

How to give presentations

Notes for ENGR 401 from Neil Dodgson's lectures on giving presentations

Resources

Presentation Zen — Garr Reynolds approach to great presentations

Made to Stick — Dan & Chip Heath's explanation of why some ideas survive and others die

Brief summaries from the lectures

The right questions to ask

from *Presentation Zen*, Garr Reynolds

- How much time do I have?
- What is the venue like?
- What time of day?
- Who are the audience?
- What is their background?
- What do they expect of me?
- What do I want them to do?
- What is the fundamental purpose of my talk?
- What is the story?
- What is my absolutely central point?

SUCCESS criteria

from *Made to Stick*, Dan & Chip Heath
interpreted for Engineering presentations by Neil Dodgson

Simplicity

- not simplistic; not dumbed down
- What is your key point?
- What is your core message?
- Why should your audience care?

Unexpectedness

- Stimulate the audience's curiosity
- Pose questions
- Expose a gap in their knowledge — then fill the gap
- Take the audience on a journey

Concreteness

- Start with an example
- Use examples throughout
- Speak of concrete things, not of vague generalities
- The abstract is hard to grasp, examples are easy to grasp

Credibility

- Provide evidence that your idea works
- For example: show results, describe the algorithm
- Provide enough detail to make them trust that you are correct, but not so much that you bore them or lose them

Emotions

- People are emotional beings: make them feel something
- Catch their interest: can they use your work? do they believe you?
- Ask a question *or* tell them something they don't know *or* tell them a story

Stories

- People love stories
- Where appropriate, make the whole talk into a story
- Use anecdotes in your talk: "When we asked your customers what they really wanted from your product, we were surprised by the biggest bugbear that they had..."

Neil Dodgson's hints & tips

A presentation is not a lecture

- You are presenting an idea, not teaching
- You are presenting enough information that people will then engage in an ongoing conversation

Beware the curse of knowledge

- ...where you cannot imagine what it is like not to have your level of background knowledge on the topic. [Chip & Dan Heath]
- Imagine the typical audience member and plan the talk to be accessible to them.
- Try applying the Heath brother's SUCCESS criteria to your talk.

Start well

- Start with the key idea
- Start by catching the audience's interest — ask a question or give a fact that the audience will find interesting
- You have only two minutes before many of the audience will drift off — do not waste those two minutes
- Ensure that you know exactly what you are going to say to start and have rehearsed it — this will help you get over the inevitable nerves that you feel when standing in front of an audience: you have practiced the start so much that it just flows naturally
- See Conor Neill's video on [How to Start a Speech](#) (it's an old video: when he says "Blackberry", he means "Mobile Phone")

Stop within the time limit

- Using more than your time is rude and shows poor planning
- If you run over time, everyone will remember that fact and not your talk
- Do not try to cover everything — leave people wanting to know more — they'll come and talk to you

Rehearse

- Practice, practice, practice
- A presentation is a performance — you would not go watch a band where the musicians had not rehearsed — your audience have given up their own time to listen to you — you owe it to your audience to rehearse beforehand
- Only by rehearsal can you ensure (a) that you start well and (b) that you will end on time

Check the technology beforehand

- All seminar rooms and lecture theatres are set up differently.
- Arrive at least ten minutes early to ensure that the technology works.
- Ensure that you have a back-up plan if your laptop doesn't connect or if the software is unavailable or incompatible. For example:
 - If you take your own laptop, have a backup presentation on a memory stick.
 - If you use Keynote or Powerpoint, have a backup presentation in PDF.
 - Your luggage may go missing: put a copy of your presentation in the cloud.
 - If you need an internet connection for your presentation, have a backup version that doesn't depend on an internet connection.
 - If you use video in your presentation, have a backup version that doesn't depend on video.
 - If you use sound in your presentation, have a backup version that doesn't depend on sound.

Other resources

Did you enjoy these lectures? If so, check out this earlier material by the same lecturer.

Researchers frequently present their work. Some do it well. Some do it badly. Some do it so badly that the audience cannot remember what the talk was about.

In 2009–2012, I developed a series of lectures to help new researchers present better and to help audiences to remember the key point of your presentation.

Videos of previous lectures by Neil Dodgson

The 2012 lectures

How NOT to give a presentation (18 minutes, University of Cambridge Streaming Media Service) also on [Vimeo](#)

Presenting a paper (12 minutes). A short presentation of basic concepts and mis-conceptions in presenting a paper. This is an introduction to the longer presentations later in the course.

How to prepare a presentation (33 minutes)

Laying out presentation slides (13 minutes)

The Gettysburg Address (15 minutes)

An example of how to present a mathematics proof in a talk (9 minutes)

Lessons from The Gettysburg Address

I use the Gettysburg address as an example presentation.

