

RESEARCH AT

NEBRASKA

Telling Your Story
Communicating
with the public
about research

NURAMP Workshop
November 10, 2016

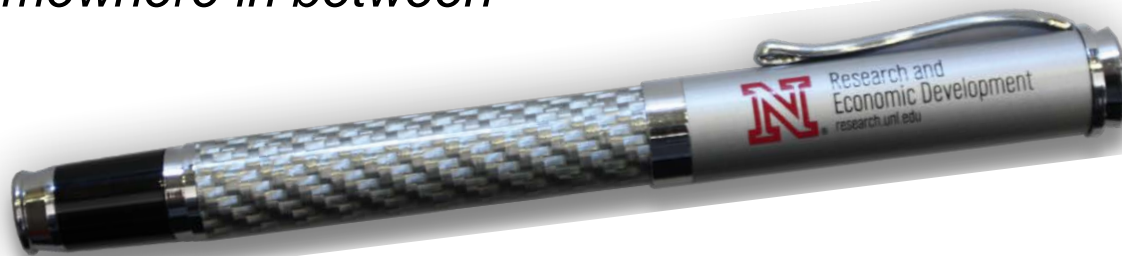
Ashley Washburn and Vicki Miller
Office of Research & Economic Development





Tell us about yourselves

- How many are faculty? Postdocs?
Grad students? Staff?
- Do you write something almost every day? Less frequently?
- Do you use social media?
- How much do you enjoy writing?
 - *Better than a day at the beach*
 - *Rather have a root canal*
 - *Somewhere in between*



Communicating science = big issue



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5 Tips For Scientists On How To Not Write Like Scientists

A Stanford professor is trying to teach doctors and scientists how to write manuscripts that aren't dusty and jargony.
By Rebecca Boyle | Posted 10.10.2012 at 4:15 pm | 8 Comments

LinkedIn Groups

Trending discussions in: Science Writers

AMERICAN SCIENTIST
Current Issue | Past Issues | Scientists' Nightstand | Multimedia

Explaining your science—tips for clear communication

Maya Ashley Vemuri

HOME > PAST ISSUE > Article Detail
VIEW PRINTER-FRIENDLY

The Science of Scientific Writing

If the reader is to grasp what the writer means, the writer must understand what the reader needs

SCIENCE & RESEARCH

Science writer emphasizes storytelling, human connection

Bestselling author Alan Lightman offers advice for making science writing clear and engaging

By Meghan Friedmann
Contributing Writer

APS NEWS
The Back Page

Why Communicate Science?

By Carl Safina

By "communicate science," I mean professional science question is, "Why?" But many scientists are still debating

Communicating science takes time away from research to be doing. The time is not adequately compensated. I assume that the value of the science is not reflected in the vita-value. Appeal

The Journal of Neuroscience
Home | Current Issue | All Issues | Letters to the Editor

How To...

Tips for Writing Better Science Papers

Author: Richard Threlfall
Published Date: 05 September 2010
Copyright: Wiley-VCH Verlag GmbH
Associated Societies: Asian Chemical Society

Duke GRADUATE SCHOOL SCIENTIFIC WRITING RESOURCE

Techniques for Clear Scientific Writing and Editing

Gary Westbrook, Senior Editor, *The Journal of Neuroscience*
Linda Cooper, McGill University

LESSONS | INTRODUCTION

Why is writing important in science?
Writing is the most common form of scientific communication

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Effective Communication, Better Science

Science communication is part of a scientist's everyday life. Scientists must give talks, write papers and proposals, communicate with a variety of audiences, and educate others.

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Center for Public Engagement with Science & Technology

Our activities focus on providing scientists and scientific institutions with the resources they need to have meaningful conversations with the public.

Uncertain PRINCIPLES
PHYSICS, POLITICS, POP CULTURE | WITH CHAD ORZEL

Communication Skills for Scientists

Posted by Chad Orzel on July 6, 2010

NIH National Institute on Aging
Turning Discovery Into Health

Home | Health and Aging | Research and Funding | Newsroom

RESEARCH & FUNDING

Inside NIA: A Blog for Researchers

Explaining your science—tips for clear communication

Posted on November 5, 2014 by Vicky Cahan, Director, Office of Communications and Public Liaison. See Vicky Cahan's full profile.
You're preparing a poster to present at a scientific symposium.



