Effectively Communicate Your "Salinity Story"

Annette deCharon

University of Maine

Aquarius Science Communications Lead

Background

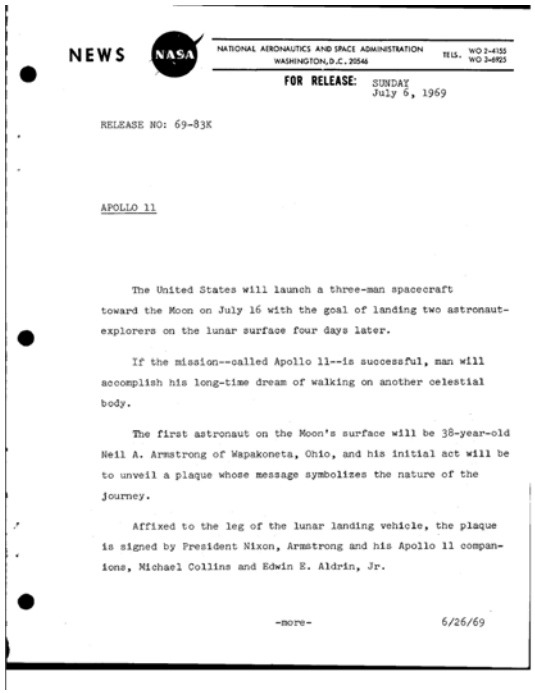
- Science journalism has been the main conduit for the dissemination of scientific information to the public


80-24

PRESS KIT

APOLLO 11
LUNAR LANDING MISSION

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION


NEWS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON, D.C. 20546

TELS. WO 2-4155
WO 3-6925

FOR RELEASE: SUNDAY
July 6, 1969

RELEASE NO: 69-83K

APOLLO 11

The United States will launch a three-man spacecraft toward the Moon on July 16 with the goal of landing two astronaut-explorers on the lunar surface four days later.

If the mission--called Apollo 11--is successful, man will accomplish his long-time dream of walking on another celestial body.

The first astronaut on the Moon's surface will be 38-year-old Neil A. Armstrong of Wapakoneta, Ohio, and his initial act will be to unveil a plaque whose message symbolizes the nature of the journey.

Affixed to the leg of the lunar landing vehicle, the plaque is signed by President Nixon, Armstrong and his Apollo 11 companions, Michael Collins and Edwin E. Aldrin, Jr.

