Communicating Science

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Objectives

• Understand how we communicate
• Learn tips for good communication
• Identify the parts of an impact statement
• 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
Before you start...

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

- What is the goal of this communication?
  - How will it be used?
The Three “Cs” of Good Communication

• Be Clear
• Be Concise
• Make your audience Care
Be CLEAR

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

George Bernard Shaw
Keep it simple

- **Don’t** use jargon or acronyms unless you define them first

- **Do** use metaphors or analogies

- **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** 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

Building Credibility

Credibility (Earned by communicating)

Respect (Earned through action)

Trust (An innate characteristic? + Ethics)

It is all in the mind of the 'other person'
How to establish credibility

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

Trustworthiness – Stress the values that are important to your audience, demonstrate knowledge of any pitfalls or concerns regarding the topic.
How to establish credibility

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

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

Authority – Mention you are in a position of power or that you have consulted with one
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

- 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

IMPACT STATEMENT

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

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>
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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
TOP 20 WORST CITIES FOR CREDIT CARD DEBT
% OF INCOME OWED TO CREDIT CARD COMPANIES

1. MIAMI, FLORIDA 22.61%
2. TAMPA, FLORIDA 17.10%
3. SAN ANTONIO, TX 15.95%
4. HOUSTON, TEXAS 13.6%
5. AUSTIN, TEXAS 14.12%
6. RIVERSIDE, CA 16.19%
7. SAN DIEGO, CA 15.98%
8. LOS ANGELES, CA 16.81%
9. SACRAMENTO, CA 15.11%
10. LAS VEGAS, NEV 15.14%
11. CLEVELAND, OHIO 14.45%
12. PITTSBURGH, PA 14.66%
13. VIRGINIA BEACH, VA 14.76%
14. CINCINNATI, OHIO 13.77%
15. PHOENIX, ARIZONA 14.62%
16. INDIANAPOLIS, IN 13.63%
17. ORLANDO, FLORIDA 16.37%
18. JACkSONVILLE, FL 16.38%
19. CHARLOTTE, NC 14.33%
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 #NIFAnImpacts

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

Multistate Research Fund Impacts @MRFImpacts · Mar 22

Multistate Research Projects are using natural solutions like cover crops, vegetated ditches, and wetlands to greatly reduce the effects of runoff and minimize water pollution #WorldWaterDay #TheAnswerIsInNature #NatureBasedSolutions #MRFImpacts

The answer is in nature

Natural barriers such as cover crops can protect our water supply from agricultural runoff.
Climate change could alter ocean food chains, leading to far fewer fish in the sea

Jefferson Keith Moore, University of California, Irvine

Fish are a key food source for millions of people worldwide. But a recent study finds long-term warming over the next 200 years could starve tiny plankton, with impacts that would ripple up food chains.
Share it with us!
“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
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References