

NOT THE SCIENCE TYPE



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3M AND GENEROUS FILMS PRESENT "NOT THE SCIENCE TYPE" DIRECTED BY JULIO PALACIO PRODUCED BY CHRISTINE ARENA EXECUTIVE PRODUCER ROBERT BRITAIN
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Not the Science Type: *Dr. Jessica Taaffe*

Discussion Guide

Goal: To have students discuss the intersectionality of identity, science and public health.

I am a PhD scientist and global health professional with 15+ years of experience in microbiology, immunology, epidemiology, and infectious diseases research and programs. I work with domestic and international multilateral organizations and apply my scientific expertise and evaluation skills on projects involving international development, global health and science policy, advocacy, and communication.



I use research and evidence to inform and support global health policy and programs, especially in relation to HIV, malaria, NTDs, and pandemic threats. I am an excellent communicator, with the ability to synthesize technical information for policy and non-technical audiences. My views on science and global health advocacy have been featured by prominent science and global health societies and organizations, and I regularly discuss science

“Not the Science Type” is a [docuseries](#) featuring four female scientists as they rise to prominence in fields ranging from biology to engineering, to science and technology-based applications and innovations, challenging stereotypes and confronting gender, racial, and age discrimination along the way. While each has taken a different path to pursuing scientific excellence, they are bound by the common experience of feeling outcast or “not the type” in traditionally homogenous scientific fields.

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Before the Video

- Engage students in a discussion around identity and perception in science and make connections to public awareness due to COVID-19.
- Engage: Students can brainstorm or free write their thoughts on the following:
 - Prior to the COVID-19 pandemic-what was your image of a public health expert? How has (did) it changed?
 - When you picture microbiologists, immunologists or other public health officials what images come to mind about the work environment and people whose job focuses on collective health and wellbeing?
- **Think.Pair.Share.** With a partner or in small groups have students discuss their thoughts on the images they came up with during their brainstorm or free write.

During the Video

- Stop and discuss who scientists are and the image the public holds of them. Connect to personal identities and how students see themselves in relation to science.
- **Pause at 0:25:** Have students form **pairs or triads** (this can be done in person or in breakout rooms if doing it online) to discuss the following:
 - As Dr. Taaffe introduces the image of a typical scientist, did her description match your image? What parts matched yours? Were there any differences?
 - Since the pandemic began, has the public image of who scientists are changed?
 - Is there any part of Dr. Taaffe’s description of scientists you can personally connect to?
 - Does a personal connection to a scientist influence your image of them or your desire to pursue science in your career?
- **Pause again at 0:59:** Shuffle the **pairs or triads** (making sure to have heterogeneous groups to have students deepen their discussions around identity).
 - Have groups discuss the various aspects of Dr. Taaffe’s identity, which identities they relate to and have them hypothesize what she means by “being true to myself. Being true to what drives me was going to be the key to a successful and satisfying career.”

After the Video

- Engage students in discussions around STEM identity, intersectionality and code switching.
- **Think.Pair.Share.**
 - What is STEM identity? What is intersectionality (broadly and how does it play out here?)
 - How did Dr. Taaffe’s dual cultures help her on her path and present roadblocks to her career?
 - Why did Dr. Taaffe feel that she needed to alter herself to fit into her first job?
 - Have you ever felt that you needed to alter yourself to fit into a situation (particularly around school/work)? Have you ever had to code switch to be received differently because of your identity? How did you cope with that?

Go Further!

- **Learn** more about Dr. Taaffe:
 - [IF/THEN Collection: Long Profile](#)
 - [IF/THEN Collection: Fun Facts](#)
- **Research** a scientist who refused to “conform” like Dr. Taaffe and create a set of slides that will outline their accomplishments and their struggle against conformity. Create a shared document (e.g. Google slides, Jamboard, Flipboard, Padlet etc) where students can share and learn about each other’s research.

Activity

- The purpose of the suggested activities is to make connections between Dr. Taaffe’s discussion of DNA sequencing to create vaccines. Examples:
 - [PBS’s Nova scienceNOW: Deadly Letters](#)
 - [Strawberry DNA extraction kit](#) or NMSI [Digging for DNA](#)
 - HHMI Biointeractive: [“Fixing” Gene Expression](#)
 - NMSI LTF Library: [Introduction to Gel Electrophoresis](#)
 - NMSI AP Biology library: [Gene Expression and Regulation Protein synthesis](#)
- Make connections between Dr. Taaffe’s discussion of DNA sequencing to create vaccines with the activity.

Careers

Dr. Taaffe combines her passions for science and helping people as a global health scientist. Describe your dream career in a few words ... and get suggestions from the Nepris Career Explorer at: <https://www.nepris.com/app/career-explorer/career/19-1022.00>



Figure 3: Job and career opportunities for students of Microbiology

Meet...

Other microbiologists, immunologists and public health officials like Dr. Taaffe at the IF/THEN Collection:

- **Ana Maria Porras:** Biomedical Engineer [How Many Microbes are in Our Bodies?](#)
 - Additional resource from Ana Maria Porras | [Cocci Friendship Bracelets](#)
- **Harshini Mukundan:** Biomedicine [STEM Journey](#)
- **Julie Mirpuri:** Physician-Scientist [Profile](#)

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