



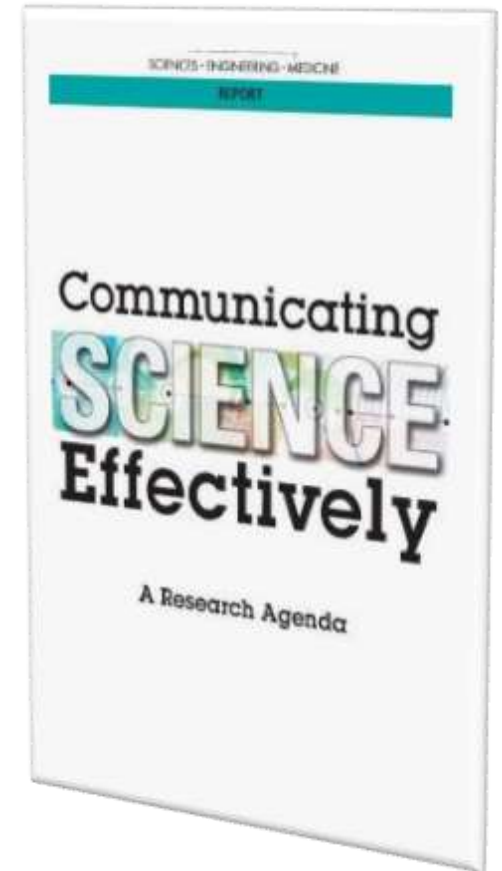
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Defining and Achieving Science Communication Goals in an Era of Virally Disseminated Nonsense

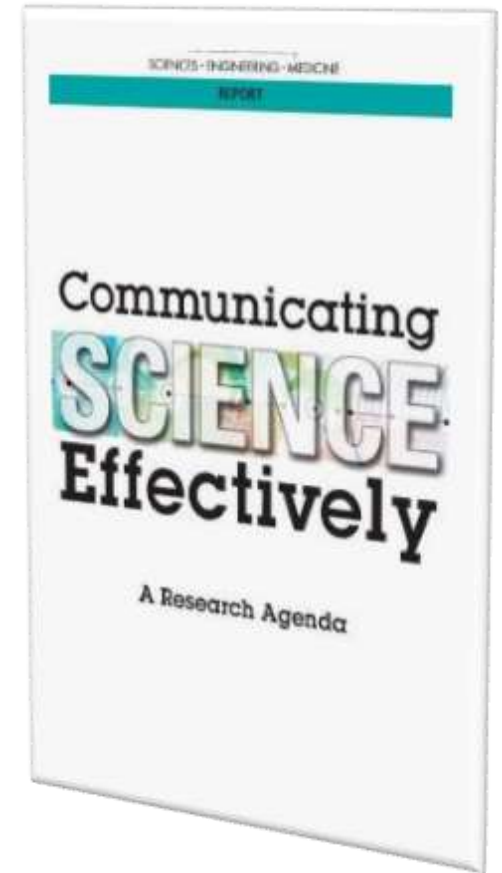


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“Communicating about science effectively with public audiences, . . . turns out to be more difficult than it might at first appear.”



“People communicate about science for diverse reasons, there is no single audience for scientific information, and the societal contexts surrounding different scientific issues can vary considerably. Communication approaches need to be adapted to reflect the circumstances that prevail.”



Americans Say They Are Interested in Science

- What they really mean is that they like the results of science



Most Have Little Background in Science

- Science Education stops for most at High School Graduation
- Only:
 - one-third of Americans hold a bachelor's degree
 - one-in-ten has a degree involving science or engineering



Science Learning Beyond the Classroom

- 5% of our lives is spent in a classroom
 - little of that time is spent on science
- Most of our lifelong learning about science occurs informally
 - This is where much of science communication resides



They Overestimate What they Know

- People don't know what they don't know – so are unlikely to seek education.



