Science Communication & Public Engagement

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Communication versus Conversation

Communication

• transformation of thoughts and words into meaningful action
• focuses more on what you wish to accomplish
• key to bring about a change

Conversation

• exchange of words
• involves what you wish to share with another
• necessary part of living within a community

The (big) difference between conversation and communication. David J Smith. Guardian
**Elevator pitch** is a statement to quickly and simply summarise your science. Useful at conferences, meetings, networking events, job fairs etc.

**Dining table pitch** this is same as the elevator pitch, except you will be explaining your work simply to your friends and family. Answer to the question “so.. what do you really do?”
‘What’ is Science Communication?

Science communication (SciCom) has been defined as "the use of appropriate skills, media, activities, and dialogue to produce one or more of the following personal responses to science (the AEIOU vowel analogy):

Awareness, Enjoyment, Interest, Opinion-forming, and Understanding" (Burns et al. 2003)
‘Why’ Communicate Science?

‘asks the scientist’

- New Research Perspectives
- Higher Personal And Institutional Profile
- Increase Student Recruitment
- To Increase Awareness
- To form New Collaborations And Partnerships
- Skills Development
- Enhance Research Quality And Its Impact
- Career Enhancement
- Enjoyment And Personal Reward
- Inspire The Next Generation Of Researchers
- Additional Funding

Source: Research councils UK, 2010
‘How’ to communicate Science?

• Written communication
  o Email to supervisor, collaborators, potential employers, media etc.
  o Resume or CV
  o Scientific Report
  o Journal or Review article
  o Book

• Oral Communication
  o Lecture/Talk/Workshop
  o Meeting
  o Presentation (PowerPoint, poster, journal club)
  o Interview

• Visual Communication
  o Lecture/Talk
  o Poster presentation
  o PowerPoint presentation
  o Science documentary or movie
Communicating your research

• **Why?**
  Your purpose for communicating *(thesis defense, conference, lecture etc.)*

• **What?**
  What is that you want to tell? What is your point? *(your message)*

• **Who?**
  Who is your audience? *(scientists, clinicians, colleagues from other departments, thesis committee, school children etc.)*
THE SCIENCE NEWS CYCLE

Start Here

Your Research
Conclusion: A is correlated with B (p=0.56), given C, assuming D and under E conditions.

...is translated by...

UNIVERSITY PR OFFICE
(YES, YOU HAVE ONE)

FOR IMMEDIATE RELEASE:
SCIENTISTS FIND
POTENTIAL LINK
BETWEEN A AND B
UNDER CERTAIN CONDITIONS.

...which is then picked up by...

NEWS WIRE ORGANIZATIONS
A CAUSES B, SAY SCIENTISTS.

...who are read by...

Scientists out to kill us again
POSTED BY RANDOM DUDE

Comments (377)
OMG I knew it!!
WTH??????

...then noticed by...

THE INTERNETS

...and caught on...

CNC Cable NEWS

We saw it on a Blog!
A causes B all the time
What will this mean for Obama?
BREAKING NEWS BREAKING NEWS BREA

...eventually making it to...

WHAT YOU DON'T KNOW ABOUT "A"
CAN KILL YOU! MORE AT 11...

LOCAL EYEWITNESS NEWS

YOUR GRANDMA

I'M WEARING THIS TO WARD OFF "A"

WWW.PHDCOMICS.COM
Communication style: Scientist versus Public

Scientist

Background
Supporting details
Conclusions

Public

Bottom-line
So what?
Supporting details
For Scientists

**optix Drives the Repeated Convergent Evolution of Butterfly Wing Pattern Mimicry**
(Reprinted from Reed et al., *Science* 333 (6046) 1137-1141.)

For The Public

**How Great Wings Can Look Alike**
(Reprinted from Carroll, *Science* 333 (6046) 1100-1101.)
Public Engagement with Science is..

Telling public groups about your work

Taking part in **dialogue** about the direction of your research and teaching

**Nurturing a society** in which the next generation wants to take part in research, teaching and learning

Supporting communities with your expertise

Creating knowledge in **collaboration** with communities and interest groups outside the Institution

Creating **opportunities** for people outside the Institution to contribute their research and knowledge to your programmes
Public Engagement with Science is **NOT**..

- a one way process; it is about giving and receiving
- about self-promotion but rather about informing, engaging and collaborating with the Public
Examples of Public Engagement with Science

• More commonly..
  – Public lectures, discussions and debates
  – Science fairs and open days
  – Telling a scientific narrative through a film, dance, drama
  – Science magazines, blogs, radio

• More creatively.. →
The Team:

Project is led by team of neuroscientists at the Wellcome Trust Centre for Neuroimaging at University College London

App is built by a professional app developers

Fun game and the user is also contributing to scientific research

August 2014: Based on data from the app, a new paper published in the journal PNAS describes a simple equation which predicts happiness. Thanks to everyone who has played so far! Read more about this finding and others here.

Media

"It's cute, quirky and pretty addictive. Every time I turn on my iPad I find my children have been having a go.”

"Brain Experiment is fun and unpretentious - Best Overall game”

"Great Brain Experiment makes your phone a crowdsourced neurology lab”

"get to find out how much smarter/thicker you are than the rest of the country”
Competition sponsored by Science
“Students made complex scientific concepts graspable to a layperson, they also made them beautiful, funny, and awe-inspiring”
Wellcome Trust/DBT India Alliance
Public Engagement

‘Unseen’: a three-day public event focused on mental ability

Public Lecture Series

Public discussions: ‘Voices for Cancer’

Public Engagement competition for our Fellows

Bodystorming Hits Bangalore
events to look forward to at NCBS
Useful resources for Science Communication & Public Engagement

- **Scitable by NATURE Education** - Science Communication Forum

- Book *“Trees, maps and Theorems”* by Jean-Luc Doumont. Watch his Youtube videos

- **TED (Technology, Entertainment & Design)** Talks on how to be an effective science communicator. For e.g videos like “Talk Nerdy to me”, “Hey Science teachers.. make it fun” etc.

- **Wellcome Trust, UK** ; [www.wellcome.ac.uk](http://www.wellcome.ac.uk)

- **American Association for Advancement of Science** (AAAS) [http://www.aaas.org/pes](http://www.aaas.org/pes)
Engagement with your Research

Connecting your research with society

Click here to watch the video

Communicate, Engage, Influence and Impact