ADVICE FOR A SUCCESSFUL CONFERENCE TALK, 2012

Here is the latest in a hardy annual series of hints for giving a good conference talk. Every year there are new good ideas to share and new traps to warn people away from, and of course some same old points to make again. So here is my collected prejudices. Of course, you don't have to slavishly follow these suggestions if you have an alternative approach that works for you. But if you follow the advice, your talk should work well.

In summary, the main points I would emphasise are as follows:
- Powerpoint is now the standard way of giving a talk, and works well. Powerpoint is so dominant that you cannot any longer count on being able to show slides or OHPs unless you have arranged it beforehand. In theory you could do a mixed talk with some powerpoint and some slides or OHPs; however, in many rooms now the powerpoint screen takes up most of the front of the room, so it's best to do the talk entirely in powerpoint.
- as we see more powerpoint talks, we see more badly scanned, low-resolution, tiny pictures. Scan with high resolution and decent colour depth and show it large on screen (please!). If you grab a picture off the web, make sure it has enough resolution to be worth showing (at least 600 x 400 pixels).
- You need to know that small pictures will **show much less detail in the conference room than they show on your computer**. If a picture is worth showing, show it as large as possible, otherwise leave it off. A good rule of thumb here is to get a piece of A4 paper and fold it in half to make it A5. Now hold the A5 page at arm's length and back away from your computer screen until the A5 page hides the computer screen. That is the view that the audience will get. Revise (enlarge, simplify) your talk until everything on it is clearly visible from that distance. For example, all writing should be at least 20 point font if you want the audience to be able to read it.
- use a simple colour scheme in powerpoint: most people now use black text on a white background (simple and clear, and increasing in popularity every year). Don't use a black background with bright text (white, yellow etc) as it makes the room too dark for the audience to take notes, fine details block out and disappear in a way that black text and letters on white do not, and the black background is also generally headache-inducing.
- resist the temptation to use animation or cute cluttered backgrounds in powerpoint.

Now for some explanation of the above points. Most of this is about powerpoint as everyone uses this now. If you want to use OHPs or slides, email me (dave.kelly@canterbury.ac.nz) for hints on those.

USING POWERPOINT (HOW TO SHOW IT)

By Powerpoint I refer generically to any computer presentation programme (on PC or Mac). These have the advantages that they are colourful, essentially free to create, and the projectors usually give a lovely big bright picture. Resolution is typically at least XGA or 1024 x 768 pixels, which is far below a true 35 mm slide (>3000 x 2000), but is good enough to use. If you scan or paste your pictures in, make sure they have enough resolution (1024 x 768 resolution or better) and high colour depth (true colour), and fill the entire screen with the picture - leaving a border around the photo usually wastes over half, and sometimes two-thirds, of the available resolution. **I'll say that again because so few people actually do it: FILL THE ENTIRE SCREEN WITH THE PHOTO. NOT JUST MOST OF THE SCREEN, ALL OF IT. DON'T WASTE SCREEN SPACE ON BORDERS.** If the key part of the photo is only part of the whole frame, crop and enlarge just that part to put into powerpoint. Note however if you have grabbed a low-resolution picture from somewhere like the web, enlarging part of the picture only makes clear you have a crappy low-resolution picture, so that's not advised - in which case find a higher resolution version of the photo or a different photo.

Note also that this projector resolution of 1024 x 768 is probably lower than the resolution you are using on the computer to create it, and the project will not be as sharp as your computer screen. so the view in the lecture room will be significantly worse you are seeing. As a consequence, don't (as many do) put a bunch of tiny pictures on one slide – they won't show much in the lecture room. About a quarter-screen is the smallest picture that anyone will be able to see anything useful in. The same is true of small pictures put onto a slide mainly about something else, or montages of many small pictures: these may be visible on your computer, but all they will show in the lecture theatre is that you don't know how to plan an effective talk. Small pictures usually end up showing very little due to low projector resolution, so make pictures big or leave them out.

