Communicating Science

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November 2018
Objectives

• Understand how we communicate
• Learn tips for better communication
• Learn ways to share your research
Why do we communicate science?

- Share findings
- Increase appreciation for science
- Increase knowledge of a specific issue
- Influence behavior, opinions, or policy preferences
- Engage with diverse groups
How do we communicate?

Source encodes a message

Sends message via channel

Receiver decodes meaning

Feedback
The Three “Cs” of Good Communication

• Be Clear
• Be Concise
• Make your audience Care
“This is too long!”

“Clear”

“Good Communication”

“Care”

“Concise”

“So what?”

“I don’t understand…”
Be CLEAR

“The single biggest problem in communication is the illusion that it has taken place.”

George Bernard Shaw
Before you start... Plan

• Who is your audience?
  • Age
  • Education level
  • Culture
  • Geographic location

• What is the goal of this communication?
  • How will it be used?

• What type of medium will you use?
• Write an outline
Keep it simple

- **Don’t** use jargon or acronyms unless you define them first
- **Do** use metaphors or analogies when they assist in understanding
- **Do** use numbers and be explicit
- **Do** use white space to break up text
Be CONCISE

“The ability to simplify means to eliminate the unnecessary so that the necessary may speak.”

Hans Hoffman
Keep it short!

- **Don’t** include unnecessary information
- **Don’t** get bogged down with details
- **Do** tailor the length to the medium
- **Do** revise!

“If it is possible to cut a word out, always cut it out.”
George Orwell
Make people CARE

“The key to high-quality communication is trust, and it's hard to trust somebody that you don't know.”

Ben Horowitz
Establish credibility

- This is perceived by the audience
- Academic credentials are less influential than they used to be
How to establish credibility

• Dynamic Appeal – Be passionate! Share your message with confidence and show enthusiasm.
How to establish credibility

Group Membership –
Mention relevant groups that the audience might relate to.
How to establish credibility

Expertise – Don’t oversimplify, but share details relevant to the presentation and audience at their level.
How to establish credibility

Authority – Mention you are in a position of power or that you have consulted with one.
How to establish credibility

Trustworthiness – Show transparency. Stress the values that are important to your audience, demonstrate knowledge of any pitfalls or concerns regarding the topic.
Limit Hedging

• i.e. “X will happen under these circumstances.”

“It is generally agreed that these new technologies will transform everyday life.” VS. “These new technologies will transform everyday life.”
Sharing your Research

“Share your knowledge. It’s a way to achieve immortality.”

Dalai Lama
Channels

- Conversations
- Impact statements
- Articles
- Social Media
- Books
- Newspapers
- ...and many others!
Writing Impact Statements

- Focus on the big picture
- Keep it relevant
- Mention
  - Stakeholders
  - Populations/ groups
  - Geographic regions
  - Funding source

IMPACT STATEMENT

- Background: 20%
- Methods: 15%
- Results: 15%
- Impact: 30%
- Broader outcomes: 20%

CFAES
<table>
<thead>
<tr>
<th>Outputs/ Results</th>
<th>Impact</th>
<th>Broader Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured results</td>
<td>Change in Knowledge, Action or Condition</td>
<td>Societally relevant outcomes, economic impact</td>
</tr>
<tr>
<td>Immediate</td>
<td>Short-term</td>
<td>Long-term</td>
</tr>
<tr>
<td>266 people attended a series of workshops on composting</td>
<td>Participants in the workshop have reduced household waste by 20% through composting</td>
<td>The community as a whole is now producing less trash, which is saving the city $$</td>
</tr>
</tbody>
</table>
Examples of Impact Statements/ Exercises

Take some time to look over the examples provided and identify some positive and/or negative aspects of each with regards to scientific communication.
Social Media

- Fast way to reach a broad audience
- Quick feedback
- Always mention funding source!
Using graphics

• Keep graphics clean and simple
• Utilize white space
• Should be able to stand alone
Note: 1 Å = 1 × 10^-10 meters.
Figure adapted from Arthur Strahler, The Earth Sciences. ©1963 by Harper and Row.
Brynn Daves, Assistant Vice President for Student Affairs and Assistant Dean of Students helps to benefit society in many ways! Brynn facilitates SafeRide, a free transportation service for OU students. She also benefits others by helping host Community Dialogue Workshops. These workshops cover a variety of topics like classism, sexism, racism, and ableism. To keep up with the latest on these workshops go to Orgsync, https://orgsync.com/1587.../events/2055604/occurrences/4904837, and look up Community Dialogue Workshops!

DYK: Pure maple syrup contains 20 beneficial compounds that play an important role in human health. A @universityofhi researcher is investigating how it may help protect the body’s immune system. This story and more in our 2017 Annual Report: bit.ly/2tDkp6j #NIFAimpacts

The answer is in nature
Natural barriers such as cover crops can protect our water supply from agricultural runoff

Multistate Research Fund Impacts @MRFImpacts · Mar 22
By studying plants' natural adaptations to heat, researchers at land-grant universities are able to breed crop varieties that require less water. #TheAnswerIsInNature #WorldWaterDay #NatureBasedSolutions #MRFImpacts #LGUimpacts
Can you write for The Conversation?
“To be published by The Conversation you must be currently employed as a researcher or academic with a university or research institution. PhD candidates under supervision by an academic can write for us, but we don’t currently publish articles from Masters students.”
Practice Your Elevator Speech

• Communicate your research in 5 minutes or less

• Discuss what you do in 30 seconds to 1 minute
“Broader engagement isn't a luxury, it's absolutely necessary if we want to boost understanding of, and support for, scientific research...

The public isn't reading published research papers, and the media often needs help making sense of them. If you want to maximize the impact of your research, you need to share it broadly and make it understandable.”

– Kirk Englehardt, Vice Chancellor for Marketing and Communications at the University of Tennessee at Chattanooga
Remember:

- Be Clear
  - Keep it simple

- Be Concise
  - Keep it short

- Make your audience Care
  - Establish credibility
I will effectively communicate with others.
Kayla Arnold

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References