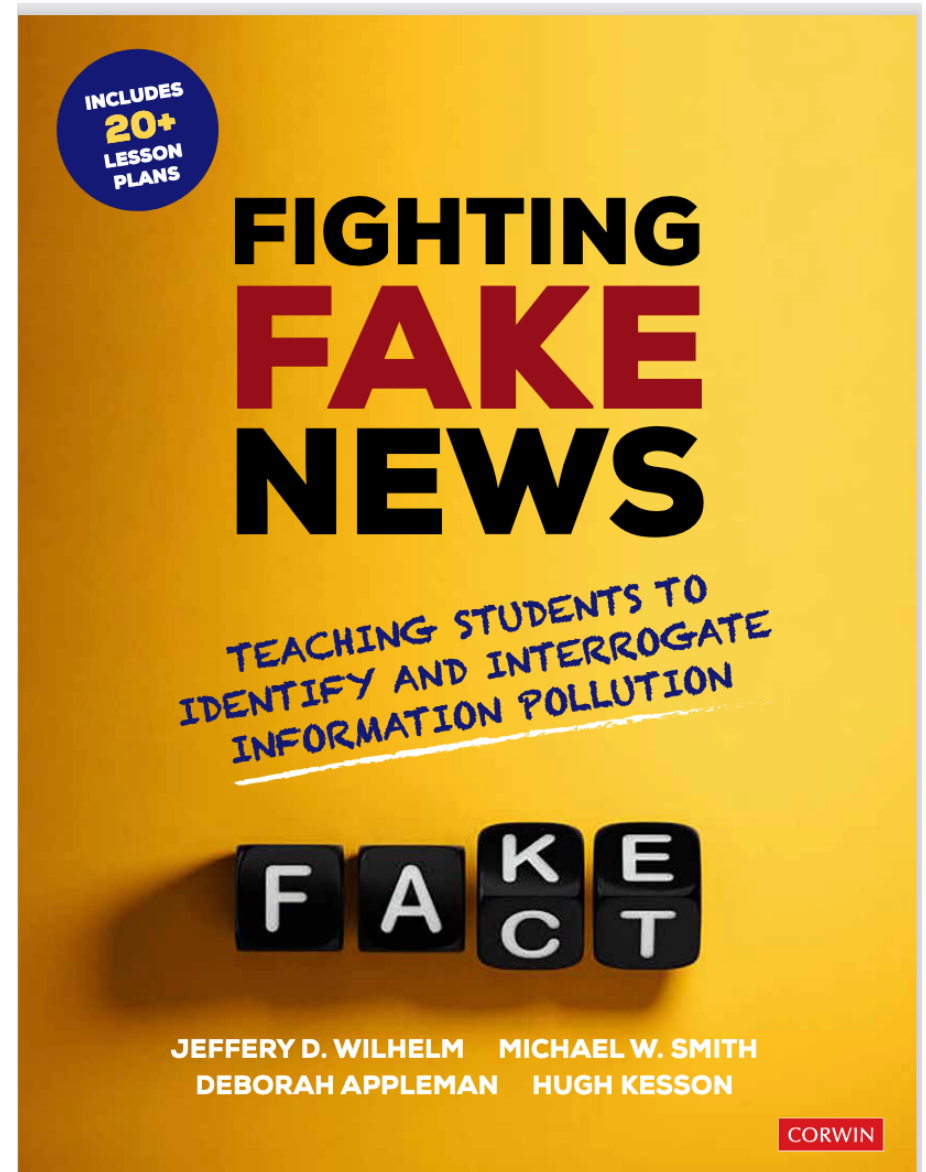


We are All Screenagers: *Navigating Issues of Social Media, AI and Teen Mental Health*

Jeffrey D. Wilhelm
Boise State University
@ReadDRjwilhelm



Feed Up, Back, Forward

Read the article. Note these 4 Cs:

- **Concepts:** What are the most important **concepts**/key takeaways?
- **Connections:** What **connections** are you making to the ideas in the article?
- **Challenges:** What **challenges** do you foresee in providing this type of feedback?
- **Changes:** What **changes** would you like to make to how you provide feedback?



Essential Question:

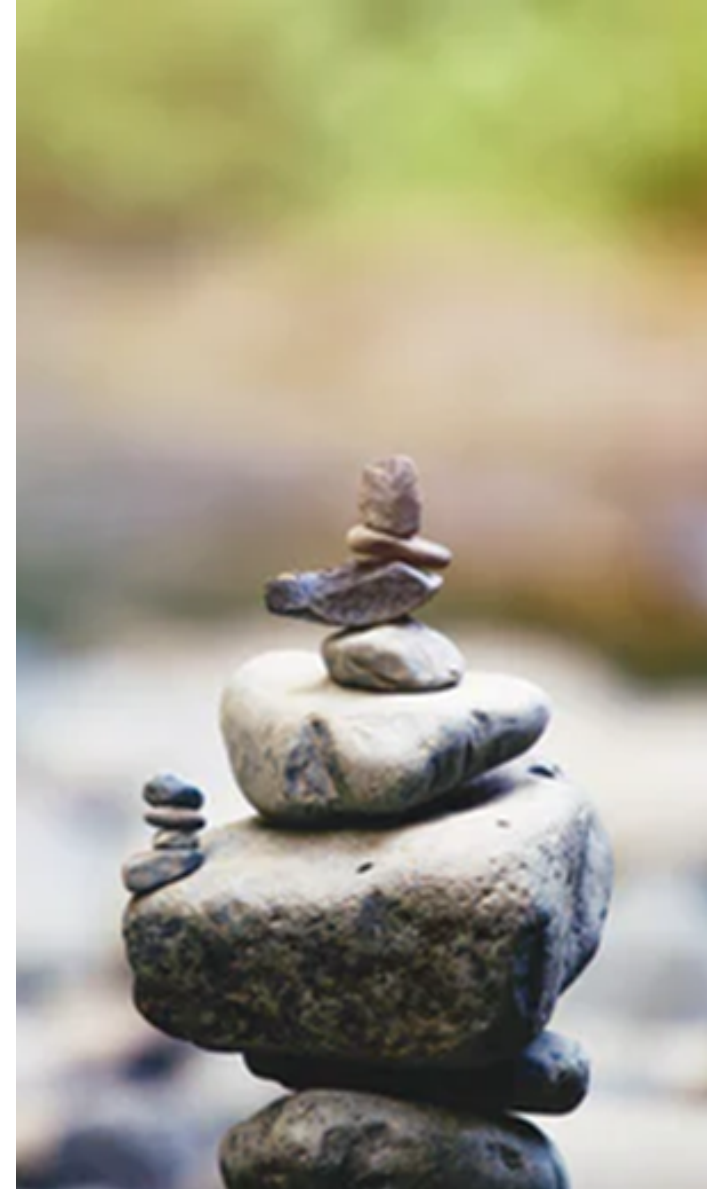
How can we attend to our students' mental health, in the context of what we already must do, and in ways that prepare them for healthy thriving in a challenging and complex world?



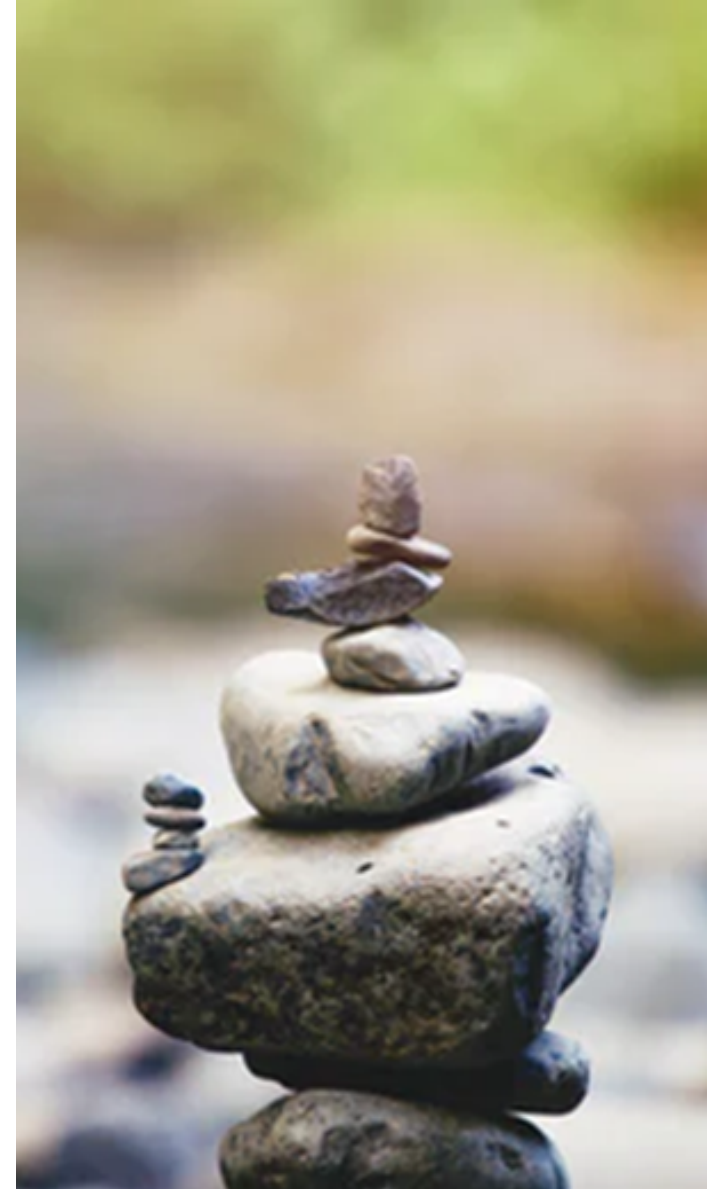
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Participants will...