Another thankfully-rare stuffup that you should NEVER DO is a portrait-format powerpoint talk (vertical orientation). In a slide projector, portrait orientation is OK because you get the same size slide arranged vertically. It does not work in Powerpoint because the projector cannot lie on its side to show your portrait image. Instead it just cuts the sides off and you get a small, lower resolution vertical slice – in other words, before you do anything you have thrown away about half the available screen area and half the available resolution. This will make your talk small and hard to read. NEVER DO THIS UNLESS YOU WANT TO PROVE YOU ARE AN IDIOT. Always use a landscape orientation even if you have some vertical images or graphs to show.

Powerpoint offers various animation features, such as building a slide in sections, sliding new text in, dissolving from one to the next, and so on ad nauseum (literally). Building can be used to good effect, but keep it to a minimum, as you have to keep clicking the mouse each time, which will distract your attention from what you are

saying. It nearly always works just as well to have the whole slide appear at once, and just explain it line by line. If you have animation etc, it's best to have text just appear, rather than slide in, which is distracting. Also change immediately from one slide to the next rather than using dissolves, which are more distraction.

Genuine meaningful moving images (movies, simulations etc) inserted into Powerpoint are a VERY good idea for getting audience attention, if you can get them to run! Note that if you have a video file to play, you can link that into Powerpoint so it runs within the program, but this link will not move to a different computer (eg the one in the conference venue) automatically. You must check that you move all relevant files over into the relevant directory, perhaps reinsert the video into powerpoint, and check that it runs on the new computer before the talk to avoid any nasty surprises.

GRAPHIC DESIGN (WHAT TO SHOW)

The main message here is, keep it simple. You should only present the essential message. In particular, nearly all the following are counterproductive and should be avoided:
- **no corporate, university etc logos -** leave off, or restrict these to only the first slide.
- **no borders**: they reduce space available for real information.
- **no fancy backgrounds -** tend to obscure the actual message
- **no gradient fills**
- **no clip art**
- **no false 3-D** on graphs.

Luckily, nearly all the above except corporate logos are getting quite rare.

Good things to do with an image include:
- **High contrast** between background and message. This is easiest with a relatively plain bright background, i.e. white. Then use black or a dark colour or colours for the text and graphs. People used to often use mid-blue background with white text and yellow heading text, but this has fallen out of fashion and now mainly marks you out as an old-timer who hasn't bothered reformatting some old slides. White or very light coloured background and black text works better in live PPT than in 35 mm slides, which showed dirt more easily. Don't use red on green (bad for colour blind people). Don't use black backgrounds with light coloured text; it looks stylish at first but it makes the room too dark and makes it harder to focus on your text. Also as noted above, white text on a black background loses fine detail much more than black text on a white background does.
- **Get the message as big as possible**. This is where borders, logos etc waste room. Get the table or graph almost out to the edge of the screen. Make the font as big as possible. Keep the text short to facilitate this. Text can never be too big and almost never too concise. If you are inserting a picture or graph into Powerpoint, use the whole frame for the picture.
- **Use a clear font**. The most readable font in both large and small font sizes is a sans-serif font (**Arial** is a good example) in mixed upper and lower case. Don't use all-capitals, or small-caps, as the letters are too similar to each other. A serif font like Times Roman would be OK in large sizes but tends to break up when in smaller sites (<30 point), with the narrower parts of each letter disappearing (especially in white on black background) so is best avoided.

