Effective Scientific Communication
Disclosures

- none
Outline

1. Goal
   Why are you giving this presentation?

2. Audience
   Who is your audience?

3. Structure & Style
   How are people going to hear you?
   How are they going to remember important points?

Respect your audience. Take responsibility for connecting effectively.
Why are you giving this presentation?
Why are you giving this presentation?

- Convey information that is useful to others ✓
- Get real feedback that is useful to you ✓

[Human Amyloid Imaging Conference]

[Engaging Residents on Our Own Wellbeing]

[Committee of Interns and Residents]

Why are you giving this presentation?

Convey information that is useful to others ✔

Get real feedback that is useful to you ✔

Impress your colleagues
Show how much work you’ve done
Show how intelligent you are 😐

Human Amyloid Imaging Conference

Why are you giving this presentation?

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- Get real feedback that is useful to you

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Human Amyloid Imaging Conference

1. Goal
   Why are you giving this talk?

2. Audience
   Who is your audience?

3. Structure & Style
   How are people going to hear you?
   How are they going to remember important points?
Who is your audience? (1)

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- **Don’t pitch to the one you’re most afraid of**
  - e.g. the most senior, or one you presume knows most about your topic
  - Do that in another setting

![Normal Distribution Diagram](image.png)
Who is your audience? (1)

- Don’t pitch to the one you’re most afraid of
  - e.g. the most senior, or one you presume knows most about your topic
  - Do that in another setting

- Aim for the other 95%
  - That’s why they are there
Who is your audience? (2)
Brain & Behavioral Health Institute Outreach
(2014-2019)
“I don’t like the extent to which society often seems to think of scientists as a breed apart, as somehow different from other people. We’re not – we may happen to know more about science, but otherwise we’re just like other folks, with the same virtues and faults and in line at the same grocery store**. Once people understand this, they may be more open to engaging with what science and scientists have to offer society. So if the term “lay audience” undercuts this, I’m sympathetic to replacing it.”

https://scientistseessquirrel.wordpress.com/2017/02/06/help-what-term-should-we-be-using-for-a-lay-audience/
“I don’t like the extent to which society often seems to think of scientists as a breed apart, as somehow different from other people. We’re not – we may happen to know more about science, but otherwise we’re just like other folks, with the same virtues and faults and in line at the same grocery store**. Once people understand this, they may be more open to engaging with what science and scientists have to offer society. So if the term “lay audience” undercuts this, I’m sympathetic to replacing it.”

**This is not to cut down the value of the expertise we hold. Plumbers have more expertise than most about plumbing, lawyers about law, farmers about farming, scientists about science. None of those claims is elitist; and understanding their truth is the key to securing for society all the benefits of plumbing, law, farming, and science done well and applied well.

https://scientistseessquirrel.wordpress.com/2017/02/06/help-what-term-should-we-be-using-for-a-lay-audience/
BBHI Poster Competition
“Communication with non-expert audiences”
Alan Alda Center for Communicating Science at Stony Brook University

You've done the research. Share it with the world.

Announcing a new online blogging course in partnership with Scientific American and The Kavli Foundation starting Fall 2017.

SHARE YOUR SCIENCE

Coming Up Next

Starting Fall 2017 (Dates TBA) — Syllabus will be provided
Share Your Science: Blogging for Magazines, Newspapers and More
Alan Alda Center for Communicating Science at Stony Brook University

Margaret Migliorati  John Weaver
About Us

WHY PCORI WAS CREATED
WHAT WE DO
GOVERNANCE
ANNUAL REPORTS AND FINANCIALS
PCORI STAFF
“Pathways to Partnership: Communication and Collaboration Skills for Creating PCOR Teams”
06/01/2015-05/31/2017

Barriers to PCOR Readiness
Communication gaps
Power differentials
Knowledge gaps
“Pathways to Partnership: Communication and Collaboration Skills for Creating PCOR Teams”
06/01/2015-05/31/2017
**Pathways to Partnership: Communication and Collaboration Skills for Creating PCOR Teams**

06/01/2015-05/31/2017

**Autism Spectrum Disorder, May 2016**

<table>
<thead>
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If I Understood You, Would I Have This Look on My Face?

My Adventures in the Art and Science of Relating and Communicating

New York Times bestselling author

Alan Alda
Jeff Katzman, M.D.
Dept Psychiatry & Behavioral Sciences
UNM School of Medicine
Who is your audience?