Good communication matters

- Effective communication is key to success
 - To convey your ideas, findings, viewpoints
 - To reach target audiences
 - To explain importance of your work
- Ineffective communication is costly
 - Lost opportunities for funding, publishing, awards, understanding
 - Diminished perception of work's value
 - Potential misunderstanding of your research
 - Reputation, recognition



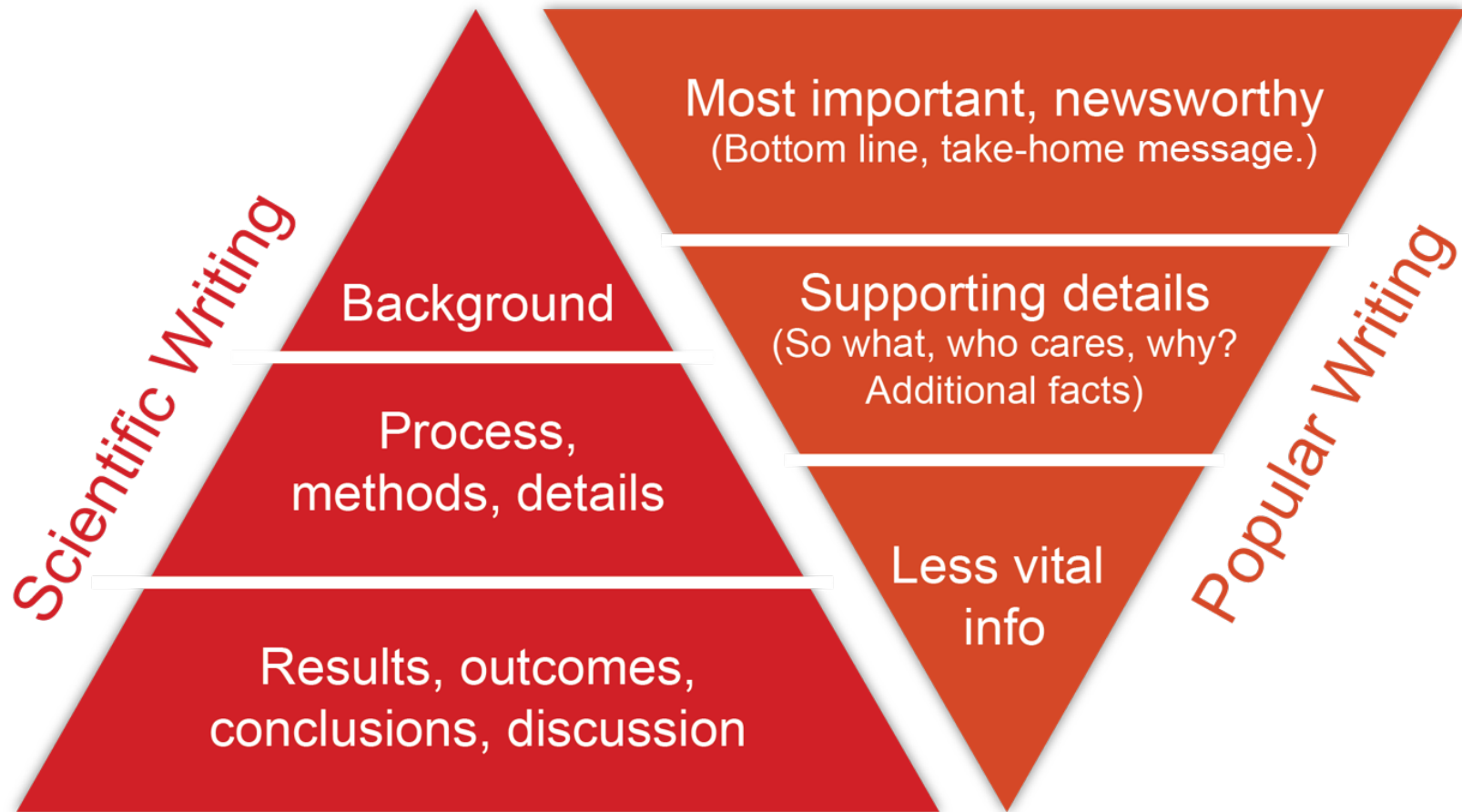


Understanding the critical difference

- Researchers and public communicate very differently
- Understanding this difference is key to success
 - Research/science focuses on process, methodology, details
 - Non-technical writing (and audiences) focus on outcomes
 - Outcomes, benefits, payoffs are the bottom line