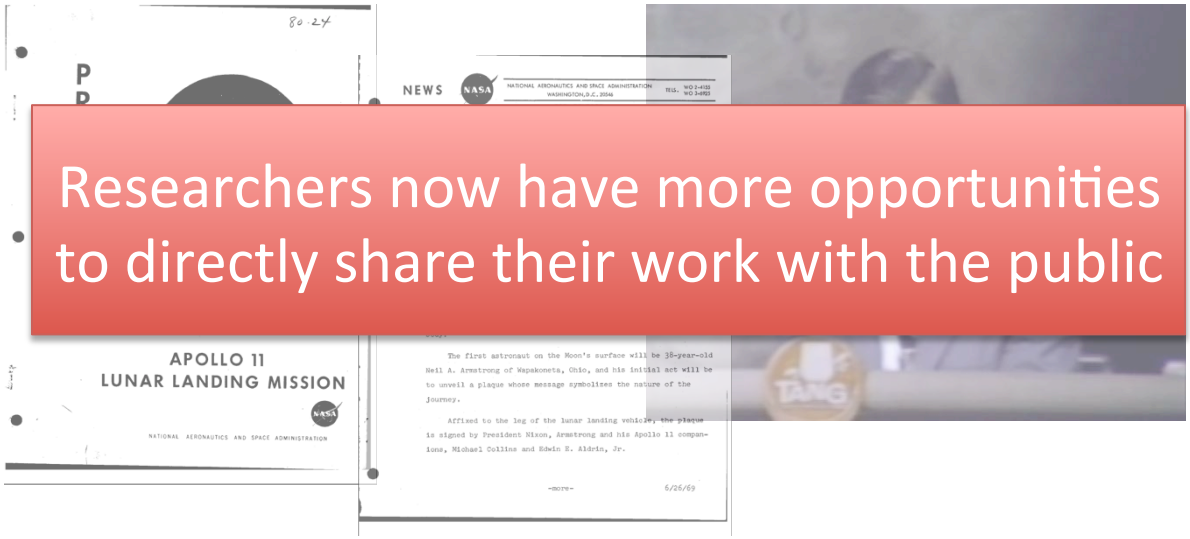
-more-

6/26/69

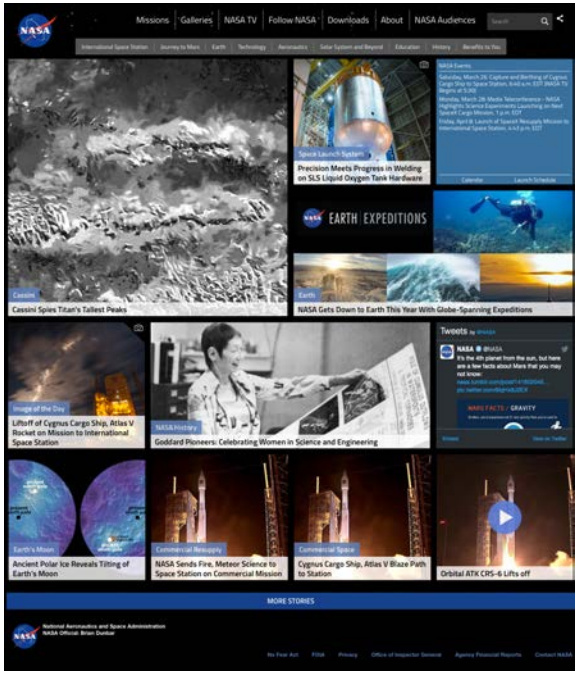
Apollo 11: "As it happened LIVE on ABC", Launch and TLI, July 16-19,1969, PART.1

Background

- Science journalism has been the main conduit for the dissemination of scientific information to the public
- The recent transition from *traditional* to *social* media has had a big impact



Researchers now have more opportunities to directly share their work with the public



"Know Your Audience"

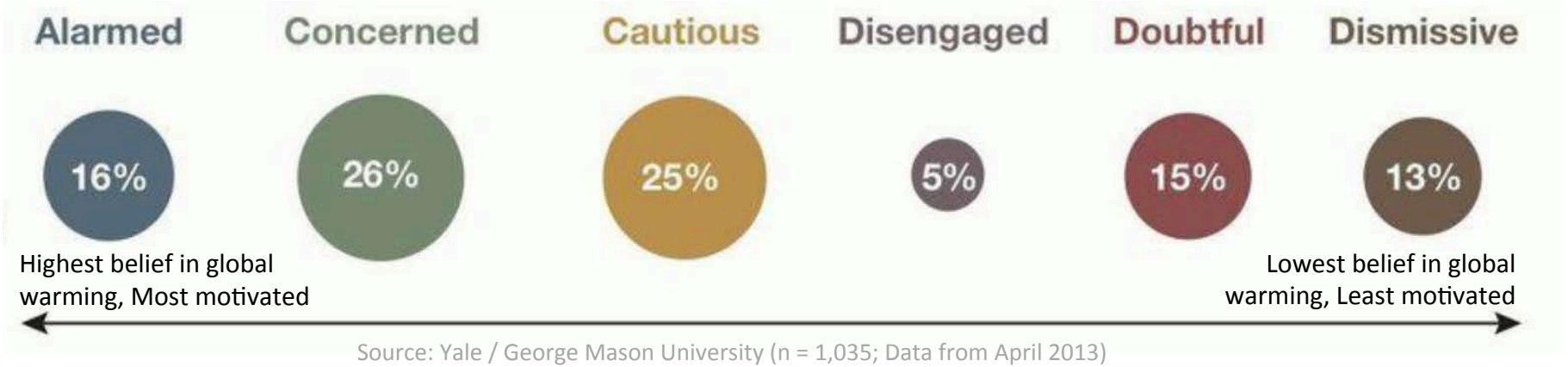
- *Information Deficit or Knowledge Deficit model*
  - Communication is a process of transmission
  - Facts speak for themselves and are interpreted by all citizens in similar ways
  - If they don't accept or recognize facts, then it's their fault
- *Does this approach sound familiar?*






