

How to Give Successful Talks

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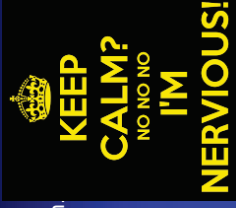
Based partly on a presentation by: J. W. Niemantsverdriet

Are You Ready for Your Talk?



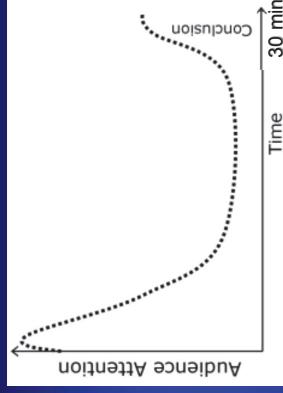
- The audience expects you to be nervous.
- It's a natural body response that can improve your performance
- Nerves give you energy and keep your mind sharp.
- Just keep breathing, and you'll be fine...

Are You Nervous? Hopefully You Are!



- Very few of us have been born as a talented speaker. Almost everyone will be nervous before a presentation.
- First time speakers often interpret nervousness as a sign that they are incapable of delivering a good talk.
- This is not true!
- Symptoms accompanying nervousness, e.g. frequent swallowing, trembling, sweating means, *your body is getting ready for something important*
- Athletes, stage performers, musicians, and ... experienced speakers have learned to recognize these symptoms and to appreciate them.
- They worry when the symptoms stay away!

Don't Ignore How an Audience Listens



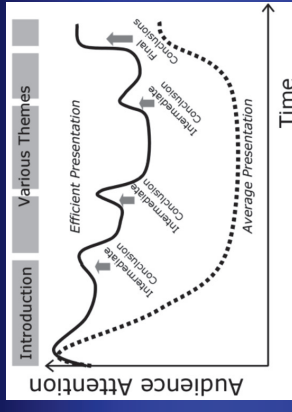
- People are easily distracted
- Only some have come specifically for your talk
- The rest are there to wait for the next speaker, to get a general impression of the field, etc.
- An average audience during a typical 30 min talk
 - almost everyone listens at the start, halfway attention may drop to 20%
 - at the end, people listen again - tell them your conclusions!

Questions Before Starting Preparing a Presentation

1. What is my message in 1 sentence! It must become clear to you
 - why the audience should care about your work
 - how it affects them either professionally or personally
 - what is the big picture
2. Which story do I use to convey my message?
3. Who are your audience?
 - in the same field as you?
 - a diverse group of scientists?
 - even a general audience?



Catching the Audience's Attention for the Whole Talk



- The start is **THE** moment to make clear that you will present work the audience cannot afford to miss
- State your message loudly and clearly at the start and repeat it at the end.
- Repeating the essentials is the key to get your message across
- Divide your talk in parts, and end each part with a conclusion. Distracted listeners can catch up with you

Why Does an Audience Get Distracted?

1. Not enough background information

- Appreciate that your knowledge is not common knowledge
- Provide sufficient background information to help audience understand a more about results you are most proud of.



2. Talk is hard to follow

- The talk structure is unclear, making it hard to follow.
- Concepts, aims or motivation are insufficiently clear



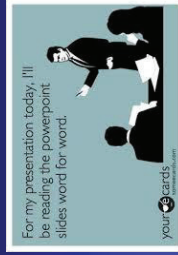
Why Does an Audience Get Distracted?

- Slides are confusing, unreadable, too small, too crowded, etc.
- Too many slides in a too short time $\Rightarrow$ one slide per 1.5 minutes is not bad as a rule of thumb
- Speaker is too fast - try to vary your pace: complicated points or concluding remarks are best presented slower
- The speaker uses long, complicated sentences, unnecessary jargon, abbreviations or difficult words



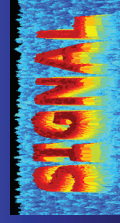
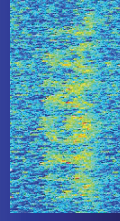
Why Does an Audience Get Distracted?