SCIENTIFIC CONTENT AND PRESENTATION SKILLS
A. PLANNING THE TALK.
1. Using a single powerpoint projector is easiest, and this is the only setup you can be sure will be available in the room. Using two projectors (two powerpoint, or slide plus powerpoint) simultaneously is fraught with potential for disaster, although if you can get it to work it makes a very good impression. Using two projectors works best if you always change both at once, or have graphs/text on one and photos of organisms on the other. You will also need to practice the talk over and over so you memorise which slide is where and don't mess it up; what usually happens is you change one, find you meant to change the other, have to go backwards with the first one and forward with the second one, still can't find the slide you wanted, etc etc. Anyway, many venues for seminars, talks etc will not be equipped with two separate computer/projectors unless you warn them beforehand. If you wanted to show different images on the two data projectors, you'd probably have to run the resident computer driving one, and have your laptop running the other, but the conference organisers won't be keen because the setup will take time. Similarly, don't plan to show an OHP and PPT, or an OHP and a slide, simultaneously unless you KNOW the venue supports this, most don't. The OHP is so bright it tends to overwhelm the PPT or (especially) slides somewhat in any case. If you need to refer to a picture or diagram several times, make several copies (easy in PPT) so you can keep moving forwards through the talk.
2. Aim at slightly over one slide per minute (about 1.2 per minute) depending on how complex each slide is and how fast you talk. The absolute maximum you can fit in is about 1.6 per minute, but to keep to this rate you must have simple slides and be ruthless in not talking for long on any slide – not for the inexperienced! Have a trial run beforehand if you like, but the talk doesn't come out the same length anyway since you're more hyped up

during the real thing. If in any doubt, leave a few slides out and make it shorter, thus ensuring you have time to stress your conclusions.

3. Try to get *all* information onto its own slide, including simple things like a title, and a list of your species names. Even a slide with a single word or number can be worthwhile in the right context. Map out the talk and make sure there will not be any times when you have to explain something with nothing on the screen.

4. Your first slide should be a title slide, with your title, names of the authors, institution (eg University of Canterbury) if appropriate, and perhaps corporate logos etc if you want those (though I think they are a waste of screen space). I also find it useful to put in small text at the bottom the date and event (conference name or whatever) and time allocated to the talk so later on I know where the PPT talk was presented.

5. My second slide is the Acknowledgements. Some people put acknowledgements last, apparently on the grounds that this is where they are in a journal article. Having acknowledgements last only helps to erase memory of your conclusions, and is therefore a bad note to end on. It works much better getting it out of the way early. If you have few acknowledgements, consider putting them as a single line on the bottom of the first (Title) slide. Don't read out all the acknowledgements, as the audience can read them faster than you; simply highlight any bits you are very grateful for or give an overall expression of gratitude to them all. Also keep this short - there's probably no point in showing a list of 12 names of folk who helped you on field work, most of them won't be there.

6. Your third slide should explain why a non-specialist should care about what you are talking about. In other words, show what wider question your talk relates to. You don't need to solve the meaning of life, but do show the interesting context of your work. This will probably include a brief statement of your Aims or hypothesis to test. This is a very important slide, because if you don't do this properly you may lose the attention of half the audience at this point. However, don't have a long introduction that explains really basic facts, we all know NZ has a lot of threatened species and invasive mammals are a problem. If your intro runs to more than 3-4 slides in total, make it shorter and more specific. Overly-long introductions are currently the most common flaw in Powerpoint talks.

7. Don't bother with a "contents" slide ("intro, methods, results, discussion"). No talk under 45 minutes long needs a contents page.

8. Don't have a separate methods section - explain the methods for each result just before, or at the same time as, showing the result. We only care about methods when looking at the results that they generated. Keep methods really basic and brief. If we want to know more about the methods we will ask in question time. We're more interested in principles (eg what the three treatments were) than details (eg the number of replicates). This is quite different from a written paper.

9. Do use simple tables with a few to 10 numbers on them (but never big messy ones). These are a very good way of getting the point across. Not everything needs to be a graph. Also use text slides, giving for example the four reasons that your project is important. Make these very short - no full sentences etc, or they will not be readable from the back. Maximum is about 5 words per line and about 20 words per slide. If your table has more than 20 numbers or your text slide more than 40 words, redo it with fewer. In Powerpoint, try to keep fonts above 24 points for all text. If the text won't fit on the slide in 24 point font, you have too many words.