1. Understand more about the nature of the social media/cell phone/AI challenge, including why all human beings are so susceptible to information pollution.
2. Understand some research-based views on how information pollution and social media use in general affects mental health.
3. Develop ideas about how to help students be aware of and control for the cognitive biases that make us most susceptible to information pollution – and therefore to anxiety, depression and a host of other mental health issues.
4. Develop a mental model for teaching and teaching that will promote conscious competence over one's own critical reading and mental health.



**What are your worries
about children's and teens
mental health? What do
you think are the causes?**



Misinformation Wars: We all know it's a problem. Information Pollution is Everywhere! One example:
The Case of Lucrative Lying vs. The Court of Law



Worries Grow That TikTok Is New Home for Manipulated Video and Photos

Misleading edits, fake news stories and deepfake images of politicians are starting to warp reality on the popular video platform.

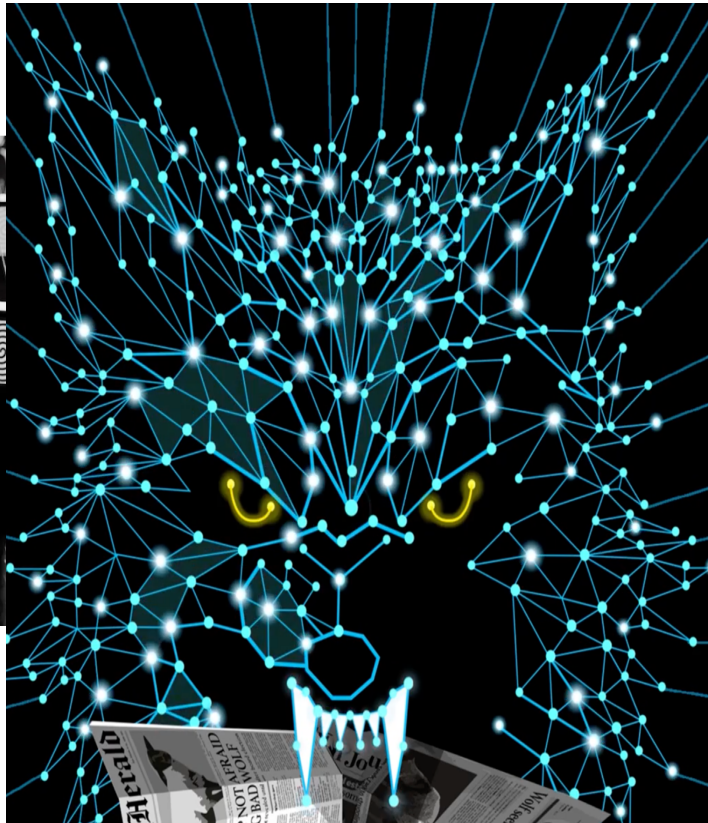
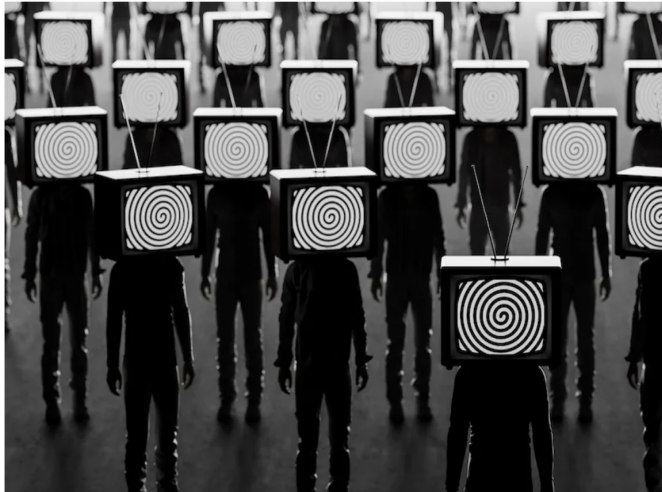
The rise of AI fake news is creating a ‘misinformation superspreader’

AI is making it easy for anyone to create propaganda outlets, producing content that can be hard to differentiate from real news



By [Pranshu Verma](#)

December 17, 2023 at 6:00 a.m. EST



Opinion | The real wolf menacing the news business? AI.

By Jim Albrecht

February 6, 2024 at 5:45 a.m. EST



MRI Research on the brain (e.g. Tufts MRI lab)

- Many teens are addicted to cell phones. E.g. When your cell phone rings, the same place in your brain lights up as a heroin addict taking a hit.
- Teens are losing pre-frontal cortex (necessary for long-term planning and execution and cognitive work over time) and are developing the brain networks for hyper-tasking. The brain as a muscle that develops what is used; and that is losing the capacity for extended work.



What is at stake with AI and information pollution of all types?

"If people don't have the facts,
democracy doesn't work."
-Federal Judge Amy Berman
Jackson

"When we give up trying to
establish and verify facts,
tyranny will certainly follow."
-Historian Timothy Snyder



Studies on youth and SMU

2023 CDC Youth Risk Behavior Study: 60% of HS girls suffer persistent sadness and hopelessness; nearly 25% have made suicide plans; girls are more at risk than boys; teens with a liberal point of view are more at risk (Politics of Depression, 2023) The less kids trusted the news, the more anxious they were (Cornell, 2023)

Covid had a minimal effect on teen mental health



What's at stake- and relationship to anxiety?

“If you don't know what to believe, then you can't believe in anything, and then you don't have hope and you don't know what to do or how to move forward in anything, in any part of your life.”

