An introduction to scientific oral presentations and posters: How to give presentations that “stick” to clearly inform and inspire your audience

Outline

- Principles of Effective Communication
  - ideas that “stick”
  - using the Myers-Briggs types to understand different communication styles
- Some Practical Suggestions
  - types of presentations
  - tips for slides and posters
  - good and poor examples

Part 1: What is a “sticky” idea?

- Chip and Dan Heath’s “Made to Stick”
- Exercise 1 – memorize as many letters as possible
  F     T     U     S     P     B     T     I     H     B
  F  B  I       U  S  B       H  T  T  P
- Exercise 2 – remember as much of the text as possible
- Between these pairs of examples, what features helped you to remember the letters and the text?

Why is it so hard to communicate effectively? Because of The Curse of Knowledge

- Research at Stanford with tappers and listeners
  - tapper was given a popular song to tap out
  - listener had to guess the song
  - but beforehand, the tapper was asked to predict the % of songs that would be guessed correctly
  - tappers predicted: ~50%
  - actual: 2-3%
- Problem: those with the knowledge (tappers) are cursed with not understanding the audience’s (listeners) perspective

Key Message #1:

- To effectively communicate our ideas, we can’t simply tell what we know.
  - telling ≠ effective communication
- Effective communication means that our audience understands, remembers and acts upon our ideas
- To effectively communicate, we need to transform our ideas to become sticky.

How can we communicate “sticky” ideas?

- A sticky idea is understandable, memorable and has a lasting impact to change thought and behavior
- Use as many of these 6 key principles as possible:
  - Simple – find and share the core message
  - Unexpected – get their attention; surprise or twist
  - Concrete – help people understand and act
  - Credible – help people believe; credentials
  - Emotional – help people to care; inspire; values
  - Stories – simulation; inspirational
To communicate effectively, we need to:
feed the rider and the elephant

- Chip and Dan Heath’s “Switch”
- rider
  - intellectual
  - information
  - data
- elephant
  - intuition
  - inspiration
  - emotional

Apply a broad mix of communication styles to reach a broad audience

<table>
<thead>
<tr>
<th>Communication features</th>
<th>Potential problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>information</td>
<td>dry or flat</td>
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<tr>
<td>details of raw data</td>
<td>random details</td>
</tr>
<tr>
<td>real experiences</td>
<td>not meaningful</td>
</tr>
<tr>
<td>visual and audio info</td>
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<tr>
<td>inspirational</td>
<td>vague</td>
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<tr>
<td>stories; visionaries</td>
<td>ambiguous</td>
</tr>
<tr>
<td>big patterns, picture</td>
<td>not concrete</td>
</tr>
<tr>
<td>significance; analogies</td>
<td></td>
</tr>
</tbody>
</table>

S-types
- information
- details of raw data
- real experiences
- visual and audio info

N-types
- inspirational
- stories; visionaries
- big patterns, picture
- significance; analogies

Part 2: Some Practical Suggestions

Types of Presentations

<table>
<thead>
<tr>
<th>Setting</th>
<th>Medium</th>
<th>Presenter</th>
<th>Audience</th>
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<tbody>
<tr>
<td>class slides</td>
<td></td>
<td>individual</td>
<td>expert and non-expert; group</td>
</tr>
<tr>
<td>class slides</td>
<td></td>
<td>team</td>
<td>expert and non-expert; group</td>
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<tr>
<td>sub group mtg</td>
<td>slides</td>
<td>individual</td>
<td>expert; group</td>
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<td>poster</td>
<td>individual</td>
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<tr>
<td>video</td>
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<td>discussion</td>
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</table>

How do you start?

- Key questions to ask about your audience
  - what do they already understand?
  - what do they care about?
  - what are you trying to convince them about?

- What are the few core messages that you want your audience to remember after your talk or poster?
  - prioritize your messages

Tell a scientific story

- the classic elements of a story are:
  - thesis – intro characters, context, importance
  - antithesis – problem or question
  - synthesis – wrap up and conclusions

- set up your story with clear rhetorical markers
  - context and significance
  - complication
  - question or problem
  - hypothesis or proposal

Creating Slides

- Plan to spend ~2 minutes per slide
  - 10 min talk: 5-7 slides
  - 60 min talk: 25-30 slides

- Maximize the “info to ink ratio”
  - provide the most amount of info
  - using the least amount of ink
  - example: full sentences are not usually needed, but write complete thoughts with verbs
Avoid using color gradients

Remember that what you see on your computer is not what the audience will see projected on the screen.

Don’t use serif fonts

Serif Font

Sans Serif Font

Century Old Style

Futura Book

Convert bullet lists into word tables (if possible)

bullet lists

<table>
<thead>
<tr>
<th>Estimations</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Accuracy</td>
</tr>
<tr>
<td>- Agreement</td>
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<tr>
<td>- Agreement</td>
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<tr>
<td>- Agreement</td>
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<tr>
<td>- Agreement</td>
</tr>
</tbody>
</table>

word tables

<table>
<thead>
<tr>
<th>column 1</th>
<th>column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimation 1</td>
<td>Estimation 2</td>
</tr>
<tr>
<td>Estimation 3</td>
<td>Estimation 4</td>
</tr>
<tr>
<td>Estimation 5</td>
<td>Estimation 6</td>
</tr>
</tbody>
</table>

Example of a good use of word tables

main intro slide

subsequent slides

Avoid lazy conversions of papers or slides into a poster, or a “data dump”

Make your poster “skimmable”

Analysis of Parenchymal Texture Properties in Breast Tomosynthesis Images

Deepika Kodali, Patrick R. Balik and Andrew D.A. Macdonald

Department of Radiology, University of Pennsylvania, 3400 Spruce St., Philadelphia, PA 19104

<table>
<thead>
<tr>
<th>Tables and Figures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1: Summary of Analysis Results</td>
</tr>
<tr>
<td>Figure 1: Flowchart of Analytical Approach</td>
</tr>
</tbody>
</table>

Key criteria to keep in mind:

- Use bullet points to organize content
- Keep text concise and to the point
- Avoid excessive use of charts and graphs
- Use color to highlight key points
Additional tips and suggestions

- To avoid adding too much content in your presentation or poster, create extra slides or handouts for use afterwards.

- Organize experiments for clear communication
  - trials done in lab
    - trial A; trial B; trial C; trial D - successful
  - during a presentation
    - chronological order: A, B, C, D
    - logical order: D and then A, B, C (briefly)
  - don’t drag the audience through useless information

Delivery of your talk or poster

- Eye contact helps you to connect with your audience.
- If you often get very nervous, try memorizing your introduction. (see handout for more tips)
- Connect your spoken words with the images and text on your slides or poster.
- Engage your audience, if possible
  - ask questions, especially during posters

Key Message #2:
Practice your presentation and get feedback early and often (the Chicago way)

Resources posted in BlackBoard

- Chip and Dan Heath
  - Made to Stick
  - Switch
- “Making Oral Presentations: Dealing with Nervousness”
- “Creating Posters Using PowerPoint”

Key Messages

- Transform your ideas to become “sticky” by using as many of these principles as possible
  - Simple
  - Unexpected
  - Concrete
  - Credible
  - Emotional
  - Stories
- Practice and get feedback – early and often