"Know Your Audience"

- Understanding what motivates people to learn is more important than trusting your intuition



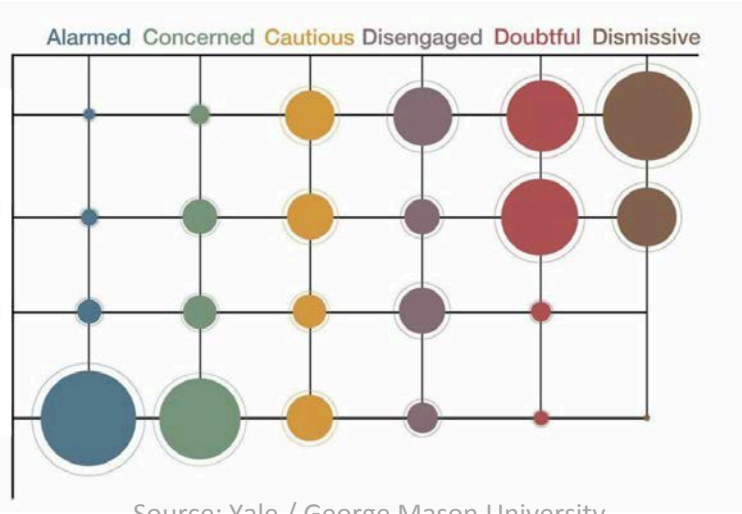
Source: Yale / George Mason University (n = 1,035; Data from April 2013)






"Know Your Audience"

- Understanding what motivates people to learn is more important than intuition
  - Responses to "*If you could ask a climate scientist one question, what would it be?*" are tied to individuals' motivations and beliefs



Source: Yale / George Mason University

Tips on Effective Communication

- The audience for NASA Communications is the general public, which is very diverse.
- What does NASA Communications recommend?
  - Have a specific take-home message
    - Thing(s) you either want a viewer or reader of your story to come away remembering
  - Make it simple and short
  - Take out all of the jargon and avoid using acronyms
  - Use a language and comprehension level that the public will understand

Poll #1

- You will next be prompted to answer a question about NASA's guideline on the language level to use with the public...

Poll #1

- What is the language grade level that NASA recommends using with the public?
  - ❑ Sixth grade (11-12 years old)
  - ❑ Eighth grade (13-14 years old)
  - ❑ Tenth grade (15-16 years old)
  - ❑ Twelfth grade (17-18 years old)

Poll #1

- What is the language grade level that NASA recommends using with the public?
  - ❑ Sixth grade (11-12 years old)
  - ✓ **Eighth grade (13-14 years old)**
  - ❑ Tenth grade (15-16 years old)
  - ❑ Twelfth grade (17-18 years old)

Poll #2

- You will next be prompted to choose a message that closely follows the NASA guideline...
  - Statements were provided by Marine Science graduate students during a workshop.
  - Grade levels were determined using