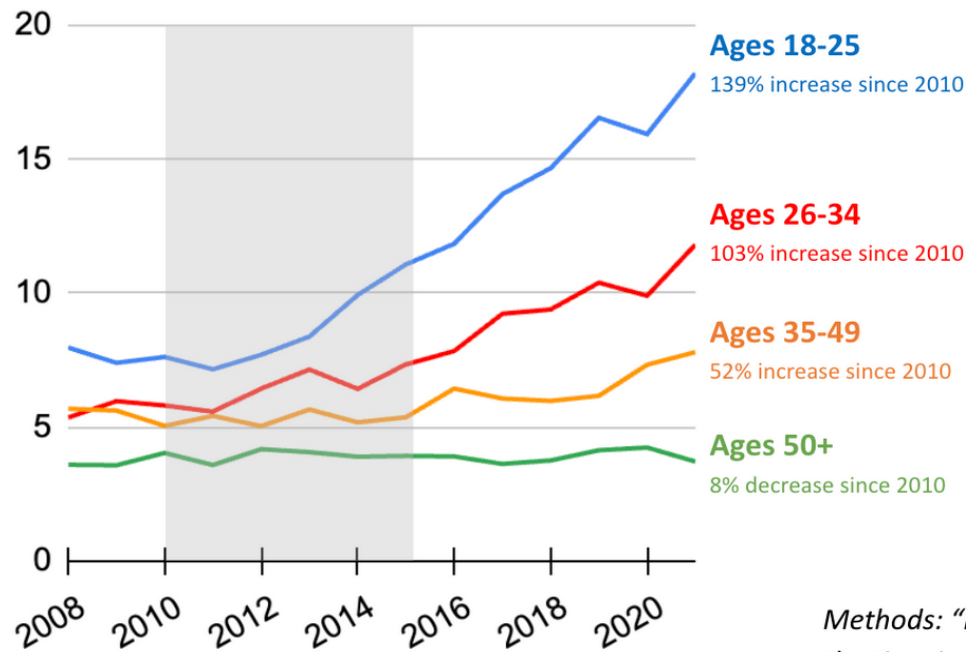
-Brian, 11th grade student

Issue of teen anxiety and anomie



Teen Anxiety

Percent U.S. Anxiety Prevalence



Gen Z hit hardest
Born after 1995

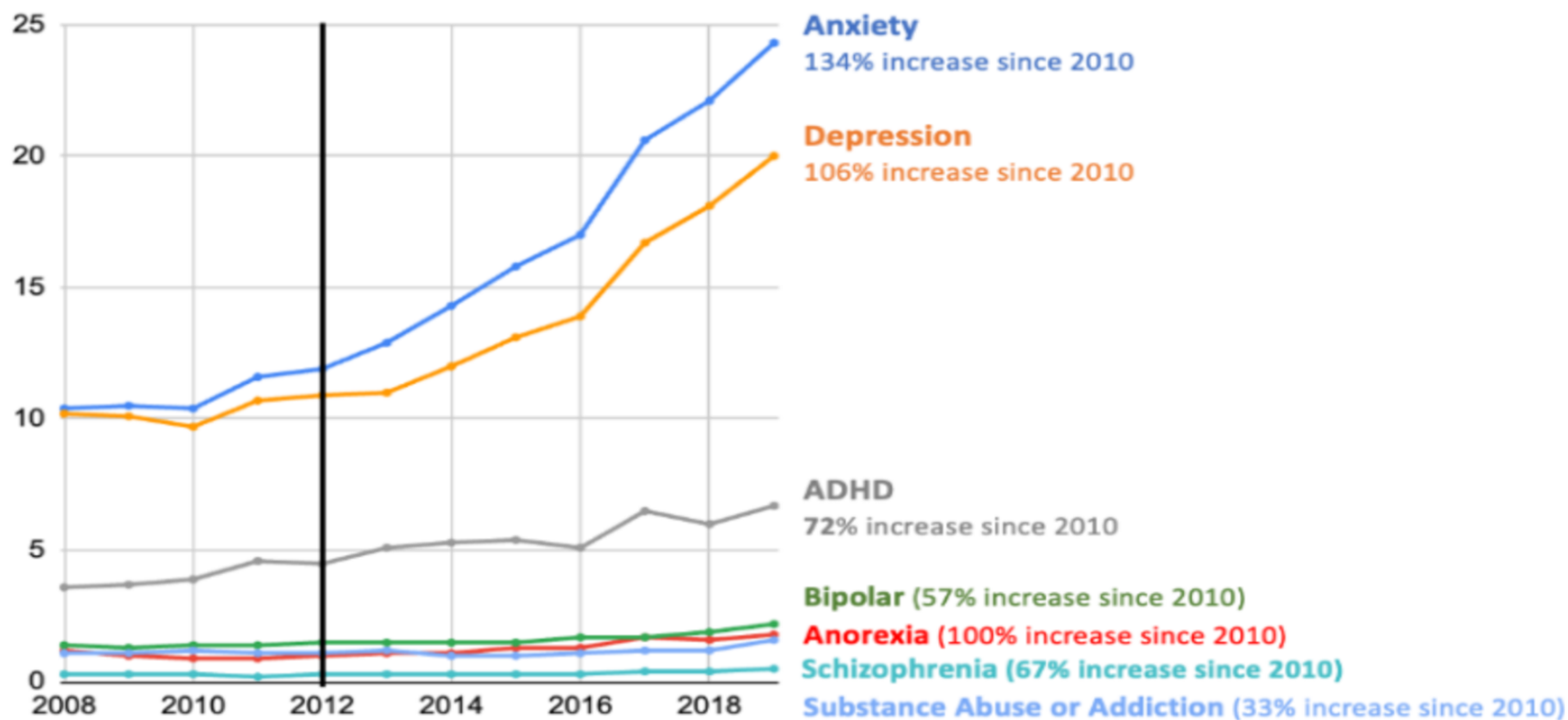
Young Millennials too

Methods: "Nervous all of the time or most of the time in past month"

SOURCE: U.S. National Survey on Drug Use and Health

Teen Mental Health

% of U.S. Undergraduates Diagnosed with a Mental Illness



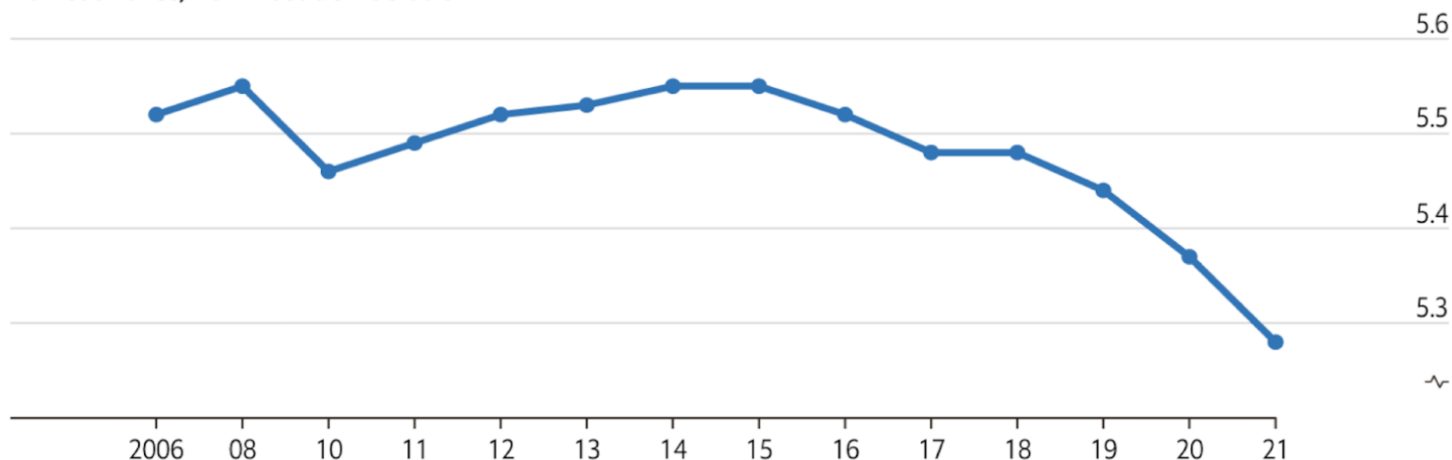
SOURCE: American College Health Association
(ACHA-NCHA II)

Global Democracy Recession: Correlation is not Causation, and yet . . .

The Global Democracy Recession, begins 2016

Democracy Index, global average

167 countries, 10=most democratic



Source: The Economist Intelligence Unit

What are the primary causes of the problem? SMU and info pollution

Jonathan Haidt, *Kids in Space*; Jean Twenge *iGen*

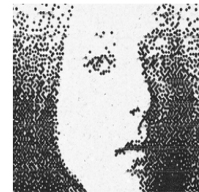
- *55 studies vs. 11 find a significant correlation between SMU and anxiety, depression and poor mental health*
- 2012 mental health starts going south
- 2012 Facebook buys Instagram
- 2012 selfie enters common parlance
- From 2009-14: just over 50% of 8th graders report nearly daily SMU to over 80%. What is it now?

<https://jonathanhaidt.com/social-media/>

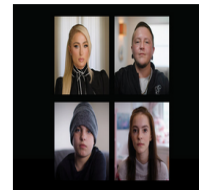
More on teenage mental health



Opinion | Ross Douthat
American Teens Are Really Miserable. Why?
Feb. 18, 2023



Opinion | Jamieson Webster
Teenagers Are Telling Us That Something Is Wrong With America
Oct. 11, 2022

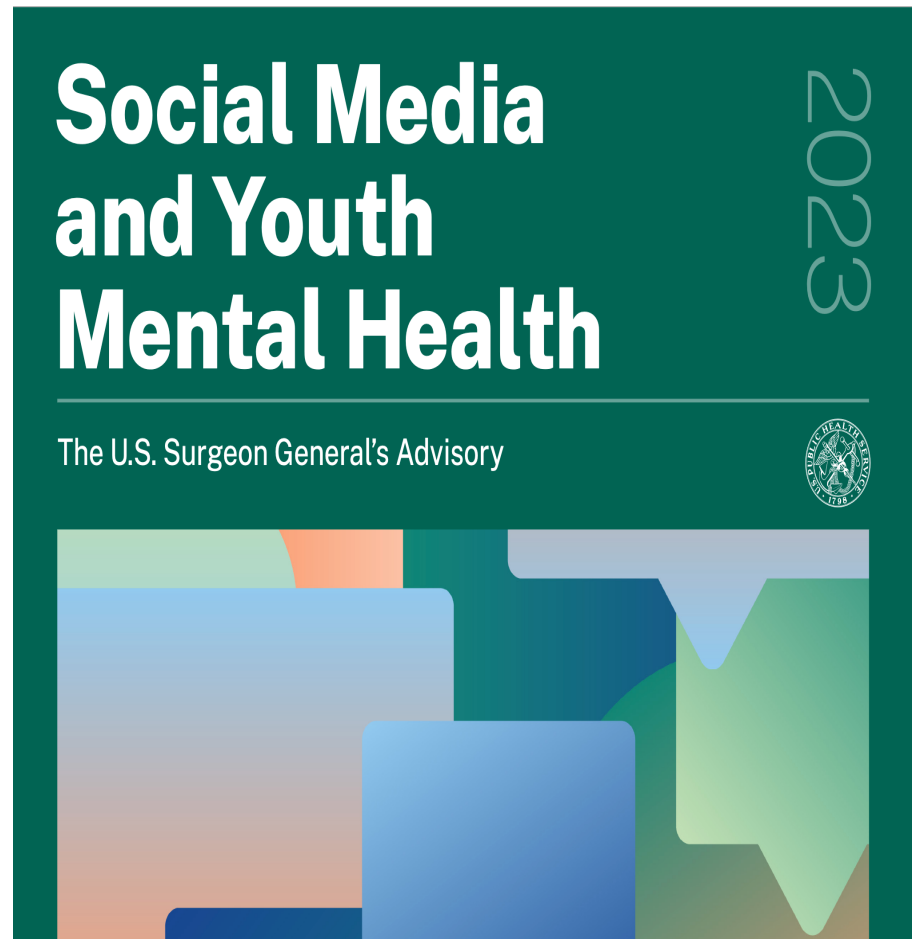


Opinion
Can You Punish a Child's Mental Health Problems Away?

The situation is now so dire . . .

That in April 2023, the United States Surgeon General issued a health advisory warning that SMU is “a profound risk of harm to the mental health and well-being of children and adolescents.”

<https://www.hhs.gov/about/news/2023/05/23/surgeon-general-issues-new-advisory-about-effects-social-media-use-has-youth-mental-health.html>



The problem is not new: Social Media (SMU) as a source of information pollution, is often designed precisely to propagate info pollution

- Neil Postman's *Amusing Ourselves to Death* (1985): we have begun a “vast descent into triviality” and “**we will lose the distinction that informs all others - of fact versus fiction.**”
- Sherry Turkle's *Second Self* (1984): online environments allow us to create alternate selves and “**alternate fact-based**” realities



Social Media (SMU) as a source of information pollution, designed to propagate info pollution

- Megan Garber in the March 2023 issue of *The Atlantic*: “Instagram users . . . post their own touched up, filtered story for others to consume . . . Even the less photogenic Twitter invites users to enter an alternate realm.”
- Basically: Online, everyone is lying, or at least mis-representing and manipulating - it's information pollution, people!



