important part of learning, students who do not actively join in discussion are unlikely to enjoy the full benefits of small group work. They are also less likely to develop the high-level verbal skills which are just as important for graduates as written communication skills. It's also worth noting that students who don't actively participate may affect the group morale if students who are participating begin to feel they are being exploited by classmates they perceive to be 'lazy'.

There are many reasons why students don't participate fully. It can be because of anxiety about knowing enough, not understanding the conventions for interaction in the group, shyness, boredom, lack of interest, and even fatigue. You should avoid making assumptions about student motivation. You need to think carefully about students as individuals.

Remember that speaking to a class can be a frightening experience for many students, particularly first year students. To encourage participation you need to be very sensitive to student diversity and you should devise as many opportunities as possible for students to contribute in ways that suit each individual. Students who may feel uncomfortable about addressing a class as a whole, for instance, may be more relaxed talking in smaller student groups of five or six people.

Responding to students who behave badly

You might occasionally encounter students who behave badly or who will act to undermine your leadership. Again, there are no guaranteed solutions for dealing with these situations. Much will depend on your skills in class leadership and management, and your willingness and confidence to deal with problems should they crop up. You simply cannot tolerate sexism, racism, or other discriminatory behaviour. You cannot permit students to deride or bully others.

If you face such a problem, seeking intervention from a more senior staff member should be seen as a last resort. This is not because they may be reluctant to assist, but because failure to act quickly and decisively yourself will usually damage your credibility. By all means seek advice from more experienced colleagues, but only expect them to act on your behalf when all else has failed.

Remember that the class as a whole looks to you for leadership, and how you act during tense moments will do much to determine the esteem in which you are held. Problems should be managed as unobtrusively as possible. Usually it is best to avoid direct confrontations or a public display of frustration, though sometimes this may occur and may be a good thing. If you can cope well with tense

moments you might also set up healthier patterns of group interaction for the future. It is sometimes effective to speak to students privately, outside class time. They may not be aware that they are having a destructive effect.

Leading a group of students can be tiring, particularly if it includes students who behave inappropriately. Don't be surprised if you sometimes feel dispirited. Resolving difficulties is vital in the interests of the other students in the group - and it is a factor in your own enjoyment of teaching.

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