PRESENTING RESEARCH TALKS

Most students at some stage have to give a talk to the rest of the class and to their lecturers. Such oral presentations are another important aspect of scientific training. Whilst many people find talking in public a harrowing experience, this need not be so if the talk is well prepared. Good talks are rarely 'off the cuff'. A good presentation is usually one which has been long in preparation and well rehearsed.

Whilst an oral presentation contains most of the elements of a written paper (e.g. an introduction with the rationale and aims, materials and methods, results and discussion), talks must differ from written papers in one important respect. A reader of a scientific paper has time to read (and re-read) the paper slowly and to consider carefully the information contained within it. A talk gives the audience only one chance to grasp the important information, unless the speaker repeats important points. To ensure that a talk has maximum impact, therefore, talks must be very well organised, logical in structure, and not contain information which diverts the listeners' attention from the main point of the talk. Delivery must be clear and smooth.

Below are a number of points which form elements of a good presentation.

Content

1. Research the background of your audience. A talk at a specialist scientific meeting, for example, needs to be pitched at a different level to that of a public lecture where the audience will have a wide range of interests and levels of knowledge.
2. Many speakers begin their talk with an overview (in point form) of the structure of the talk. Whilst this is not always necessary, it can be very helpful to the audience and shows that you have planned your talk carefully. Do not begin your talk by stating the title of your talk. Your audience has usually been given this in advance. However you may like to display a slide or overhead transparency with the title of the talk, your name and affiliation whilst you make your introductory remarks.
3. The first part of the talk should contain important background information, which places your study in context. Here it is important to draw the audience's attention to a few important previous works. This background information should gradually lead you to tell

your audience of the aims of your study. This could perhaps be presented in the form a question (which you pose to your audience) or an hypothesis (which you will try to disprove or prove). Some speakers often incorporate the question into the title of the talk.

4. Unlike a research paper, the materials and methods of the work, results and a discussion of them, can often be combined, rather than presenting them as discrete entities. When presenting information on how the work was done it is often useful to show the audience: a photograph, diagram or specimen of the animal(s) studied; photographs or maps of the study site; examples of the equipment used (if special) and or experimental enclosures. Always inform you audience of the numbers of animals used, numbers of replicates of experiments (or samples) carried out, what controls were used in experiments, how experimental conditions were controlled.
5. When presenting results, ensure that any tables and graphs used to show results contain relevant data only. Thus avoid showing a table (or graph) and informing the audience that they must only concentrate on one line of data! Graphs and tables should show the variability in the data and you should explain whether comparative data are statistically significantly different (or not). Explain what statistics were used to reach this conclusion.
6. Lead you audience through the presented results, highlighting and pointing to (on your overhead transparency or slide) the important findings. This gives your audience a chance to examine your results. Do not display data for a few seconds only as if you had something to hide.
7. When discussing the meaning/interpretation of your results put your results in context. How do they relate to findings from other studies? How have they advanced knowledge of a field of research? Do they confirm or refute previous findings? If your results do not agree with those of other workers, how might the differences be explained?
8. Make sure that all information can be read from the back of the lecture hall. Do not put too much information on overheads etc.
9. Finish your talk by summarizing all important points, perhaps as a single overhead with a series of important points. It is important, however, to leave the audience with a ‘take home message’. If you have posed any questions at the beginning of the talk make sure

that you have attempted to answer them or explained why you were unable to answer them.

Delivery

10. Make sure that you know your material. It is a great advantage if you can present a talk without referring to your notes. This comes with confidence of knowing the material, and is helped by practice and well prepared visual aids to prompt you. If you do require your notes, try to refer to them as little as possible. Make sure your notes are written so that you can find information in them rapidly. **Never** read your notes word for word; this makes for a very boring talk and little direct communication with the audience.
11. Look at your audience frequently. Talk to them, not the blackboard, the slide projector screen or the overhead transparency screen. Unless you have to write something on the board, do not turn you back on your audience. Eye contact is a key factor in giving a lively talk.
12. Project your voice as if you were addressing someone in the back row. Voice projection needs to be adjusted according to the acoustics of the room, and size of the room. Vary the pitch of your voice. Nothing sends an audience to sleep faster than someone speaking in a dull monotone.
13. On some occasions you may be asked to use a microphone (fixed, hand held or lapel type). Their use requires practice as many speakers continually bump the microphone, turn away from it or shout into it. All this results in poor voice projection and is very distracting.
14. Try to practice your talk in the room in which it will be presented. This allows you to judge the acoustics of the room and enables you to become familiar with the position of light switches and the controls of the any equipment.
15. Your manner of speech should be friendly and helpful, not dictatorial or aggressive. Never talk down to your audience. Do not be flippant or use colloquial expressions. If you need to use specialist terms (‘jargon’) or acronyms, explain these carefully. When making important points slow down the speed of your delivery. Tell the audience that

these are important points.

16. Try to inject enthusiasm into your talk to let the audience know that you find the work interesting and that you enjoyed doing the study.
17. Some humour in a talk can be welcome. However, the overuse of humour can detract from your talk. Do not tell jokes!
18. NEVER overrun your allotted speaking time. It is rude and inconsiderate to other speakers who may have to follow you. If you have practised your talk carefully you should be able to keep to time. If you see your audience glancing at their watches this is a sure sign that you are talking for too long.
19. Try to end your talk on a positive note, perhaps including a word of thanks to your audience for their attention.

Use of Data projectors and Computers

The use of computers linked to data projectors for presenting talks is increasing. Whilst it is not essential that talks are presented using such facilities, students should know how to use such technology and the associated software packages. A talk using such facilities can be very effective because it is possible to combine images (still and video) and text, but it can also be disastrous if:

20. you are not fully familiar with the use of the software package
21. the computer and data projector are not set up correctly and in advance of the talk
22. and if the computer crashes (ensure that you have a back-up on disk or even on overhead or 35 mm transparencies).

There are also some very common errors made with such presentations. It is recommended that when delivering a talk using a computer and data projector:

23. keep the slides simple with as few gimmicks as possible (e.g. lots of unnecessary and variable animated features). These will only distract and possibly irritate your audience. Remember you are providing your audience with scientific information and not a display of the capabilities of a software package such as Powerpoint.

24. settle on one colour scheme for all the slides. These colours should enable any text to be read easily. A dark blue background with white or yellow text works very well. Similarly a white background with dark text also works.
25. Avoid a combination of red and green. People who are colour bind will not be able to read your slides.

Dress

Presentation of a research talk was once a very formal occasion and speakers dressed accordingly. Except for special talks, these days many speakers tend to dress more casually. Casual dress, however, does not mean that you should dress as if you were about to spend the day at the beach. At least make sure that you appear before your audience neatly dressed. This tells your audience that you are taking the talk seriously. You are also showing your audience some respect.

Nervousness

Even experienced speakers get nervous before a talk. You should therefore not worry about some adrenalin in the system, this means you are ready. Nevertheless nervousness can be minimized by being well prepared. Beware of nervous habits e.g. jingling of keys or loose change in your pockets, excessive pacing in front of the audience, mumbling, and punctuating or ending your sentences with words such as ‘OK’, ‘right’, ‘err’, ‘umm’. All these, and other, habits are very distracting to the audience.