    https://readability-score.com

Poll #2

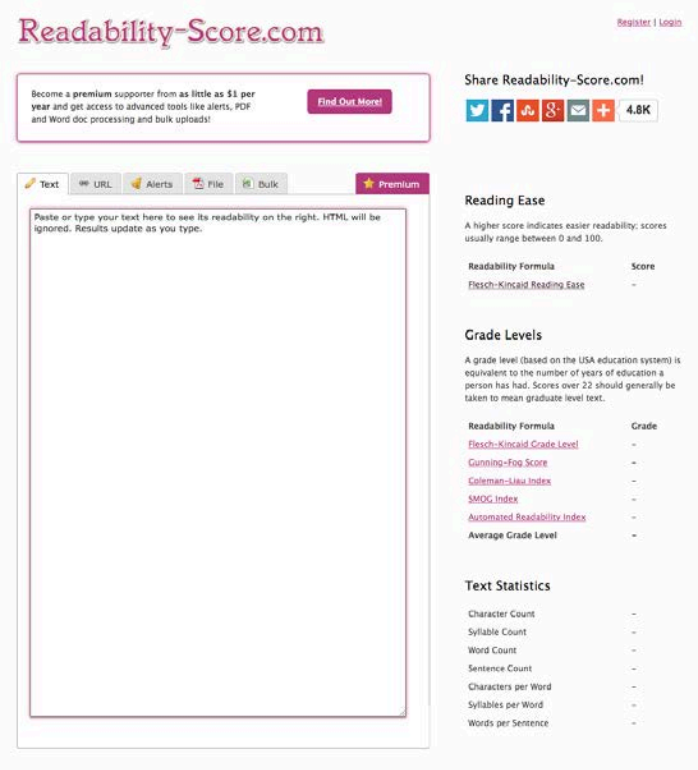
- Which one of the following statements is closest to the grade level recommended by NASA?
  - ❑ *In lakes, things change fast, so you have to keep an eye on it*
  - ❑ *There is a balance needed between human energy needs and environmental health*
  - ❑ *New satellite technologies can help us explore where different types of microscopic life are found in the ocean*
  - ❑ *We need to understand how tidal power affects the environment before we can use it*
  - ❑ *Ocean acidification can make it harder for clam harvesters to make money*

Tips on Effective Communication

- Here are the grade levels for the students' statements:
  - *In lakes, things change fast, so you have to keep an eye on it [2.9]*
  - *There is a balance needed between human energy needs and environmental health [11.5]*
  - *New satellite technologies can help us explore where different types of microscopic life are found in the ocean [13.2]*
  - ✓ ***We need to understand how tidal power affects the environment before we can use it [9.4]***
  - *Ocean acidification can make it harder for clam harvesters to make money [10.8]*

Tips on Effective Communication

- Using Readability-score.com to analyze your take-home message is one of the options for this week's homework
- Text is analyzed based on:
  - Character count
  - Syllable count
  - Word count
  - Characters per Word
  - Syllables per Word
  - Words per Sentence

