

A Suggested Guide to Public Speaking

A vital part of the engineers/scientists toolbox

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**Why do you need to know how to
speak?**

My Background

- Captain of Senior Public Speaking/Debating in High School
- Winner of District 201N5 Public Speaking Award - Lion's Youth of the Year 2016
- President of MUGS
- Vice-President of PhySoc
- Engineering Leadership Scholar
- Currently a Student Ambassador/Faculty Communicator/Academic Tutor with the University of Sydney
- Mechanical Engineering Intern at Abergeldie Complex Infrastructure

Something to keep in mind:

Public speaking is a tool.

You don't need to like it, but you should know how to do it *effectively*.

It can help you:

- Change peoples views
- Direct, inform and teach
- Comfort, empower and get people on your side

Most of the world's greatest leaders were outstanding orators:

- Winston Churchill
- Nelson Mandela
- Barack Obama
- Paul Keating

Some Exemplars

John Curtin, 14th Prime Minister of Australia

Why are these exemplars?

Let's talk about the following - consider oration like painting:

- Tone
- Colour (Variation)
- Medium (Language)
- Style (Context/Ideas)
- Frame/Location etc. (Body language, dress, presentation style etc)

A conversational approach

Why do I take this approach?

Don't talk at people - talk with people. You want to talk in a way where you are comfortable, you're able to get your ideas across and stimulate thought in your audience. You want them to *think* about what you're saying.

Benefits:

- Easy to get onside with your audience
- Can make it easier to explain technical things
- Gets rid of the annoying speech voice

Drawbacks:

- Watch becoming too conversational: this can come across as unprofessional
- May not be appropriate for some scenarios - might need to hybridise

What does it look like?

This is the best way to learn how to speak in public.

A speech is just a story told to many people.

Shaping your story

1. Form your message and idea: what do you want someone to take away from your story?
2. Create a distinct voice: use emotive language, and other language techniques in order to compell the listener.
3. Write it in a way that if you were listening to it, you would be interested the entire time - it should be impossible to be bored by your own content!
4. Ensure your always driving your speech - never let audience reactions phase the message!

Exercise in storytelling

**We've got the car, how do we drive
it?**

This is 95% of public speaking.

You can say anything with enough conviction and people will believe you - *with great power comes great responsibility*

The Turbo Encabulator

Confidence but sincerity - particularly in technical fields.

You hold the power in the room.

Knowledge of your subject/content

You've got to know what you want to get across - talk with purpose. Your breath is valuable - only use it if you have to.

This is important for a number of reasons:

- Clarity
- Succinctness
- Sharing of knowledge - "you're the expert"

This all leads to the the idea of *practice*

Explain this!

How do you prepare your content?

You don't need to stand there and read your speech 20,000 times before it sinks in and it's pre-programmed in your mind - in fact, this is actually a **bad** way of doing it.

Think of it like a process.



Figure 1: The process of a talk

Dot points are advisable: everyone should start off with the full transcript, but as you become more experienced the content you need to read over to remember your points should decrease further and further.

Exercise: How do we turn something into some dot points?

How to present engineering/science research?

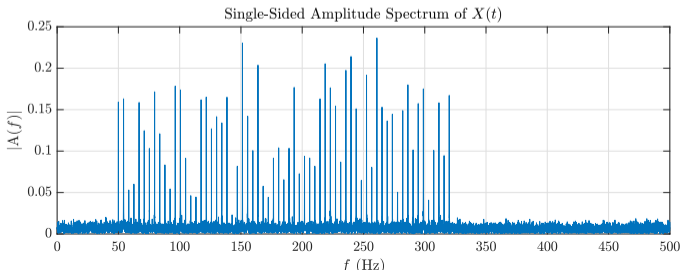
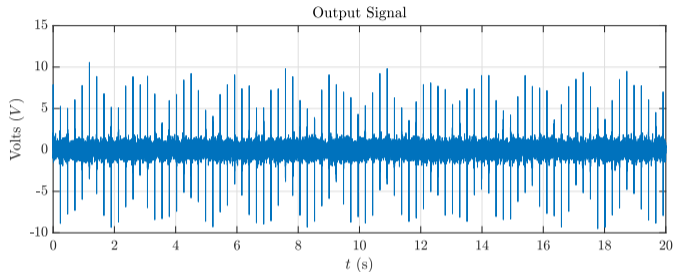
A special type of public speaking

You may use this in high school - you **will** use this in university.

Some tips:

- Put key figures in slides but never say them
- Talk through processes and "interesting stuff" leave boring things on the slides
- The less words the better
- A picture/diagram tells 1000 words
- Break important things down into chunks/steps i.e. make your talk a process!

Acoustic Monitoring of Cutterhead Performance in Blind Boring Operations



Why is this groundbreaking?

It makes blind boring less blind!

- Cutterhead performance/health
 - Can check if spectrum still shows the same number of peaks
 - Check if this loss is ongoing
 - Clear blockages/mend cutterheads before they're beyond repair
- Geotechnical comparisons
 - Lower frequency = scraping of softer materials
 - Higher frequency = chipping of hard materials

Closing remarks

Why has this been important?

Your voice is incredibly important: *I cannot stress this enough.*

You are future leaders of Australia, your communities, Indigenous peoples, your families, and the world. Quite simply: you are the future.

This will mean you will face the problems of tomorrow and you will need to raise your voice in order to enact change, motivate others and hopefully leave the world in a better place than you left it. Public speaking is a fairly important part of that toolbox.

You don't have to like it, but you should know how to do it.

Q&A

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