Visualizing the critical difference





Know and respect your audience

- Know who you're trying to reach
 - Public
 - Policymakers
 - Potential or current funders
 - Community or campus leaders
 - Administrators
- What do they know or care about this subject?
- What most interests them?
 - Don't tell them what they "should" want to know
 - Focus on what's most relatable, interesting to them



Know and respect your audience

- Audience needs and interests are diverse
 - Differences matter
 - Gear your message to your audience
 - What resonates with one, may fall flat with another
- But every audience has
 - Limited attention span
 - Limited knowledge, interest
 - Lots of competition for their attention
 - Little patience for off-message info



Style and approach

- Match style and approach to audience
 - Narrative, storytelling or email, report
 - Connect with your audience
 - Take time to find out what's effective, appropriate
- Clear language is critical
- Focus on why your audience should care
 - What's in it for them?

Clear, concise, on-message communication wins



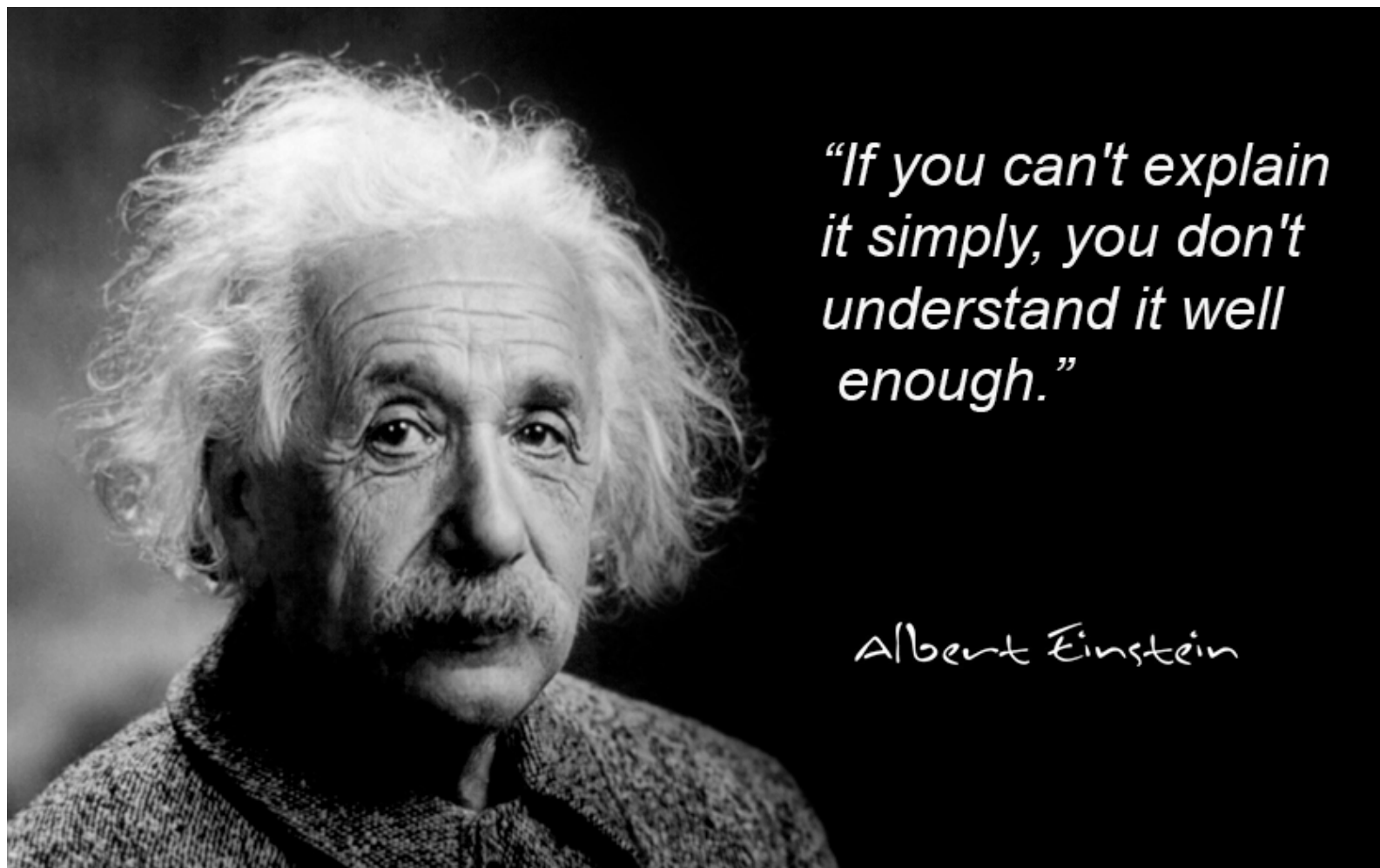
Translate, translate, translate

- Make it understandable, relatable, approachable
- Understanding is the goal
- Trade details for understanding
- Simplifying is not “dumbing down”
- Remember you are not writing for peers
- No one complains that academics are too easy to understand