- Speaker reads text – reading is not a good solution!
- Written language is more formal and complicated than in conversations.
- Nobody will blame you for a few language mistakes – English is a foreign language for most participants
- Monotonous sentences lacking emphasis and unclear pronunciation make it difficult for the audience to stay attentive.
- Do not turn your back to the audience – make visual contact with the audience

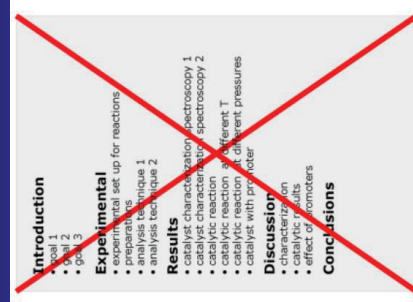


Maximize the “Signal-to-Noise” Ratio in Your Presentations

- Rules for writing an article and preparing a presentation differ:
Article can be read again — presentation is over immediately
- Better presentations have high “signal-to-noise” ratios
 - the **signal** is the **delivery of a clear message**
 - the **noise** (e.g. too much information, poor slides, filler words such as “um” and “ah”) must be minimized



Organize your Presentation: Group Together What Belongs Together



Article Structure
not recommended for talks

General Introduction
not too short, is very much appreciated by a large part of the audience

Catalyst & Characterization

- aims
- preparation of catalyst
- principles characterization technique 1
- results + interpretation
- principles characterization technique 2
- results + interpretation
- discussion of catalyst structure + conclusion

Catalytic Reaction

- aims
- experimental set up reactions
- results catalytic reaction
- catalyst characterization at different T
- catalytic reaction at different pressures
- catalyst with promoter

Conclusions

- catalyst structure
- catalytic properties
- assessment and outlook

Presentation Structure

Key issues for a successful presentation

1. The message

What do I want the audience to know when I am finished?

2. The audience

How do I present my talk such that the audience will understand and remember what I have to say?

10 point guide for improving your presentations...

1. Start your preparation in time

- Read the literature related to your work
- Read your results regularly + identify most relevant conclusions
- Imagine what type of audience you will have
- Choose what to include as background information



3. Select Results and Order them for your Audience

- **Be very critical:** leave out all that doesn't contribute to the main message
 - There is no need to present results in the order you obtained them, what is the best order for the audience to understand what you have done?
 - Where to discuss highlights, at the beginning? Near the end? Maybe dispersing results through the entire talk?
- Try to use the order which you feel appeals most to the audience



4. Opening and Introduction

TRY NOT TO DO THIS:

Good morning, ladies and gentlemen. I am ... and I'd like to tell you something about my Ph.D. project at the Group of Archaic Chemistry at the University of Science City. The title of my talk is ... I will start with an Introduction, then explain the experimental techniques, next present the most important results, and finally I hope to draw a few conclusions and I want to acknowledge a few people. So let us start with the Introduction ...



Organizations and formalities tend to bore us
...harder to relate to than ideas and stories

2. The Message

Capture the message of your presentation in a one sentence

This is difficult... but helps to be able to clearly present your work



Example: *I want to convince the audience that among a class of bimetallic catalysts the combination of X-Y/Support shows the best catalytic performance for CO hydrogenation and that it works because the adsorption energy of CO is diminished with respect to that on the single metals X and Y*

3. Select Results and Order Them for your Audience

- The scientific background of your audience determines how much you should explain about your work
- Do **NOT** identify your audience with your supervisor: an average listener is unlikely to possess enough specific knowledge about your subject



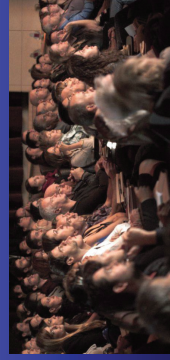
Hardly anyone minds to hear something they already know - as long as you explain it well, and possibly in an entertaining way

4. Opening and Introduction

- Start by catching the attention, e.g. by a scientific question or a catchy or provocative statement.



- Speak slowly, with emphasis, look at the audience - prepare and rehearse the opening carefully



- After your welcome, follow with a few seconds of silence, to look around and see if people are paying attention

5. Conclusions and Ending

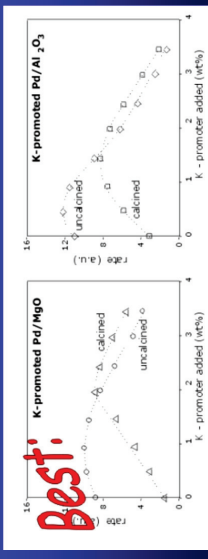
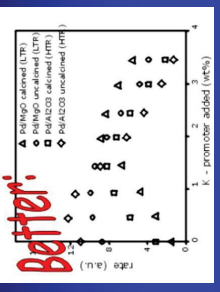
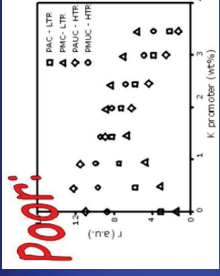
- Clearly announce your conclusions to attract full attention
- Conclusions should relate to the questions in the Introduction
- Avoid all irrelevant details



- Give a take-home message that the audience should remember...