The problem of comparative mindset

- Buddha: comparison requires designating superiority and inferiority
- How can we de-emphasize comparison in classrooms and schools? (assessment, feedback policies, etc.)
- How can we emphasize and value diversity, each person's funds of knowledge and potential contributions to the group?



Other studies on youth

Erik Erikson: early to late adolescence is when we stake our identity through our evolving interests, competence, and group affiliation

Identity bids and granting

Now this fashioning of self, and the **granting** of it, is done largely online, as is finding a place to belong.

Potential? Problems?



And a fact-based worldview is more useful AND healthier . . .

“A fact-based worldview is more useful for navigating life, just like an accurate GPS is more useful for finding your way in the city.”

- Hans Rosling,
Factfulness, p. 255

But HOW?



Other studies on youth

All of us package a self for public consumption; this cuts into offline socialization; popularity and identity granting is quantified

Opportunity costs - when we are online we are not exercising, reflecting, relating . . .



Other studies on youth

Corporations are exploiting children and information about them through triggering content and targeted ads, etc. (*Social Dilemma, recent Congressional hearings*)

Let's acknowledge misogyny, sexual violence, political dysfunction, existential dread, but the most carefully designed studies show these are not the most explanatory factors of teen anxiety - it is how they are **accelerated** by social media, abetted by AI and information pollution, by influencers and profit driven corporations



What is most important to teen mental health?

- Basic needs are met
- What else?



What is most important to teen mental health?

- Basic needs are met
- A sense of stability, routine, and safety
- A caring and supportive adult/s
- A sense of evolving competence (there is something you are good at or are getting good at)
- A sense of community
- A sense of agency and the ability to build capacity (growth mindset)
- A sense of hope
- A sense that one is known and seen and cared for



Common stressors on teen mental health include (Dr. Benore, Cleveland Clinic):

- Perfectionism/Pressure to achieve academically (ego procrastination) Comparative mindset*
- What else?



Common stressors on teen mental health include (Dr. Benore, Cleveland Clinic):

- Perfectionism/Pressure to achieve academically (ego procrastination) Comparative mindset*
- Social pressures, including bullying*
- Family issues, like parents who are unsupportive, financial instability, abuse and more
- Packed school and social calendars - too busy/ no time to be a kid!
- Overexposure to social media*
- Poor sleep habits*
- Unhealthy food choices
- Instability: not knowing what to depend on or what to believe*
- **Sociopolitical concerns.** Systemic racism, gun violence, [climate change](#), gender marginalization, and more can all make it hard for teens to see a proverbial light at the end of the tunnel*



So What? What can we do in classrooms and schools? In concert with parents and community?

What adults: parents and teachers can do (Cleveland Clinic)

1. Be there, period
2. Offer help: How can I support you?
3. Listen more than you talk. Tell me more.
4. Validate your teen's identity (granting identity bids) *
5. Explore supportive resources together
6. Talk to your doctor
7. Don't just hope it will pass
8. Be a mental health role model - including news literacy and healthy SMU habits*
9. Start now: Normalize conversations about mental health
10. Create ritual structures and gut checks to talk about mental health and how to promote it oneself

Identity: People want to be loved for precisely who they are at this moment.

Although LGBTQ+ teens are at an [especially high risk](#) of depression and suicide, this risk decreases significantly when they have families who support and validate them.

“If their parents can't see and respect them, it's difficult for teens to believe they have a chance with others,” Dr. Benore explains.

Everything exists on a continuum.

Being a mental health role model:

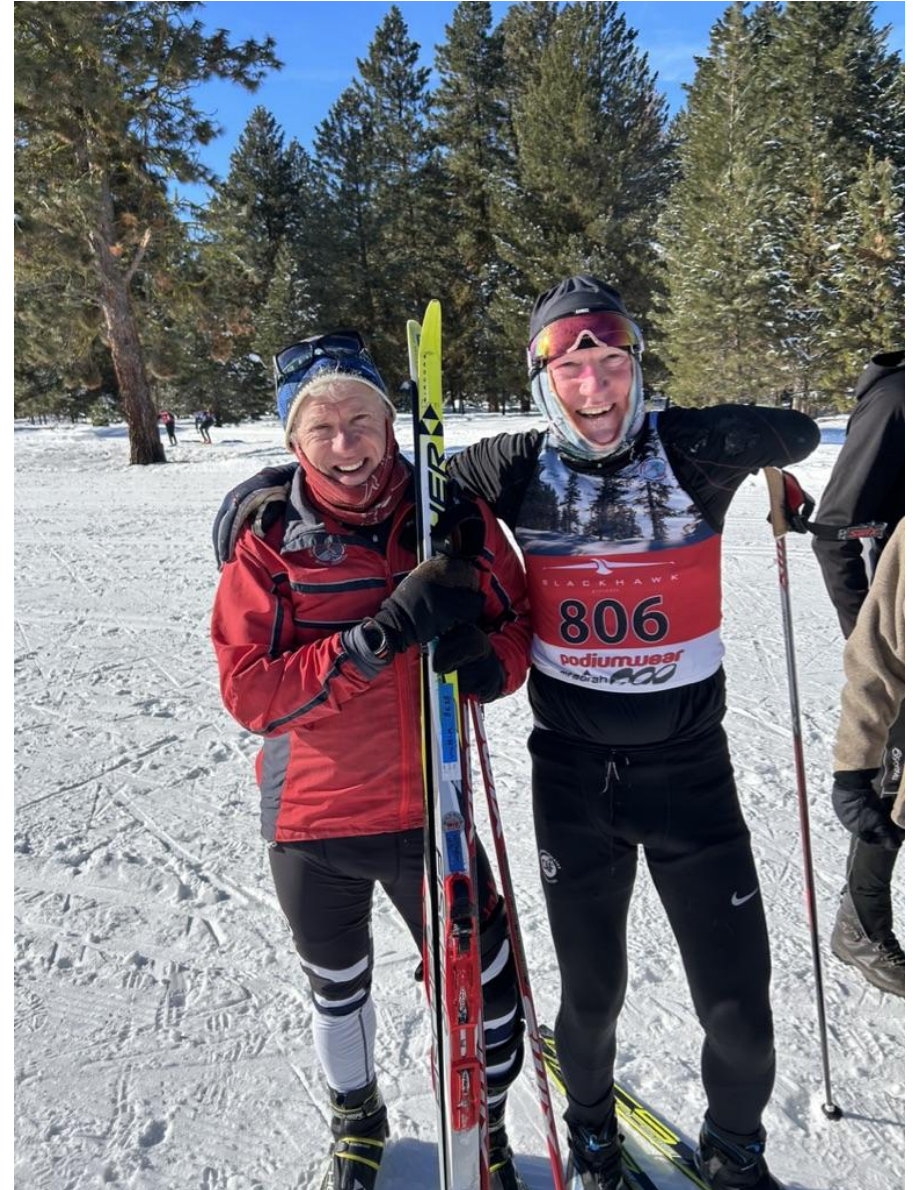
Eating well, exercising regularly and prioritizing positive social relationships. Monitoring and managing your own social media use. And don't be afraid to talk about feelings (in an age-appropriate manner, of course).

“Let your child see that you also process emotions like fear, anger and sadness,” Dr. Benore adds. “This gives them hope that they can learn to do the same things effectively.”

“Today, are you going to get better or are you going to get worse?”

– Coach “One Arm” Willie Stewart

We CAN get better, and we CAN help young people get better at critical reading and controlling for fake news; we can help them have a more accurate world view and achieve better mental health *but only if we pay mindful attention over time . . .*



SUCCESS



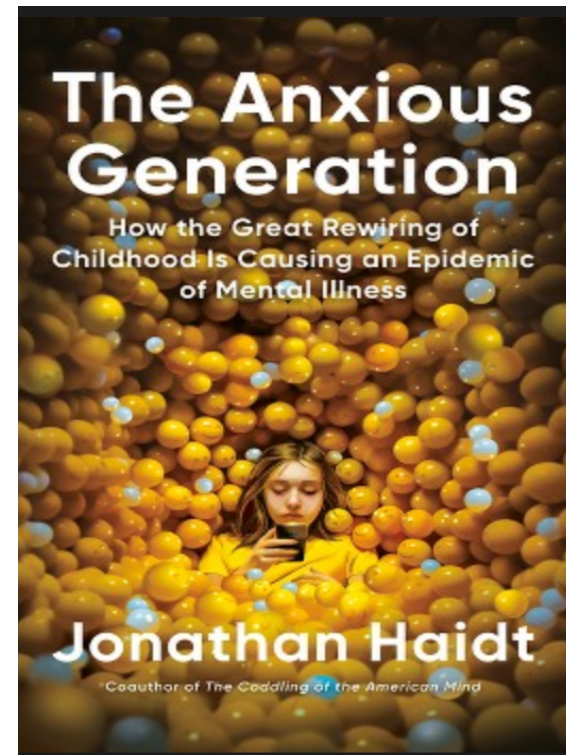
**WHAT PEOPLE THINK
IT LOOKS LIKE**

SUCCESS



**WHAT IT REALLY
LOOKS LIKE**

Jonathan Haidt: The Anxious Generation – Identifying Problems and Ways Forward: Action Planning



To Extend


- Read #5 on Solutions and make an action plan, list challenges and how to overcome



- In google drive: Read Promoting Dispositions of Democracy, or Polarizing Times and make connections to this session

Choose One Prompt ...