“Just in Time” Science Information

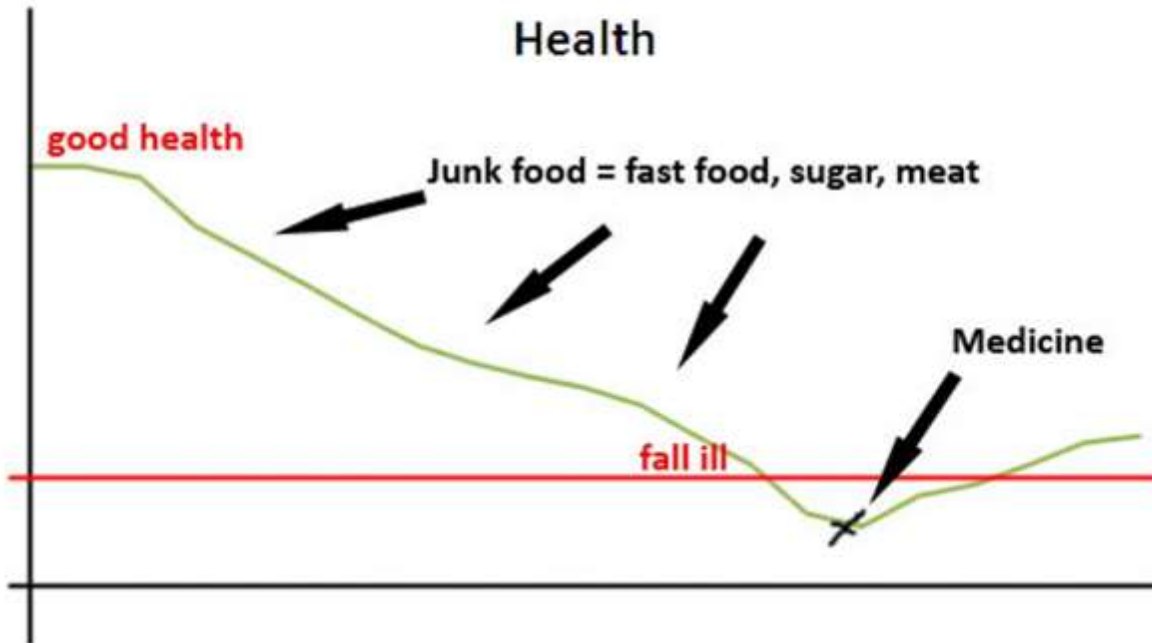
- Science information is increasingly sought through searches on the Internet, blogs, and social media
- These lead to a plethora of virally disseminated nonsense.



Search Google or type a URL



Why do you need to detox and cleanse your body?



Looking at the graph above, when you are healthy, you are at the peak of your health on the left. You exercise everyday, you watch your diet and you have a healthy lifestyle.

For most people, that don't last long as there are so much delicious food out in the world and so much emotional stress. Hence, you start to consume all the unhealthy food like fast food, sugar food (like pastries, soft drinks, chocolates), and meat (red meats, steak, pork, chicken).

- Colon Detox
- Detox Diet
 - 4-Week Ultimate Body Detox Plan
 - Alkaline Diets
 - Body pH Balance
 - Cabbage Soup Detox Diet
 - Coffee Enema Detox
 - Detox for Women Program
 - Diuretic Diet
 - Fast Track Detox Diet
 - Fat Flush Diet
 - Fruit Flush 3-Day Detox
 - Hallelujah Diet
 - How to Choose a Suitable Detox Diet
 - Is Detox Diet Effective
 - Juice Fast
 - Liquid Diet
 - Liver Cleansing Diet
 - Macrobiotic Diet
 - Martha's Vineyard Detox Diet
 - Master Cleanse
 - Master Cleanse Recipe
 - Mucusless Diet Healing System
 - pH Miracle Diet
 - Raw Food Detox Diet
 - Sea Salt Water Flush
 - The Clean Program
 - The Fat Smash Diet
 - The Swiss Secret to Optimal Health
 - Weight Loss Cure
 - You Are What You Eat Detox
- Detox Foot Pads
 - Things That One Should Know About Foot Detoxification
- Detox Tea

Do Need to Engage



We Need to Be Clear About Our Goals

Five Goals for Communicating Science

- *Share the findings and excitement* of science.
- *Increase appreciation* for science as a useful way of understanding and navigating the modern world.
- *Increase knowledge* and understanding of the science related to a specific issue.
- *Influence* people's opinions, behavior, and policy preferences.
- *Engage* with diverse groups so that their perspectives about science related to important social issues can be considered in seeking solutions to societal problems that affect everyone.



Goals in the Context of Misinformation

- *Share the findings and excitement* of science.
- *Increase appreciation* for science as a useful way of understanding and navigating the modern world.
- ***Increase knowledge*** and understanding of the science related to a specific issue.
- ***Influence*** people's opinions, behavior, and policy preferences.
- *Engage with diverse groups so that their perspectives about science related to important social issues can be considered in seeking solutions to societal problems that affect everyone.*



Education ≠ Persuasion

Key Assumptions:

- The roles of the communicator and audience differ
 - Who has information worth sharing?
 - Who should be part of the decision process?
- Trouble comes when the answers to these questions are not shared between the communicator and audience
 - Particularly problematic in context of controversy



Be Clear About Your Goals

- Is your intent to educate or to persuade?
 - Make this clear to your audiences
- If your intent is to persuade, say so.
 - Persuasion research shows this is more effective than trying to hide this fact
- And, say why you are trying to persuade.
 - In whose interest is it that you are persuaded?