10. It's good to give citations for sources when you present a slide which draws on an important published paper (eg presents a graph or some data from the publication). However, a very truncated version is enough for two reasons. Firstly it saves you space on the slide, and secondly the audience don't have time to write down titles, volume and page numbers. What you should show is the FIRST AUTHOR SURNAME, et al if appropriate, the YEAR, and the ABBREVIATED JOURNAL NAME. For example, **Kelly et al. 2004 NZJ Botany**. Nothing else is needed to easily find a paper. However, it is really annoying to leave off the journal name, as then nobody can find the paper - this is worse than not giving a citation at all.

11. End with a conclusions slide which gets your 3-5 key points summarised clearly, and explains why this all matters to the rest of the world (ie relate back to the broad aims outlined in slide number 3). If the key messages of your talk can't be summarised as 3-5 main points, then go back and reconsider what you are trying to say, because no short talk can get more than 3-5 points across clearly.

12. You could prepare prompt sheets for yourself, in one of two possible formats. One approach is to put "notes" into powerpoint attached to each slide, and you can then print these out, but it takes up a lot of space (one page per slide). A better idea would be a one-page or two-page prompt page, with one line per slide, in order, saying what each is, and listing any data you need to say which is not on the slide (so you don't forget it). This will be your safety net. I don't look at this much during the talk, but it can be helpful to have prepared this beforehand, as it helps you decide what you need to call attention to in a slide, so when the slide comes up you recall having thought about this before, and can say it without referring to the sheet.

13. The only thing you will say which is not prompted by a slide will be your very first introductory paragraph. You may want to make a couple of reminders to yourself on the top of your prompt sheet of things to say before switching to the second slide (jokes, links to data given by the previous speaker, etc).

B. ON THE DAY OF THE TALK.

1. **Make sure you know how to work the lights, powerpoint or slide projector, remote control, OHP, laser pointer, board etc beforehand.** This is essential to avoid last-minute panics which can throw off your whole talk. Also you get the audience offside if you prove you were too slack to do the necessary site preparation.
2. If using PPT, make sure you follow the instructions about getting this loaded onto whatever computer the organisers are using well in advance. Then find a time to get the projector fired up and run through your whole talk. Make sure all the slides, graphs, text etc come out OK as sometimes the fonts change on a different computer, or pictures AND ESPECIALLY MOVIES don't display as you expect. If using slides, put the slides in the projector and *run them all through* to make sure they are right way around and in the correct order (as on your prompt sheet). Then make sure you have the lockring or cover on the carousel so the slides can't fall out. There is NO excuse for having a PPT talk display funny or a slide come up back to front.
3. Think about where you will stand so you can point to the screen without blocking anyone's view, and where you must face the audience rather than the screen. If using powerpoint, check where the computer is relative to the screen as you will need to reach the keyboard to change slides (unless there is a remote, in which case be sure you know how to operate that.) In general, the best is to stand beside the computer or the large screen and face the audience, not stand in front of the screen with your back to the audience. Choosing a place to stand is especially important (and difficult) with overhead projectors because if you stand by the OHP itself you will be blocking someone's view.
4. Check out how the lights dim. When you show slides you'll need to dim the room, *but not make it completely blacked out*. There is little more annoying to the audience than being plunged into darkness and not being able to see to write notes on all the interesting things you are saying. This problem is compounded if you have a black background to your slides. Dimming may be done for you by the person running the audiovisual systems; if they plunge the room into darkness, ask them to turn the lights up a bit.
5. Find out what pointers are available (wooden, laser pointers etc) and where they will be. If you have a wooden pointer, rest the tip on the screen at the item you want to point at, rather than waving it near the screen and relying on the shadow of it, in which case some will be looking at where the shadow is and some at the end of the pointer itself. If you have a laser pointer, keep it as still as possible on the centre of what you are pointing at then turn it off, rather than doing lots of circles around what you are pointing at. Waving continuous wild circles with a laser pointer really annoys the audience. If your hand is shaking (as most people's do) move closer to the screen, or rest the laser pointer on the edge of the lectern to steady it. Alternatively, if you can reach the screen and it's not too big, pointing with your arm can be very effective as it gets you and your images up in the same place. In PPT, you can use the mouse to point with, and even draw lines on the screen in real time if you want (check you know how to do this). Another technique some people use is to prepare circles, arrows etc within PPT beforehand to highlight things, and have these appear onto the slide ("building") by pressing the spacebar/mouse. This can be good, but don't overdo it, and it also takes a long time to prepare all that stuff beforehand.
6. Get a friend to time how long it actually takes you to give the talk, as you will be too busy to notice the exact start and end times. Knowing how long it took helps to plan the next one.