1. What was your biggest surprise from this section?
2. I used to think _____, but now I think _____.
3. How would you share a central TAKEAWAY or INSIGHT with others?
4. I am now committed to rethink _____
(e.g. beliefs, actions, materials, methods, contexts...)



Type
"takeaways"
into chat box

So What Can We DO? Ways to identify and Control for Information Pollution-that support mental health and a more accurate and therefore functional worldview

One answer is INSTRUCTION. All solutions to all problems require instructional assistance and deliberate practice!

The 10 point plan:

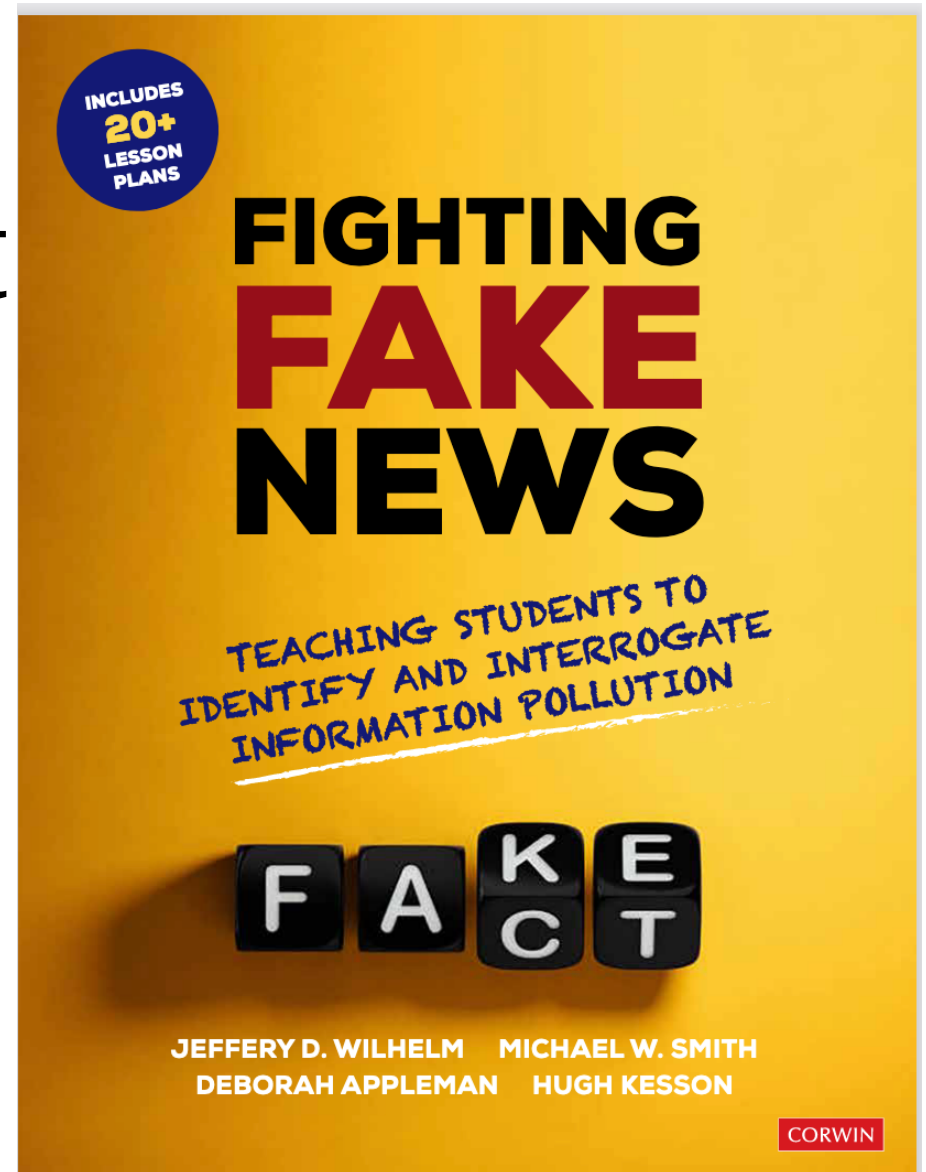
- 1) **Self-study** of our minds and biases
 - 2) Use guided inquiry/cognitive apprenticeship
 - 3) Knowing/Respecting Knowledge Constitution
 - 4) Teach news literacy in everything we do!
 - 5) Teach about potential negative effects of social media, involve families
 - 6) Use COR questions for all online reading!
 - 7) Use Readers Rules of notice for all reading!
 - 8) Create and use mental models of effective evidence
 - 9) Use drama and develop social imagination
 - 10) Use ALLSIDES to see how all sources are biased in some way, coming from a position and positioning us
- DEVELOP AND USE A MENTAL MODEL FOR HOW TO READ THE WORLD TO MAINTAIN MENTAL HEALTH**



End of morning

Let's Take the Fight to Information Pollution!

Jeffrey D. Wilhelm
Boise State University
@ReadDRjwilhelm
Michael W. Smith
Temple University



Essential Question:

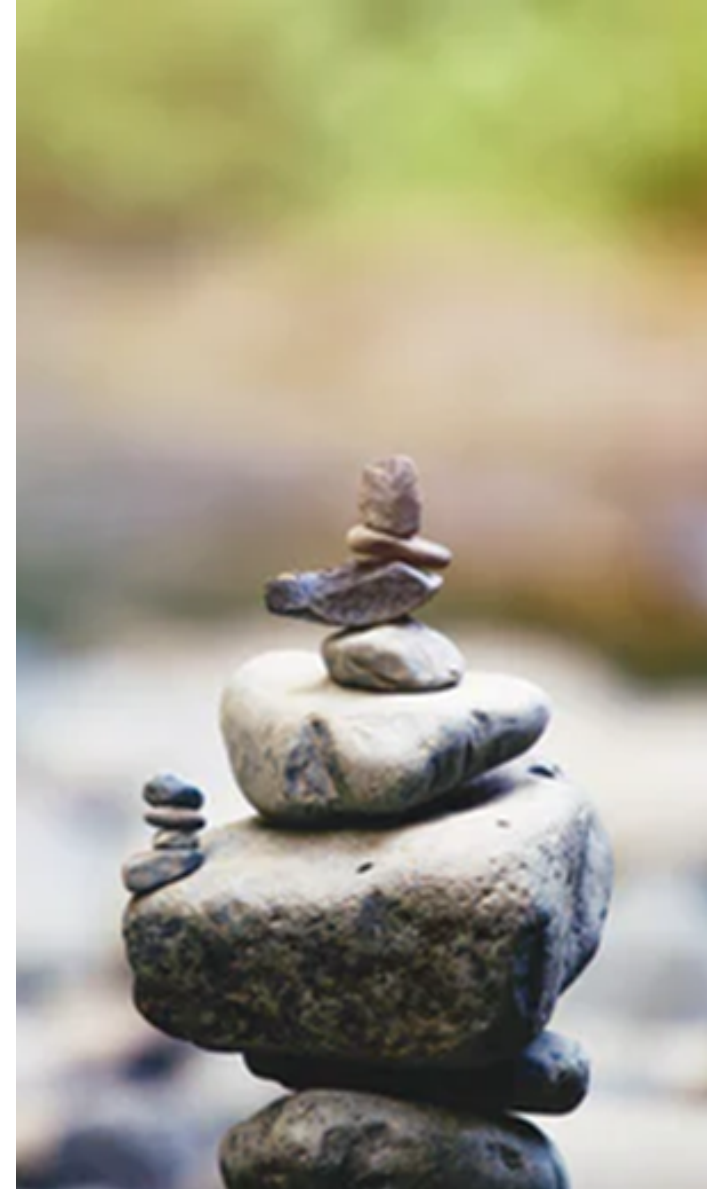
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4. Develop a mental model for teaching and teaching that will promote conscious competence over one's critical reading and mental health.



Priming

- Read the blog on *Fighting Fake News*
- Save the Last Word Activity
 - Circle 3 quotes or excerpts that really grab you for some reason
 - Read your quote aloud; everyone else in the group says what this quote means while you remain totally silent
 - When all other group members have responded, then you uptake their comments and say what the quote meant to you
 - GREAT FOR ACTIVE LISTENING AND UPTAKE!

