

Beyond “Just Follow the Science”: Concepts and Tools for Teaching Public Health Literacy in the Classroom Webinar Syllabus of Resources with Fair Use Statements by Nancy Tomes (NHC Fellow, 1999–2000; 2022–23)

Topic 1: Overview of Misinformation and Disinformation as Concepts

- Wardle, Claire. “[Misinformation Has Created a New World Disorder.](#)” *Scientific American* 321, no. 3 (September 2019): 88–93.
 - A short introduction to concerns about misinformation, disinformation, and mal-information written in 2019 before the COVID pandemic; describes the different elements that create our complex “information ecosystems.”
- Kupferschmidt, Kai. “[A Divisive Disease.](#)” *Science* 370, no. 6523 (December 18, 2020): 1395–97.
 - An overview of information-related problems during the first year of COVID and what they revealed about the state of American science and society.

Topic 2: A Deeper Look into Why it’s Hard to “Just Follow the Science”

Subtopic 1: Science is complicated and has to revise itself, but that process can make it seem as if “science is broken.”

- Jetelina, Katelyn. “[Lessons I Learned During the Pandemic.](#)” *Your Local Epidemiologist (blog)*, July 11, 2023.
- Jetelina, Katelyn. “[Part 2: Lessons I Learned During the Pandemic.](#)” *Your Local Epidemiologist (blog)*, July 20, 2023.
 - Blog posts from an epidemiologist that reflect on the uncertainties surrounding COVID and the need to make fast decisions, some of which turned out to be bad ones.

Subtopic 2: Media Stakeholders Amplify those Complexities to Sell Stories and Generate “Clicks”

Subtopic 3: The Audience (Us) Tends to Hear What We are Primed to Hear

The readings for these topics overlap.

- Vosoughi, Soroush, Deb Roy, and Sinan Aral. “[The Spread of True and False News Online.](#)” *MIT Initiative on the Digital Economy Research Brief* (2017).

- Short summary of a much-cited MIT study showing that news determined to be false by objective fact checking services spread “farther, faster, deeper, and more broadly” than news shown to be true by those same agencies.
- Menczer, Filippo, and Thomas Hills. “[Information Overload Helps Fake News Spread, and Social Media Knows It.](#)” *Scientific American* 323, no. 6 (December 2020): 54–61.
 - Although it uses a lot of technical language, this review provides a good overview of the “attention economy” we live in and the “cognitive biases” that make us vulnerable to misinformation and disinformation, especially online.

Topic 3: Historical Perspectives and Comparisons

For COVID, a much invoked precedent has been the response to the 1918–1919 influenza pandemic.

- Tomes, Nancy. “[‘Destroyer and Teacher’: Managing the Masses during the 1918–1919 Influenza Pandemic.](#)” *Public Health Reports* 125, supplement 3 (2010): 48–62.
 - Provides an overview of the “Great Influenza” in the US and the ways that scientific uncertainty, changing communication technologies, urbanization combined with wartime to complicate public health responses to the pandemic.

Subtopic 1: Masks

Mask-wearing was adopted during the influenza pandemic as a means to lessen the influenza germ’s spread.

- Strasser, Bruno J., and Thomas Schlich. “[A History of the Medical Mask and the Rise of Throwaway Culture.](#)” *The Lancet* 396, no. 10243 (July 4, 2020): 19–20.
 - Provides a history of medical masking and the evolution of its use up to the COVID pandemic.
- Ewing, Thomas. “[Flu Masks Failed in 1918, But We Need Them Now.](#)” *Health Affairs* (blog), May 12, 2020.
 - A short account of mask wearing and controversies about them in the United States during the 1918–1919 influenza, with reflections on COVID.

- Oreskes, Naomi. "[Scientists: Use Common Sense.](#)" *Scientific American* 323, no. 5 (November 2020) 77.
 - Interesting opinion piece by a leading historian of science suggesting why the World Health Organization made a mistake not including mask wearing in its early COVID guidance.

Subtopic 2: School Closures

Closing schools to slow the spread of the pandemic was a widely used but controversial strategy during the Great Influenza.

- Stern, Alexandra, Martin S. Cetron, and Howard Marke. "[Closing the Schools: Lessons from the 1918–19 U.S. Influenza Pandemic.](#)" *Health Affairs* 28, no. 6 (September 29, 2009): 1066–1078.
 - Writing in 2009, when a new variant of influenza seemed posed to spread, three historian-experts on the 1918–1919 pandemic analysis the use of school closures to slow the influenza's spread.
- Battenfeld, Mary. "[3 Lessons from How Schools Responded to the 1918 Pandemic Worth Heeding Today.](#)" *The Conversation*, June 16, 2020.
 - A historian of children reflects on insights that the 1918–1919 influenza pandemic offer to educators facing COVID in 2020.
- "[3 Years after Pandemic School Closings, How Were Kids and Parents Affected?](#)" NPR interview with Anya Kamenetz, author of *The Stolen Year*, March 14, 2023.
 - Here's a brief interview with a former NPR education reporter who has written a book on the impact of COVID school closures; she stresses the painful trade offs those policies reflected.