- Before starting, ask yourself “why does this audience want to listen to this?”
- Don’t assume everyone in the room knows more than you about the topic
- Pitch to the middle
- Establish common ground
- Don’t assume anyone in the room can’t understand your topic
Overview

1. Goal
   Why are you giving this talk?

2. Audience
   Who is your audience?

3. Structure & Style
   How are people going to hear you?
   How are they going to remember important points?
Remember the very best symposium talk you heard? *(and the worst..?)*
Remember the very best symposium talk you heard? (and the worst..?)

Did it have 80 slides with multiple panels of amazing data on each slide? Did it have 20 slides with single panels of simple data?
A traditional academic education encourages you to have a presentation that is “bullet-proof”
If you want to connect with any audience, some vulnerability helps
How to order things?

Communicating the science of climate change

Richard C. J. Somerville and Susan Joy Hassol

It is urgent that climate scientists improve the ways they convey their findings to a poorly informed and often indifferent public.
Figure 3. Scientists can communicate more effectively with the public about climate change by inverting the pyramid of their usual presentations to colleagues. That is, start with the “bottom line” and tell people why they should care.

Communicating the Science of Climate Change, Physics Today, Somerville & Hassol, 2011
Tell a story

https://en.wikipedia.org/wiki/Storytelling

https://www.meetcortex.com/blog/the-history-of-storytelling-in-10-minutes

www.aroundtowntellers.com
What is a Story?

- Someone wants something and tries to get it
- Something hangs in the balance
- A turning point occurs
- Something has changed

A story unfolds over time

From: Aldacenter.org
What is a Story?

[Diagram showing the story arc with stages: Beginning of the Story, Escalating Action, Conflict, Resolving the Conflict, End of the Story]

Story Arc

http://pixcimation.com/developing-a-premise/story-arc/
What is a Story?

Beginning of the Story
Question

Escalating Action
Explaining your study

Conflict

Obstacles
Unexpected results
Disputes in the field

Overcoming obstacles
Explaining the data
Answering the question

Resolving the Conflict

End of the Story

http://pixcimation.com/developing-a-premise/story-arc/
How do you address the tension between: “getting to the point early” vs “a story unfolds over time”? 

A “through-line,” is a connecting theme that ties together each narrative element. Every talk should have one\(^1\).

\(^1\)https://www.fastcompany.com/3059547/ted-talk-masters-teach-you-how-to-tell-a-story-that-actually-means-something
Practice

Should you practice a talk?
How do you practice a poster?
Practice

Should you practice a talk?
Practice
(Talks)

• Practice more than you think necessary, speaking out loud
• Ask colleagues to listen to you practice
• Time yourself when you practice
• Occasionally watch a video of yourself giving a talk
Practice (Talks)

- Practice more than you think necessary, speaking out loud
- Ask colleagues to listen to you practice
- Time yourself when you practice
- Occasionally watch a video of yourself giving a talk
- Remember your pharmacology/state
- Practice in the room you’ll be giving the talk
  - (or at least on a big screen, standing up)
- Try talking through potential questions, out loud
- Practice even if you’ve given the talk many times before
Practice

Should you practice a poster presentation?
Practice
(Posters)

- Practice different versions of a poster presentation
  - A 30 second summary (really!)
  - A 2 min walkthrough of highlights
  - A full walkthrough of every detail
Practice
(Posters)

- Practice different versions of a poster presentation
  - A 30 second summary (really!)
  - A 2 min walkthrough of highlights
  - A full walkthrough of every detail
- Practice standing up in front of the poster
- Ask colleagues to listen to you practice,
  - playing different roles if you can get them to
- Try talking through potential questions, out loud
- Practice even if you’ve given the poster previously
• Don’t over-pack
• Try some vulnerability (at least a little)
• Invert the pyramid (at least a little)
• Tell a story rather than dumping data
• Have a consistent through-line
• Practice
1. Know your Goal
Why are you giving this talk?
- Convey information that is useful to others — **be generous**
- Get real feedback that is useful to you — **be vulnerable**

2. Audience
Who is your audience? — **be curious**
- Before starting, ask yourself “why does this audience want to listen to this?”
- Don’t assume everyone in the room knows more than you about the topic
- Pitch to the middle
- Establish common ground
- Assume that anyone in the room can understand your message

3. Structure & Style
How are people going to hear you? — **take responsibility for making it land**
How are they going to remember important points? — **be honest about whether there was meaningful impact for the audience and for you**
- Don’t over-pack
- Try some vulnerability (at least a little)
- Invert the pyramid (at least a little)
- Tell a story rather than dumping data
- Have a consistent through-line
- Practice
Acknowledgements

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  aldacenter.org

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