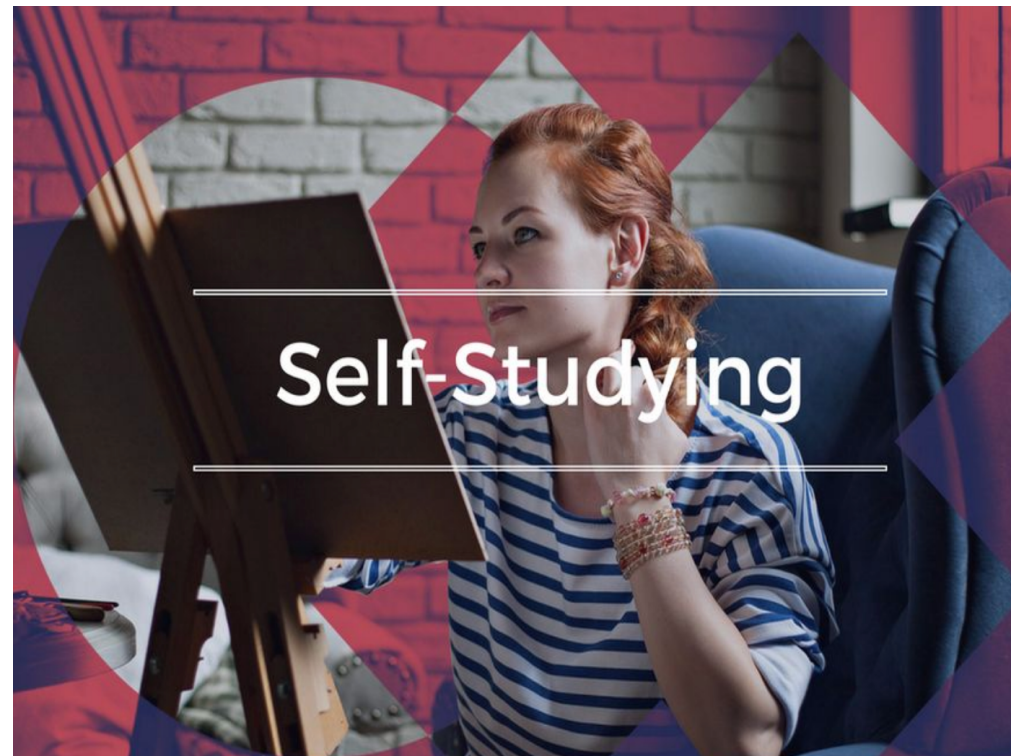


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- DEVELOP AND USE A MENTAL MODEL FOR HOW TO READ THE WORLD TO MAINTAIN MENTAL HEALTH**



Approach 1: Teach about how the mind works, with all its evolutionary lapses, and its susceptibility to cognitive bias



Knowing our own mind and how it works. Recognizing and controlling our own cognitive biases - and understanding that **EVERYONE IS SUSCEPTIBLE** to confirmation bias, availability bias, over-dramatization bias, binary bias, affiliation/identity biases, and much more. Understanding how we are manipulated by social media, AI, advertising, consumer culture, etc.

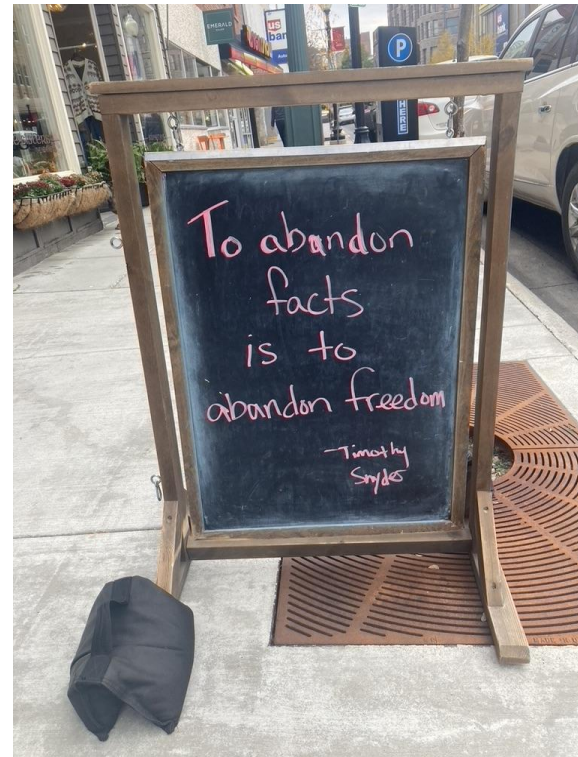
What is at stake?

"If people don't have the facts,
democracy doesn't work."

-Federal Judge Amy Berman
Jackson

"When we give up trying to
establish and verify facts,
tyranny will certainly follow."

-Historian Timothy Snyder



What's the way forward?

“A fact-based worldview is more useful for navigating life, just like an accurate GPS is more useful for finding your way in the city.”

- Hans Rosling,
Factfulness, p. 255

But HOW?



We need to fight fake news! (From the News Literacy Project)

- Americans [share widespread concerns](#) about the spread of misinformation, with 91% of adults saying it's a problem, according to a [new poll](#). Across the political spectrum, Democrats (80%) and Republicans (70%) also agree that misinformation increases political extremism. Many Americans report taking steps to avoid misinformation or curb its spread, from deciding not to share content on social media to checking multiple sources or using fact-checking websites and tools.
- **Resources:**
 - [“Misinformation”](#) (NLP's Checkology® virtual classroom).
 - Infographic: [“Is it legit? Five steps for vetting a news source”](#) (NLP's Resource Library).
 - [“Fact-check it!”](#) (NLP's Resource Library).

So What Can We DO? The Uniqueness of our approach

The answer is instruction. All solutions to all problems require instruction and deliberate practice!

Including

1) instruction and practice to support **self-study** of our minds and biases

2) Instruction and practice to develop student's capacity for **identifying and interrogating** information pollution and developing thoughtful and defensible claims



But here is the shortcoming of current approaches . . .

Not fully recognizing:

- How the reader is implicated in acceptance of fake news
- How much else we as teachers already have to do



More of the problem

How many deeply ingrained instructional and assessment practices conflict with preparing students to identify and interrogate information pollution

And

How it might feel unsafe to directly address information pollution in such politically charged times



Politico headline: Why the Culture Wars in Schools Are Worse Than Ever Before

An important starting point: **Know your own mind or be manipulated!**

When Jeff was growing up in rural Ohio there was a
county
highway near his home with a series of Burma Shave
signs

Don't lose

Your head

To gain a minute

You need your head

Your brains are in it



SYSTEM 1

95%

Intuition & Instinct

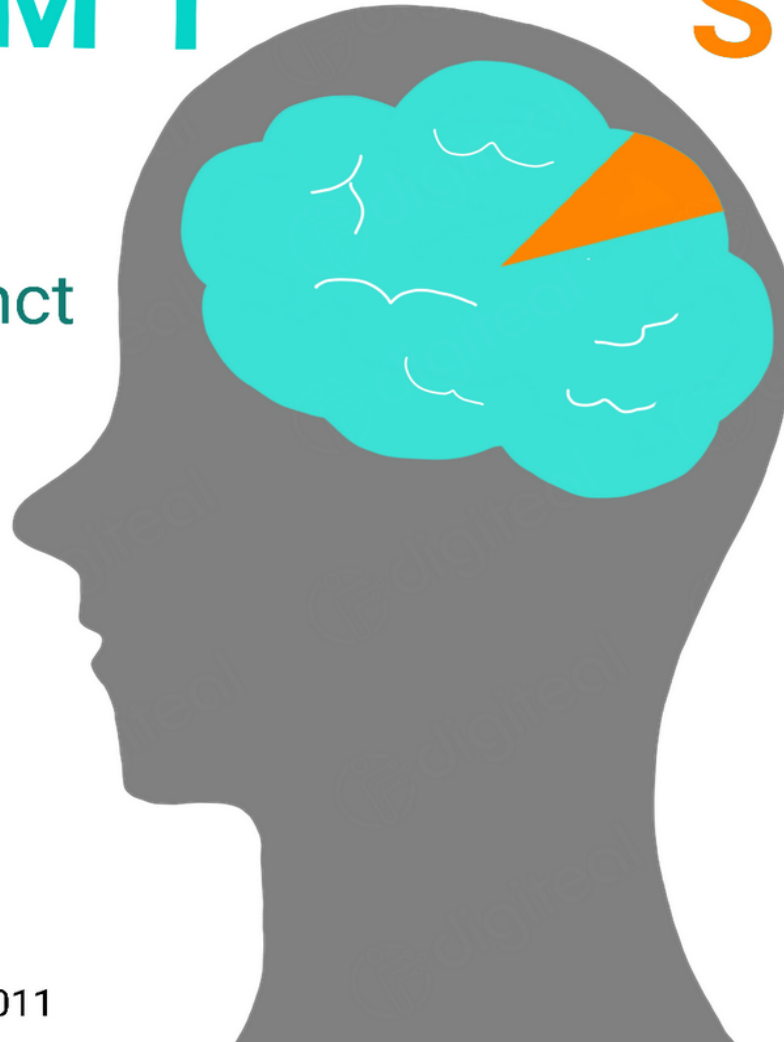
Fast
Automatic
Associative
Unconscious
Error prone

SYSTEM 2

5%

Rational thinking

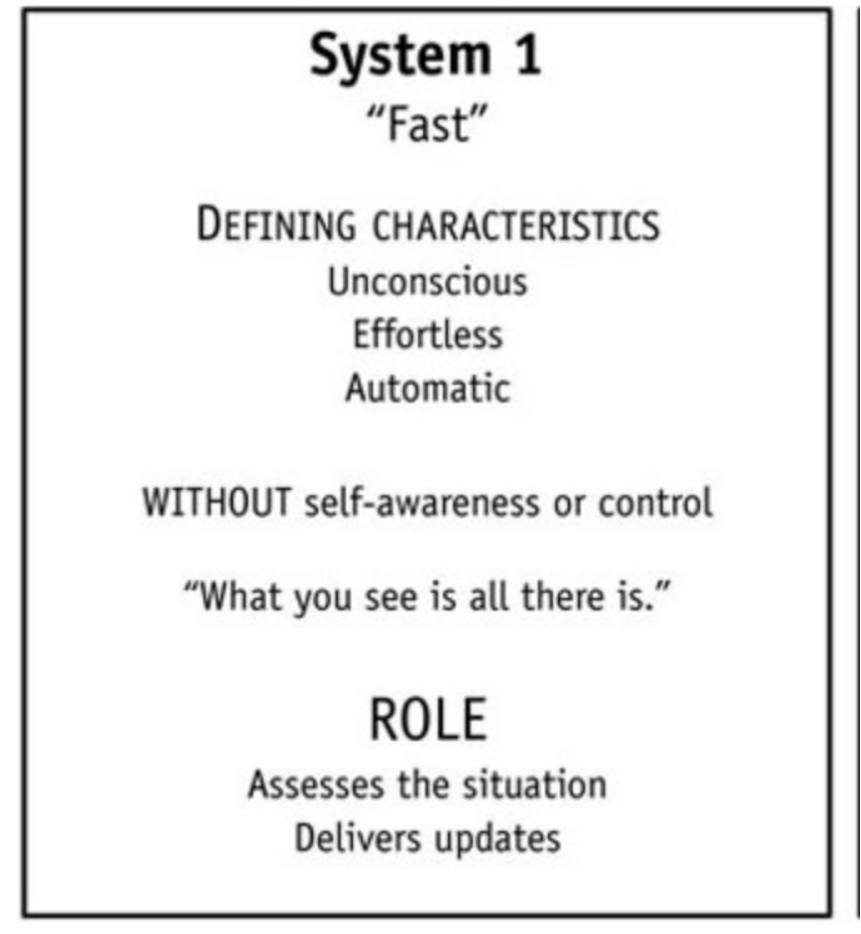
Slow
Effortful
Logical
Conscious
Reliable



Why do we ALL believe and spread information pollution?