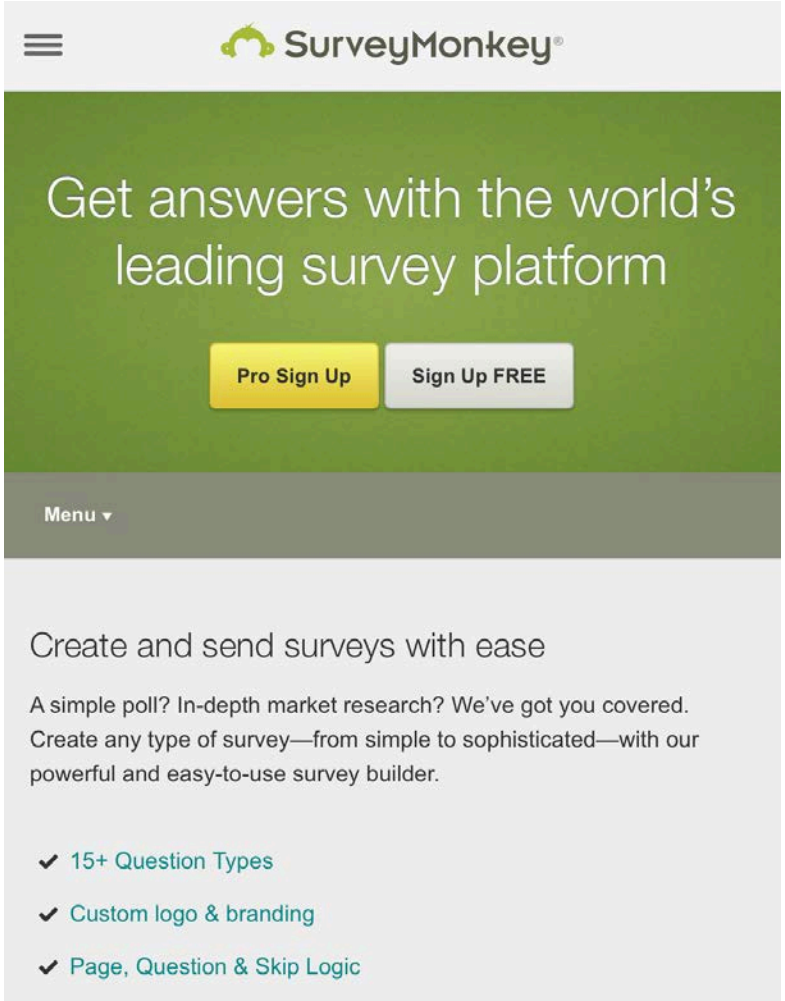


Tips on Effective Communication

- What else does NASA Communications recommend about take-home messages?
  - They should be *personal* to the audience
  - Relate your work to something that the *audience would care about* (e.g., current events)
- How do you assess how much people care or know about your research?
  - Ask them!

Tips on Effective Communication

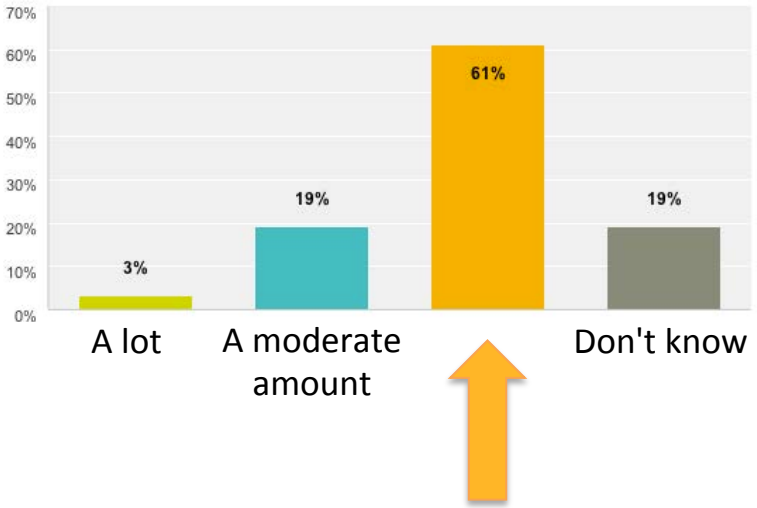
- Using SurveyMonkey.com to gather data is options for this week's homework
  - The following examples are based on students' results from an online graduate course, *Broaden the Impacts of Your Research*



Tips on Effective Communication

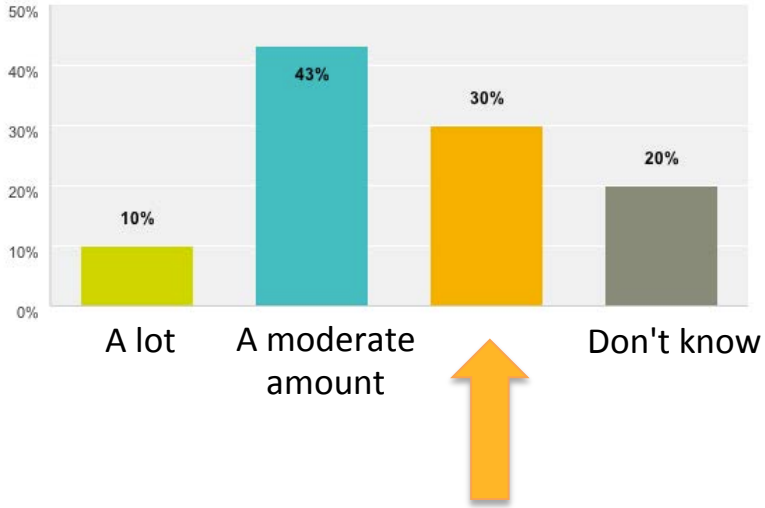
- One student's results:

How much do you **know** about estuarine oceanography?