Correcting Facts or Conclusions?

- Much of the nonsense isn't isolated facts
- More likely a network of unsupported arguments that lead to a false or inaccurate conclusion.
- Is your goal:
 - “fact checking”,
 - debunking arguments,
 - or challenging conclusions?



What is the Goal of the Misinformation Itself?

- Much of the nonsense that is virally disseminated is not meant to inform, but to inflame.
- No guarantee that correcting this misinformation will put out the flame.



Lies only have to be plausible to be accepted



KFC Sues Over Alleged Eight-Legged Chicken Rumors



Apple Readies New Plan to Stream Music



The 109,894-Word Annual Report



Altera Deal Accelerates Intel Shift From PCs



Casio Applies Scarf



BUSINESS

KFC Sues Chinese Companies Over Alleged Eight-Legged Chicken Rumors

Restaurant says three companies 'misleading the consumer' on Internet



A pedestrian walks past a KFC restaurant in Qiqihar city, northeast China in this November 2014 photo. KFC said it is suing three companies in China for allegedly spreading rumors about the quality of its food—including that its chickens have eight legs. PHOTO: ZUMA PRESS

By LAURIE BURKITT

June 1, 2015 9:45 a.m. ET

 15 COMMENTS



© Snopes

Internet hoax: KFC said one of the best-known fake rumors was that chickens used by the company are genetically modified and have six wings and eight legs (computer generated image)

Underlying Concerns and Values?

- What underlying concern does this misinformation express?
 - Simply correcting information doesn't necessarily address the concern
- What values are being expressed?

Values Matter



Connecting with shared values is a more effective communications strategy than using “facts” to convince people that they are wrong.

Too Much Information Available

- The Public Depends on Curators and Interpreters



SP_ TLIGHT

GET HEALTHY

KNOW YOUR
HEALTH

OZ'S PICKS



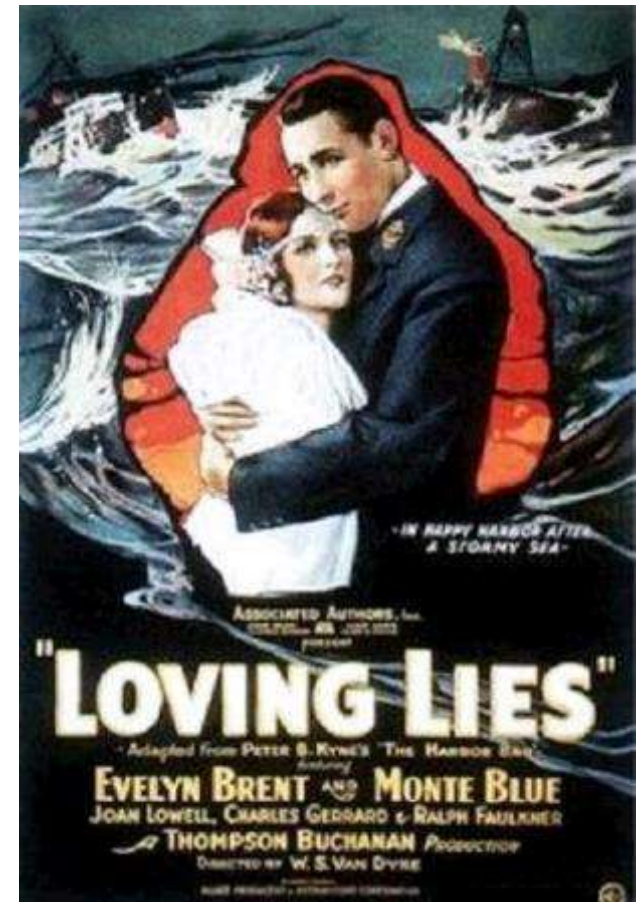
Nigella Lawson on Why She Calls Herself a Home Cook

- The Lazy Girl's Guide to Working Out
- Simple Smoothie Recipes
- 10 Fan-Favorite Moments
- 9 Most Revealing Celebrity Moments

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Need to Focus on Plausibility

- The quality of the lie
- The potential influence of the liar



We Need to Be Clear About Our Strategies

Go Beyond the Deficit Model

- Virally Disseminated Nonsense is Pervasive and is Increasing
- Communicating the “facts” is important
 - But is only effective in the absence of information
 - People resist/resent being told that they are wrong
- Understand and connect with shared values and concerns
 - What underlying concern does this misinformation express?
 - Simply correcting information doesn’t necessarily address the concern
- Use your status carefully
 - Indicate when you are speaking as an authority with expertise
 - Be clear when you are providing an opinion as an educated person who has reviewed the available evidence

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