- cognitive and memory limitations, including deeply embedded cognitive biases
- pre-existing commitments, beliefs and identities
- directed motivations to defend or support our identity and group affiliations
- messages from other people, usually close to us and exercising influence on us, and the views of prominent influencers and political elites
- Anxiety + high-stakes information that matters to us

(Nyhan & Reifler, 2010)



Choose One Prompt ...

1. What was your biggest surprise from this section?
2. I used to think _____, but now I think _____.
3. How would you share a central TAKEAWAY or INSIGHT with others?
4. I am now committed to rethink _____
(e.g. beliefs, actions, materials, methods, contexts...)



Type
"takeaways"
into chat box

The Power of Untruthful Information Pollution

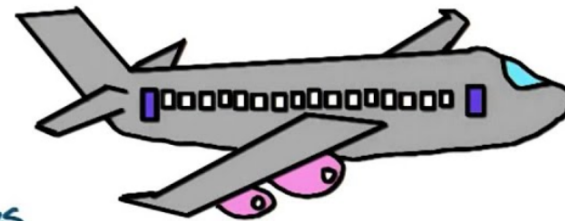
We are programmed to believe
everything we see and hear . . .

We have a primordial brain in a
modern world . . .



Availability bias activity

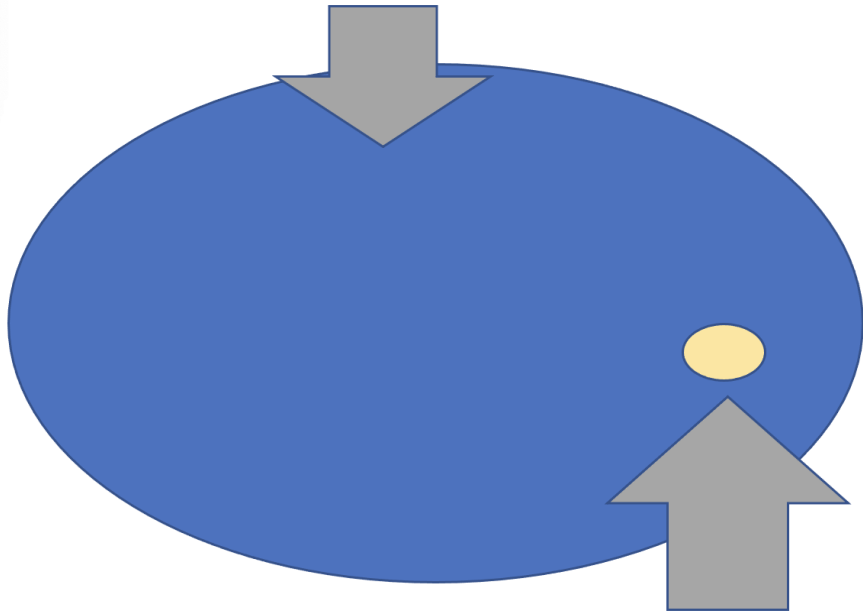
How many people die each
year in commercial airplane crashes
in the U.S.?



How many people die each year
in automobile crashes each year in
the U.S.?

Learning about cognitive bias

What's Available:



What We Use: Recent, Frequent, Personal

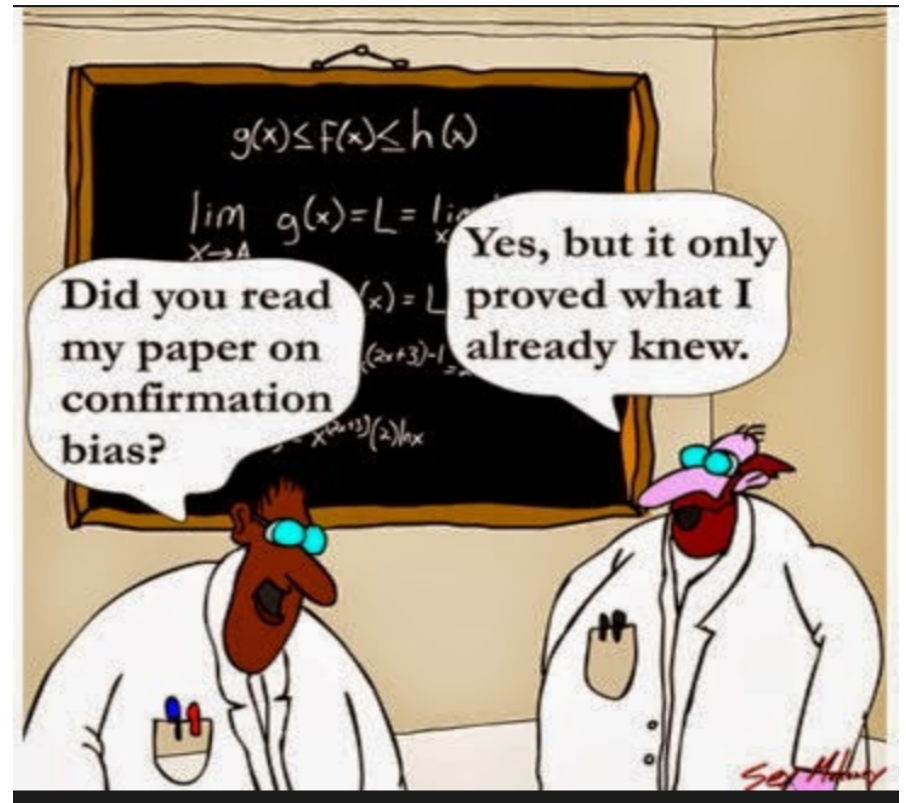


Confirmation Bias



We actively try to support what we *already believe* rather than trying to find out where we might be wrong. We seek out information that *confirms* our view. We interpret ambiguous or mixed information to *confirm* our existing theories (e.g., Darley & Gross, 1983).

Confirmation bias activity



What is the rule? 2, 4, 6 . . . 2, 4, 8



Grobman, K. H. (2003).
*Confirmation Bias: A class
activity adapted from Wason's
2-4-6 Hypothesis Rule
Discovery Task*. Retrieved from:
[http://www.DevPsy.org/
teaching/method/
confirmation_bias.html](http://www.DevPsy.org/teaching/method/confirmation_bias.html)

Confirmation Bias: Think of an example of confirmation bias from your own life?