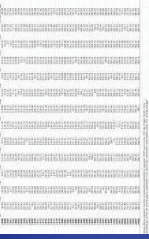
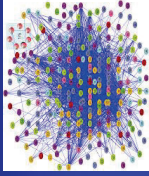
6. Excellent Figures Have the Highest Impact

"A picture is worth a thousand words" so make your figures clear!



6. Excellent Figures Have the Highest Impact

The human memory remembers in terms of pictorial information → clear figures and diagrams are the best means to convey information



- A good picture for an oral presentation
 - is easy to read (large lettering of ≥ 18 pt, good contrast)
 - explains itself (clear title, labels on the curves and not in legend)
 - contains only relevant information
 - does not contain codes that the audience needs to translate.
- Tables with numbers are in most cases not recommended
- Keep at minimum theoretical formulas and avoid their derivations

7. Visual Aids: Tips for Effective Transparencies

- Use large lettering, ≥ 20 -24 pt
- Use sans serif fonts (Arial, Verdana), not Times New Roman or Garamond
- Stay within the same 1-2 font types and limit number of letter colors
- Black letters on a white background or bright yellow on black / dark blue
- Lower area of slides may not be visible in the back
- Do not use structured background and do not waste useful space on logos
- Use pictures, figures, with a title — a short, clear caption
- If you use text, then at very most 8-10 lines per slide
- Avoid complete sentences, use "headlines"
- Give each slide an instructive title

7. Visual Aids: Tips for Effective Transparencies

This is not recommended

text on a structured background

may look fancy and attractive at first sight but is hard to read in a large lecture theater

even if you use large, black lettering

This is acceptable

bright yellow or white on the darkest possible blue

be careful with other colours

grey, green, orange, brown, blue are much less clear

This is quite clear

In fact, there is nothing wrong with using black letters on a white background

- Aim for high contrast, clean schemes/colors
- Videos should be used in moderation and never longer than 60 seconds

8. Communication Instead of Performing

- Use the same everyday language in which you explain things to a fellow student in the lab
- Formal language is not desirable as it is more difficult to understand
- Do not try to impress the audience with fancy words, formal constructions, subject-specific jargon, or unnecessary abbreviations
- Think about oral presentations in terms of communication and do not see it as the performance of a literary play
- The audience will be grateful if you are easy to follow



9. Timing Is Absolutely Necessary

- Does everything you prepared fit within the available time?
- Take your stopwatch and go. This is usually a frustrating experience!



- You may find that sentences simply do not come. A solution is to write the first part in clear, short sentences
- Second, you will probably find that you have too much material
- Remember the attention curves - it is probably the best to skip a few less important items in the middle of your talk

Do not compromise on the Introduction and the Conclusions!

9. Do Not Lose Time at the Start

- Many (even experienced) speakers lose time in the first few minutes
- If the chairman did his job appropriately there is no need to repeat the title, to explain who you are, or to repeat your affiliation
- Showing this information on a transparency is more than sufficient
- A good start of the talk is critically important in catching the audience's attention and you do not want to take any risks here



Focus preparation on the first five minutes

9. Timing Is Absolutely Necessary

- Careful timing of your presentation is extremely important
- Going overtime is an offense to the audience and to the speakers following you, particularly if there are parallel sessions
- Nothing is more embarrassing than if the chairman has to stop you before you present your conclusions!



10. Use Practice and Feedback

- Experience is something that will come in time, by practicing and by analyzing your presentations and those by others
- Nobody in the audience will blame you for being a beginner. However, you can take care to avoid a number of typical mistakes
- If you know and understand the basic principles and you know how to apply these, you are likely to give a talk that is notably better than the average presentation at international meetings



Most common mistakes in public speaking

- Using small scale movements and gestures
- Speaking with low energy
- Playing it safe
- Not preparing enough
- Not practicing enough
- Preparing too much material
- Rushing
- Data centric presentations
- Taking themselves way too seriously

(According to expert presentation coach, Terry Gault)

Conclusion – repeating main message...

Two basic principles:

1. What is the message I want to convey
2. How does the audience understand this message best

Awareness of how audiences listen and memorize is the key for a presentation that will be appreciated by many



Advice from Chris Anderson
(curator of TED – see TED talks at www.ted.com)

The single most important thing to remember is that there is no one good way to do a talk. The most memorable talks offer something fresh, something no one has seen before. The worst ones are those that feel formulaic. So do not on any account try to emulate every piece of advice I've offered here. Take the bulk of it on board, sure. But make the talk your own. You know what's distinctive about you and your idea. Play to your strengths and give a talk that is truly authentic to you.

See: <https://hbr.org/2013/06/how-to-give-a-killer-presentation>