TRAINING SCIENTISTS TO COMMUNICATE

NASEM | Standing Committee on Advancing Science Communication Research & Practice

ANTHONY DUDO
Associate Professor & Program Director for Science Communication
Scientists aren’t very scientific about their science communication.
They need help communicating. And that’s ok.
What we’ve done …

- Semi-structured interviews with science communication trainers
- July-September 2017
- 33 North American trainers
- Qualitative analysis (ongoing)
- Expanded on our 2014 interviews
- Have also surveyed scientists (>15K) and interviewed comm staff at:
  - science societies (2018)
  - science philanthropies (2018)
  - science communication fellowship programs (2019)
Want better training? ... Focus on these 5 issues.

- Interaction
- Curricula
- Strategy
- Trainees
- Evaluation
“Honestly, professionally we’ve had virtually no interaction with other trainers.”

Key issues:

- How to overcome their isolation?
- Need for an annual meeting?
- Professionalization of training community? (Not all training is good)
- Appropriate training sequences?
- Navigating competition?
#2 CURRICULA

“As new programs come into being, let’s not reinvent the wheel every time.”

Key issues:
- Broaden curricula
- Synergize curricula
- Evaluate curricula
- Connect curricula to action
#3 STRATEGY

Most training focuses on:
- Journalistic skills
- Storytelling skills
- Platform skills

Key issues:
- Macro-level context for modern scicomm?
- Communication designed to achieve specific goals?
- Tactics are not goals
#4 TRAINEES

**Are commonly:**
- Self-selecting
- Skew young
- Diverse in terms of field
- Not diverse in terms of culture/ethnicity

**Key issues:**
- **Normative Q**: Should all scientists be trained?
- **Pedagogical Q**: Should STEM degree programs require communication coursework?
- **Strategic Q**: How can we find and support the most effective communicators for target stakeholders?
“It’s really hard because the people who fund us, the first question they ask is about evidence of impact and the last thing they fund is evaluation.”

Key issues:
- How to establish evidence-based best practices and evaluation techniques?
- How to scale them?
- How to enable sustainable researcher-practitioner relationships?
HOW TO THINK ABOUT STRATEGY
what good communication looks like

1. Goals
   ▶ What do I want to accomplish? With whom?

2. Objectives
   ▶ What do I need to engage in my audiences to accomplish my goal?

3. Tactics
   ▶ What channels, messages, and procedures will allow me to have the desired effect?

4. Impacts
   ▶ How do I know if I’ve successfully met my goal?
WHAT SCIENCE COMM OFTEN LOOKS LIKE
effectiveness is left to chance and is unlikely

1. Goals
   - What do I want to accomplish?

2. Objectives
   - When can I explain something to someone or share compelling data?

3. Tactics
   - What platform (hopefully a shiny, new technology) will allow me to share my science with someone?

4. Impacts
   - How do I know if I've successfully met my goal?
THANK YOU

NASEM | Standing Committee on Advancing Science Communication Research & Practice

ANTHONY DUDO
Associate Professor & Program Director for Science Communication
GOALS-OBJECTIVES-TACTICS MODEL

Communication Tactics
- Context (e.g., values)
- Behaviors
  - Messages
  - Tone/Intensity/Style
  - Channels
  - Sources

Communication Objectives/Outcomes
- Factual knowledge/Awareness
- Interest/Affect/Emotion
- Warmth/Benevolence Beliefs
- Honesty/Integrity Beliefs
- Willingness to Listen Beliefs
- Identity/Shared Value Beliefs
- Competence/Ability Beliefs
- Perceived Risk/Benefit Beliefs
- Normative Beliefs
- Response/Self Efficacy Beliefs
- Interpretative frames/schema

Goals
- Policy support/opposition
- Policy acceptance/non-opposition
- Individual behavior
- (Including career choice)

Implementation
- Context (e.g., values)

Strategy
- Communication Tactics

GOALS-OBJECTIVES-TACTICS MODEL

The University of Texas at Austin
Moody College of Communication

WHAT STARTS HERE CHANGES THE WORLD