**Become the narrator and translator of your work.
Tell an interesting story.**



Sage advice





Keeping it simple

- Think big picture
- You can't tell all – don't try
- Focus on key points/messages
- Provide only essential background, data, details
- Avoid jargon
- Use simple, familiar words
- Keep sentences short
- Don't overwhelm with details – you'll lose readers



Identify the essentials

- Key components of effective messaging
 - Issue, problem, situation, need
 - What are we doing/proposing to do about it?
 - What difference will it make?
 - Why it matters? (depends on audience)
 - What is the benefit, outcome, payoff, possibilities?

The brutal bottom line:

So what, who cares and why?



State problem, what's being done

Concussions are common contact sports injuries with potentially long-lasting consequences. Although initial symptoms usually disappear within a week, players may suffer cognitive effects for years, especially with severe or repeated concussion.

A research partnership between UNL researchers and Nebraska Athletics is helping expand understanding of concussions, brain function, head injury and human performance. Findings have the potential to influence athletics nationwide and improve treatment and prevention strategies for all types of head injuries.

By Ashley Washburn
ORED



Familiarize the unfamiliar

- Research and science are mysteries to most people
- Never assume what audiences knows
- Demystify technical info
- Helpful tools
 - Examples that audience relates to
 - Information that paints a picture
 - Explain what it means to them



Familiarize the unfamiliar

Phase transitions refer to changes in a material's properties, often driven by temperature changes. The ubiquitous phase transition of water, which transforms from ice to liquid water to steam as the temperature increases, serves as an excellent example. Pressure significantly alters water's transition temperatures, as anyone who has baked a cake at high altitude well knows. We are investigating the effects of rapidly changing pressure on phase transitions of technologically important magnetic thin film materials by focusing a very fast (ultrasonic) sound wave on the material. ...

By UNL Physicist Shireen Adenwalla

NCMN Interfaces newsletter

Compare with familiar/explain outcome



The same quality that buffers a raincoat against downpours or a pan against sticky foods can boost the performance of solar cells, according to a new study from UNL engineers.

This study showed that constructing a type of organic solar cell on a "non-wetting" plastic surface made it 1.5 times more efficient at converting sunlight to electricity. ...

By Scott Schrage, University Communications

UNL news release



Paint a picture

Short and descriptive

Algae, those slimy, primordial throwbacks often considered a nuisance, could help fuel the future.

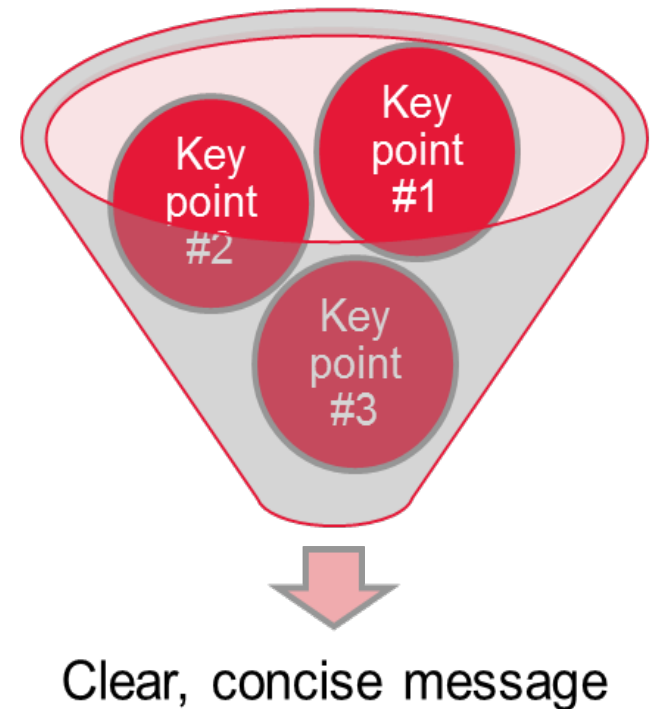
But we need to know a lot more about them before effectively harnessing them for renewal biofuel. That's what UNL's Nebraska Coalition for Algal Biology and Biotechnology aims to do.