61% replied "Not much"

How much do you **care** about estuarine oceanography?

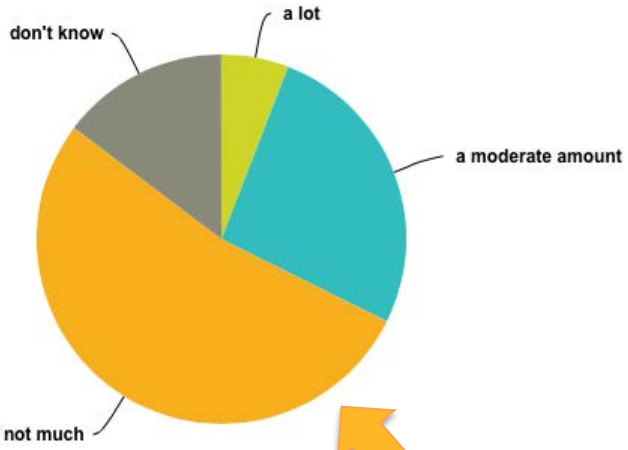


30% replied "Not much"

Tips on Effective Communication

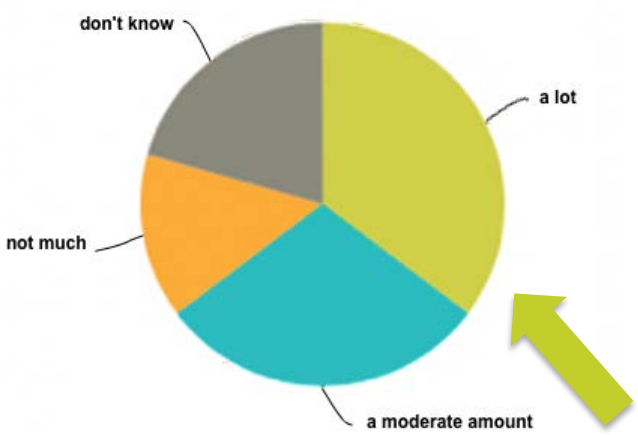
- Another student's results:

How much do you **know** about innate immunity?



Over 50% chose "Not much"

How much do you **care** about innate immunity?



About 40% chose "A lot"

Tips on Effective Communication

- Students also collected *quantitative data* using surveys using this approach:
  - 6 = Heard this term and know what it means
  - 4 = Heard this term and am not sure I know what it means
  - 2 = Heard this term and don't know what it means
  - 0 = Have not heard this term before

- Terms with average scores **above 5** were recognized and understood by students' friends and family

Poll #3

- You will next be prompted to choose a term that **averaged below 5** in the students' surveys...

Poll #3

- Only one of the terms below **averaged below 5** in the students' surveys, which is it?
  - ❑ *Pathogen*
  - ❑ *Immunocompromised*
  - ❑ *Estuary*
  - ❑ *Seasonality*
  - ❑ *Muscular Dystrophy*

Poll #3

- Only one of the terms below **averaged below 5** in the students' surveys, which is it?
  - ❑ *Pathogen*
  - ❑ *Immunocompromised*
  - ❑ *Estuary*
  - ✓ ***Seasonality*****
  - ❑ *Muscular Dystrophy*

****Seasonality** is a characteristic of a time series in which the data experiences regular and predictable changes that recur every calendar year*

Tips on Effective Communication

- What did the graduate students learn from this exercise?
  - Relationship between "knowing" and "caring" is uneven and may be discipline dependent
  - It's not always easy to predict which scientific terms people understand

- Conducting this type of survey is one of the options for this week's homework
  - If you choose to do this, you'll likely be pleasantly surprised by the number of responses