C. DURING THE TALK.
1. Give your talk a definite start and finish. Start with a loud "good morning" or similar. When you have finished say "thank you, that's all" or similar in a loud and audible way. Don't just tail off.........
2. NEVER read a prepared speech - it bores the audience stupid. This is because written speech is quite different from spoken speech, and written speech is very boring to listen to. The only read-out talks that succeed are where the speaker has written down spoken english. Just ad-lib it. Let the slides prompt you, and just explain them in a conversational way (hence the importance of having every point already on a slide somewhere).
3. Slow down, nerves will make you want to talk too fast. In particular, silences feel about 10 times longer to you than to anyone else. If there is a slide showing, that will keep them happy while you think.
4. Explain every slide when it first appears. Pictures: explain where they were taken, when, what the organism is, etc. Graph or table: explain each axis, where data come from, etc. Do this before starting to say what is significant about the slide. Remember, this is the first time your audience has seen it.
5. Don't worry about timing. You have too much else to think about, and anyway if you have about 1.2 slides per minute it will be about right. Sometimes when you are reaching the latter part of the talk you may get a feeling of panic that you have only used up 5 minutes of your 15 minutes, and be tempted to slow down on the last couple of slides. Don't. THIS FEELING IS AN ILLUSION caused because you have been concentrating so hard on the talk you didn't notice time passing. You have almost certainly used up the 15 minutes and have not got time to slow down if you want to finish on time. And everyone is happy for you to finish early; this leaves more time for questions (or morning tea).
6. Don't apologize for ANYTHING. Speak clearly and act as though your information is interesting and important (it is!), otherwise why should the audience treat it as important? This includes not saying things like "this graph is messy but..", or "I hope you can follow this..". Remember: you have planned the talk before, and everything in it is there because you KNOW it is important to get the points across! Also assume your audience is intelligent, awake and interested, so they will have no trouble following your explanations of even complex slides.

7. Don't make every slide in Powerpoint build up one line at a time. This is rude to the audience, as you are assuming they can't be trusted to read ahead. Moreover, it keeps you too busy pushing buttons, and also distracts the audience as they watch you do this. If you do this at all, use it very sparingly, and only for large chunks not a line at a time.

8. Don't worry about turning a slide off (or the projector off, or inserting a blank slide) just because you have finished mentioning the main points on it. Leave it up until you need the next one; there's no harm in having the last slide showing. With this and the previous point above, what you need to realize is that someone in the audience looking at a slide or reading ahead on your next lines of text at least has their mind on your talk, whereas if you give them no visuals to look at, their mind may start to wander.

9. When you reach the end of the talk and finish, give a definite end and say loudly and firmly "that's all thanks". Leave the final slide showing, since it is your conclusions (see points A5 and A11 above). This will keep your main points in front of everyone during the questions.

10. In question time, keep your answers short - don't go on. Don't be afraid to say "I don't know" or "I haven't looked at that" or refer the question on to someone else who may know the answer better (supervisor, collaborator, etc). No one has looked at every possible aspect of their topic.

D. AFTER THE TALK.

1. Write into your PPT file (or onto your prompt sheet) how long it actually took to give the talk. This will help in judging the timing of the next one.

2. If you made a prompt sheet, keep it. It will be useful in planning other talks, especially if you have identified the slides/powerpoint file so that you can find them again later.

Dave Kelly, Biological Sciences, University of Canterbury, Christchurch.
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