The Gettysburg Address (15 minutes, 2012)

My course was about how to give good research presentations, so it may seem curious that I use a political speech from the 19th century as an example. However, I find that this speech has much to teach us.

Peter Norvig's Powerpoint of the Gettysburg address

My original reason for choosing the Gettysburg address was that **Peter Norvig** had produced a Powerpoint presentation of it. His **set of slides** demonstrates how a presentation tool can turn a good speech into a poor presentation; this was the key teaching point in the first year I used it. The Gettysburg address is sufficiently short (two minutes) that it is easy to give twice in a lecture: once without visual aids and once with the Powerpoint slides. **A video of the first time I lectured this (2009) is available online** (for those who want to see how the better 2012 talk, above, developed from the 2009 version).

Reflections on the Gettysburg address

My subsequent investigation into the history of Abraham Lincoln's address provided a range of other lessons for students preparing for a life of giving technical presentations. The Gettysburg address was commissioned as a short speech dedicating a military cemetery in Gettysburg, Pennsylvania. It was almost the final act in a three hour-long ceremony of dedication, which included music, prayers, and a two-hour long speech by Edward Everett, one of the great orators of the day. President Lincoln was invited to give the dedication a mere two or three weeks beforehand and his brief was simply to dedicate the cemetery "by a few appropriate remarks." He did rather more than this. What follows are the lessons that I used in my Research Skills class.

You don't need Powerpoint

or Keynote or LaTeX or any other slide software

It is quite possible to give a riveting talk without any visual aids. Norvig's slides clearly detract from the message. If you do choose to use visual aids then ensure that they add to your talk rather than detract from it.

You need to plan

Lincoln did not speak off the cuff. He planned the speech carefully. There are five or six drafts of the speech, most prepared in Washington before Lincoln travelled to Pennsylvania. He worked hard on this speech, ensuring that it said exactly what he wanted to say. You also need to plan for when you give presentations.

You need to rehearse

You cannot deliver a talk well without rehearsal. In order to get the phrasing and timing right for delivering the Gettysburg address, I have to rehearse it three or four times beforehand each time I give this lecture. Likewise, when I am preparing other talks, I will generally run through my talk a couple of times the evening beforehand, to ensure that I am clear in my own mind what I am going to say.

You should grab opportunities to speak

Lincoln was invited only to give a two-minute dedication speech. He could, conceivably, have refused. But he grabbed the opportunity to address a crowd of 15,000 people, which included six state governors and many others who had influence in American society. We researchers should, similarly, be ready to grab any opportunity to present our work to our colleagues.

You should work within the constraints given you

Lincoln was asked to give “a few appropriate remarks.” He knew that this meant he had only two or three minutes. He did not rail against this and write to the organisers asking that he be allowed to speak for longer. He worked within the constraints he was given to do the best he could. Likewise, if you are asked to prepare a fifteen minute presentation, do not prepare a thirty minute presentation and hope that the organisers will accommodate you: they won't. Work within the constraints you are given to do the best you can.

You should say what you need to say

Lincoln certainly did not restrict himself to “a few appropriate remarks.” He made a political speech that inspired his audience. The construction of his speech is clever. The speech is only ten sentences. The first five sentences are exactly the sorts of things you would expect a president to say when dedicating a military cemetery. His sixth sentence must have come as a shock to his audience. Lincoln says “But, in a larger sense, we cannot dedicate, we cannot consecrate, we cannot hallow this ground.” You can imagine members of the audience thinking “What does he mean by that? What is he talking about? Why can we not dedicate this ground?” Lincoln then goes on, in only four sentences, to inspire his audience to re-dedicate themselves to the cause of freedom. He does what he is asked to do, to dedicate the cemetery, and then goes on to say so much more: to say what needs to be said.

You can interpret your brief imaginatively

Lincoln did not restrict himself to dedicating the cemetery, he interpreted his brief imaginatively and gave a short speech that is remembered 150 years later. Likewise, when asked to give a presentation, you can be imaginative in how you interpret your instructions. For example, when asked to give a talk about a research paper you may think that your job is to present your research paper. It is not. It is to present the key idea in your research paper. You may find that the best way to do this is to talk about some things that do not appear in your paper and to avoid talking about some other things that are in your paper. Be imaginative in getting your message across.

You must get your message across

Lincoln concentrated on getting his key message across to his audience. It is challenging to prepare a two minute presentation, but Lincoln knew that, in two minutes, he had time to convey only one key idea. It is all too easy to try to convey many different ideas and thereby confuse your audience. When preparing a talk decide what your key message is and ensure that that message is communicated clearly to the audience.