By Gillian Klucas

ORED

The rule of threes

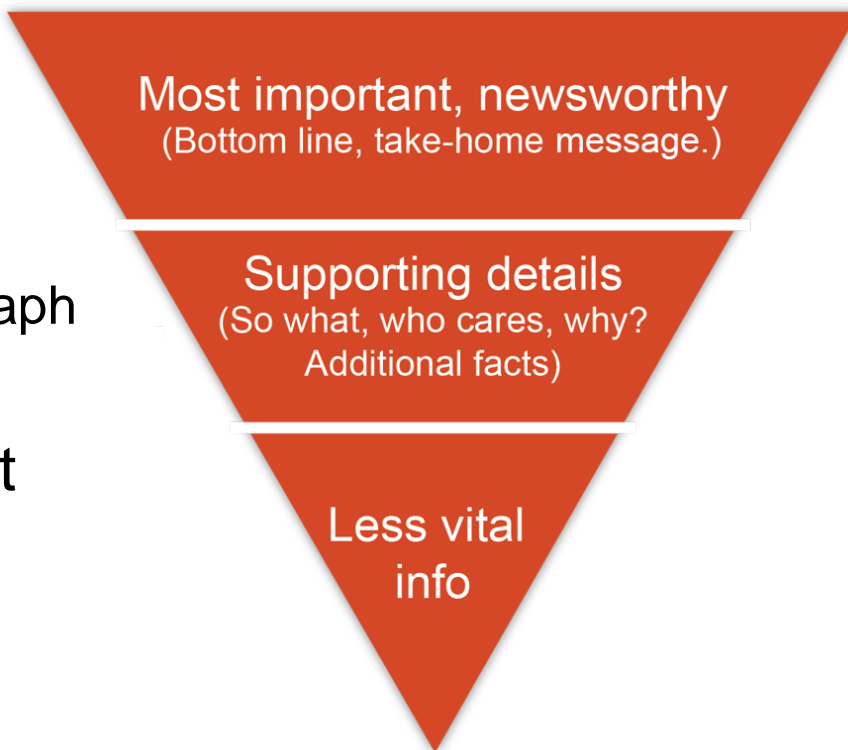
- Identify three most important points
 - Key takeaways
 - What most interests audience
- Build message around these
- Focus on outcomes, benefits
 - So what, who cares, why important
- Make them compelling
 - Hone, simplify, translate
- Avoid temptation to add more
 - Instead, think of one thing to remove
- Death by detail – more is not better





When you write

- Remember the inverted pyramid
- Create compelling first paragraph to grab attention
 - Focus on most important
 - Make it meaningful
 - Don't over-promise
- Following paragraphs
 - Flesh out info in first paragraph
 - Keep key info high in story
- Don't save the best for last
 - Readers may never see it



Choose and use words carefully

- Simple, familiar words are powerful
- Big words don't make you sound smarter
- Jargon is the enemy of clear communication
- Avoid acronyms, abbreviations
 - If you must, clearly define
- Never assume understanding
- Use active voice, not passive
 - Active: the subject of sentence does the action
 - Passive: the subject receives the action
 - “By” is clue to passive voice

WE NEED SOME NEW JARGON,
THE PUBLIC ARE STARTING TO
UNDERSTAND WHAT WE'RE
TALKING ABOUT!





Structure

- Speak, write in short sentences and short paragraphs
 - Strive for 25 or fewer words per sentence
 - New idea = new sentence
 - Avoid semicolons – make it two sentences
- Short paragraphs improve readability
 - Paragraphs can consist of a single sentence
- When you speak, remember the average soundbite is now about seven seconds.



When you write/edit

- Read, follow instructions for proposal or publication
- Remember your audience
- Remember the rules of good writing
- Edit for understanding - be clear, concise
- Look for ways to make story interesting to readers
- Review with fresh eye, ask someone to read if there's time

How will you make your ideas clear, concise and compelling?



Words of wisdom

- “Just because you're dealing with a scholarly discipline that's usually reported in a style of dry pedantry is no reason why you shouldn't write in good, fresh English.”
 - William Zinsser, *On Writing Well*
- “Write with precision, clarity and economy. Every sentence should convey the exact truth as simply as possible.”
 - Instructions to authors, *Ecology*, 1964



Questions?