Additional Resources and Fair Use Statements

Here are some suggestions for further reading, some of which I will mention in the webinar.

Topic 1: Overview of misinformation and disinformation as concepts

- Fischhoff, Baruch. "[When Assessing Novel Risks, Facts Are Not Enough.](#)" *Scientific American* 321, no. 3 (September 2019): 74–79.

- A short introduction to contemporary “decision science” by one of its eminent practitioners; he explains why unavoidable kinds of scientific uncertainty complicate the work of science communication.
- Escandon, Kevin, et al. [“COVID-19 False Dichotomies and a Comprehensive Review of the Evidence Regarding Public Health, COVID-19 Symptomatology, SARS-CoV-2 Transmission, Mask Wearing, and Reinfection.”](#) *BMC Infectious Diseases* 21, no. 710 (2021): 1–47.
 - Really thorough 2021 literature review documenting the main false dichotomies related to polarizing responses to COVID, with key recommendations on pp. 5–6 and a lay summary of findings on p. 6.

Topic 2: A Deeper Look into Why it’s Hard to “Just Follow the Science”

- [“It’s Time To Talk About ‘Pandemic Revisionism.’”](#) Ezra Klein Show, Aug 29, 2023 podcast. 65 minutes
 - Here’s a longer, fascinating conversation between a science journalist (Wells-Wallace) and an epidemiologist (Jetelina) about why issues such as masks, school closures, and vaccinations became so hotly debated during the COVID pandemic.
- Lewandowsky, Stephan, U. K. H. Ecker, C. M. Seifert, N. Schwarz, and J. Cook. [“Misinformation and Its Correction: Continued Influence and Successful Debiasing.”](#) *Psychological Science in the Public Interest* 13, no. 3 (2012): 106–31.
 - This is an excellent overview of the way psychologists conceptualize and study the problems associated with misinformation, and why some forms of it are so hard to dislodge.
- Hilgard, Joseph and Kathleen Hall Jamison. [“Science as ‘Broken’ Versus Science as ‘Self-Correcting’: How Retractions and Peer-Review Problems Are Exploited to Attack Science.”](#) In *The Oxford Handbook of the Science of Science Communication*, edited by Kathleen Hall Jamison, Dan M. Kahan, and Dietram A. Scheufele, 84–92. New York: Oxford University Press, 2017.
 - This essay lays out two different ways of interpreting scientists’ need to argue and revise their findings.

Topic 3: Historical Perspectives and Comparisons

- Tomes, Nancy and Manon Parry. "[What are the Historical Roots of the COVID-19 Infodemic? Lessons from the Past.](#)" WHO Health Evidence Network Evidence Synthesis Report, no. 76. Copenhagen: WHO Regional Office for Europe, 2022.
 - This is a comparative review of infodemic-related problems in three important pandemics: the 1918–1919 influenza, the early AIDS epidemic, and the SARS outbreak of 2002–2004.
- Dionne, Kim Yi, and Fulya Felicity Turkmen. "[The Politics of Pandemic Othering: Putting COVID-19 in Global and Historical Context.](#)" *International Organization* 74, Supplement 1 (December 2020): E213–E230.
 - This review traces the long history of blaming already marginalized, stigmatized racial and ethnic groups, especially migrants and immigrants, for the outbreak of infectious diseases.
- Chang, Jonathan, Meghna Chakrabarti, and Tim Skoog. "[Education Reporter Anya Kamenetz on How the Pandemic Changed Public Education.](#)" WBUR, September 7, 2022.
 - Here's a longer interview with Kamenetz that includes interviews with some of the parents she interviewed for the book. (47 minute listen)

Bonus readings on vaccine hesitancy

It was too much to try to cover vaccine hesitancy in this webinar, but here are some materials you could use to do so in your classes, with a focus on the polio vaccine's introduction in the 1950s US.

- Haelle, Tara. "[Vaccine Hesitancy is Nothing New.](#)" *Science News* 199, no. 9 (May 8, 2021).
 - This is short overview of vaccine resistance dating back to smallpox in the 18th c.

Here are some materials useful for a polio case study:

- Foss, Katherine A. "[Got Polio? Messaging Underscores a Vaccine Campaign's Success but Creates False Sense of Security as Memories of the Disease Fade in US.](#)" *The Conversation*, April 27, 2023.
 - A look back at the polio vaccination campaign and the potentially misleading messages it now has for the present.
- Rogers, Naomi. "[Polio Can Be Conquered: Science and Health Propaganda in the United States from Polio Polly to Jonas Salk.](#)" In *Silent Victories: The History and Practice of*

Public Health in Twentieth Century America, edited by John W. Ward, and Christian Warren, 81–101. New York Oxford University Press, 2006.

- Great overview of movement to end polio in U.S. from early 1900s to discovery of Salk vaccine in early 1950s.

- Schreiber, Flora Rheta. "[The Fear Campaign Against the Polio Vaccine.](#)" *Redbook*, April 1956, 30–31, 99–101.
 - A science journalist writes about the "scare campaign" against the Salk vaccine in the 1950s.