Examples of Confirmation Bias



Not seeking out
objective facts



Interpreting information to
support your existing belief

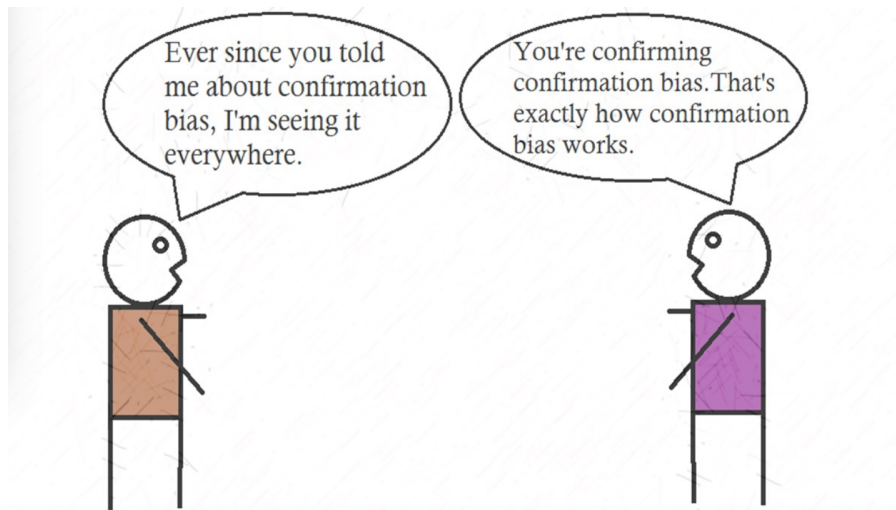


Only remembering details
that uphold your belief



Ignoring information that
challenges your belief

Student generated images about bias

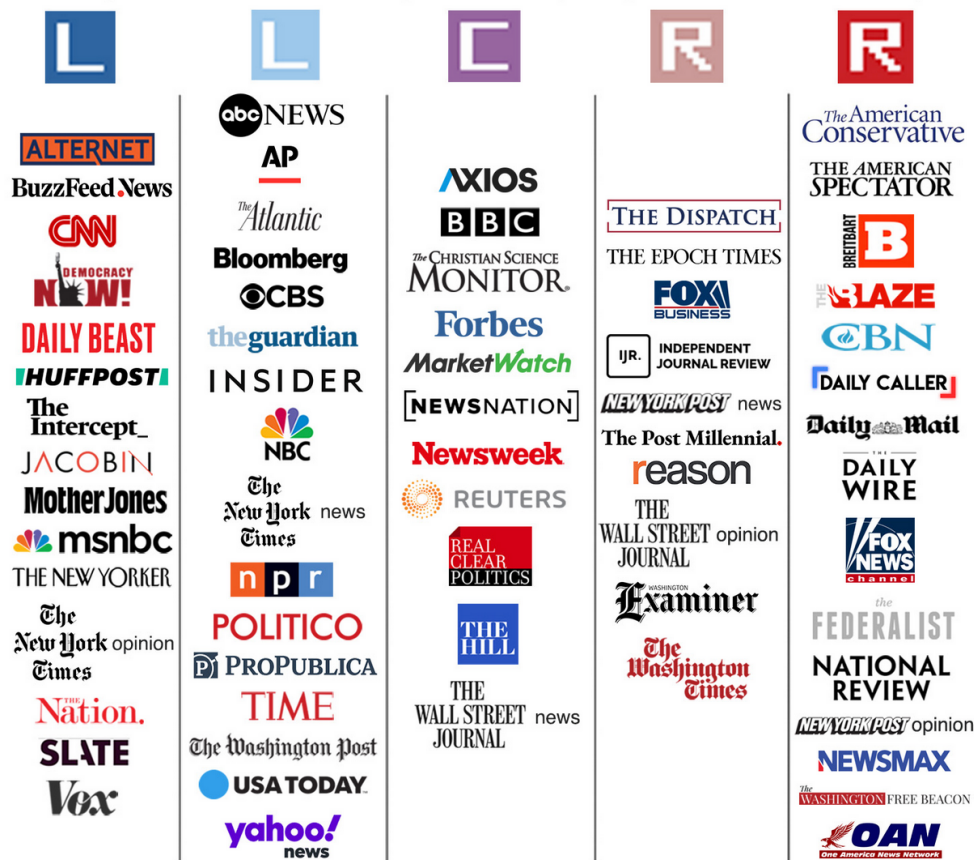


Confirmation bias is our tendency to favor information that already confirms our existing beliefs.

Use ALLSIDES

AllSides™ Media Bias Chart™

Ratings based on online, U.S. political content only — not TV, print, or radio.
Ratings do not reflect accuracy or credibility; they reflect perspective only.



L LEFT **L** LEAN LEFT **C** CENTER **R** LEAN RIGHT **R** RIGHT

AllSides Media Bias Ratings™ are based on multi-partisan, scientific analysis.
Visit [AllSides.com](https://www.allsides.com) to view hundreds of media bias ratings.

Version 7 | AllSides 2022

Availability/Recency Bias in Understanding Character:
How Do We Come to General Impressions of people in real life?
Interpreting individual traits

What's your impression of a person who displays
these traits?

intelligent—industrious—impulsive—critical—
stubborn--envious

Activity: True or false?

- Tigers eat people.
- Mosquitoes transmit the West Nile Virus.



Overdramatization biases: The Gap Instinct: Reality exists on a continuum, not on extremes.

- Tigers eat people.

It is the very rare and only a very weak tiger who might eat a human.
(*Maneaters of Kumaon*, Corbett)

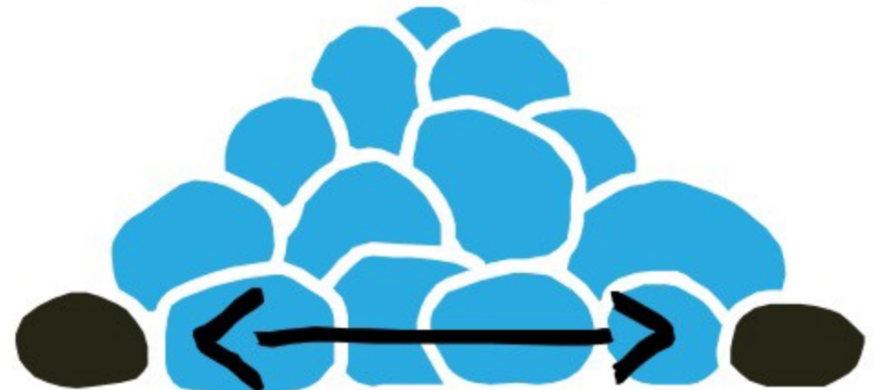
- Mosquitoes transmit the West Nile Virus.

Only 2-20% of mosquitoes are carriers in areas where there is West Nile. Only .0002% of people bitten by a carrier have the disease transmitted to them.

(NIH)

1. Locate the majority

Look at the gap!



What gap?

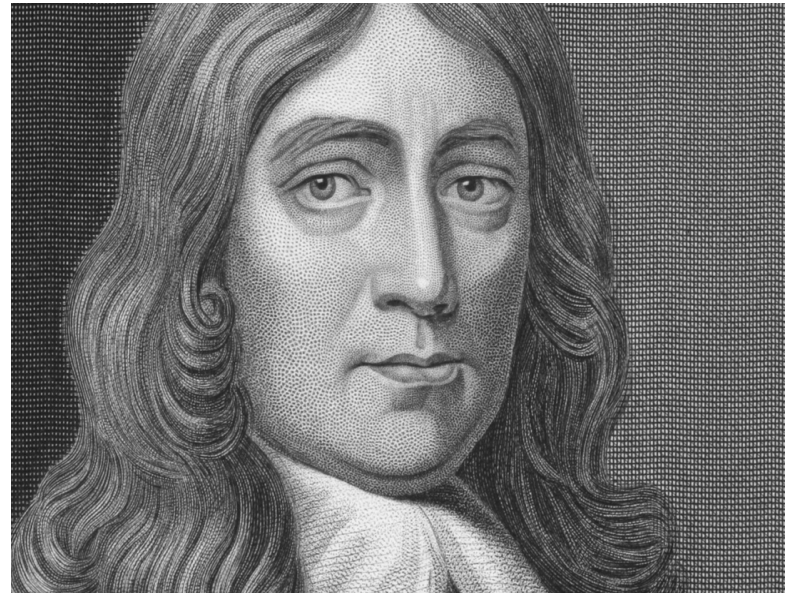
Approach 2: A Critical Context: Use Guided inquiry which looks at all perspectives and interrogates our own biased perspectives

“When we must decide between believing the facts or belonging, belonging always wins.”



“Truth was never bested by a bad argument, unless all the arguments were not made.”

-John Milton



First Impressions; coherent interpretations

- The person is intelligent and fortunately he puts his intelligence to work. That he is stubborn and impulsive may be due to the fact that he knows what he is saying and what he means and will not therefore give in easily to someone else's idea which he disagrees with

How about these?

- envious --stubborn - critical - industrious - intelligent

Availability Heuristic/Recency Bias

5. Media Representation Matters



“Well, when I was nine years old Star Trek came on. I looked at it and I went screaming through the house, ‘Come here, mum, everybody, come quick, come quick, there's a black lady on television and she ain't no maid!’ I knew right then and there I could be anything I wanted to be.”

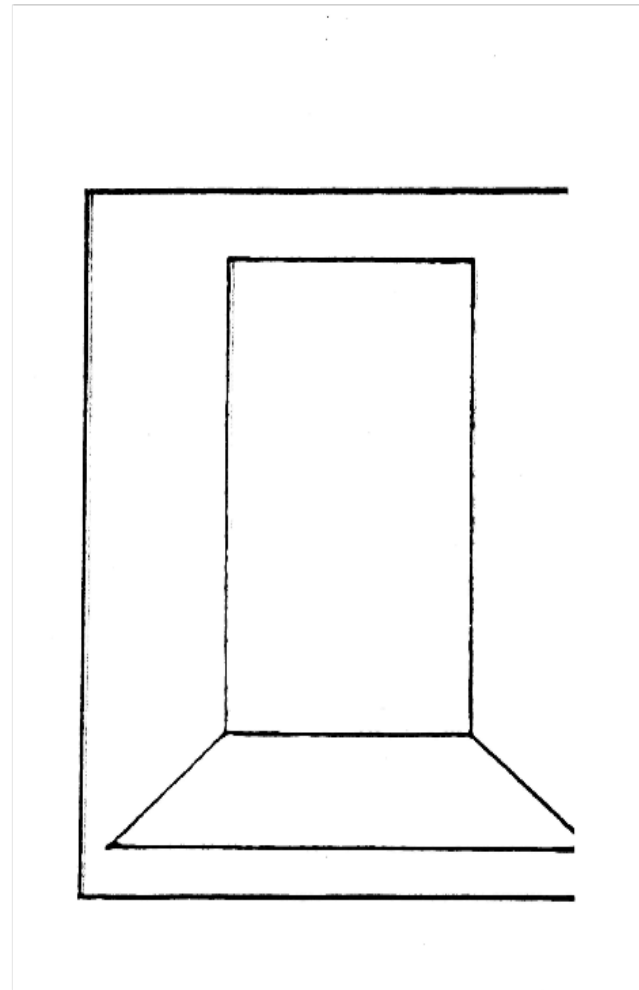
WHOOPI GOLDBERG

Availability Heuristic/
Recency Bias



But WHERE is the MEANING?

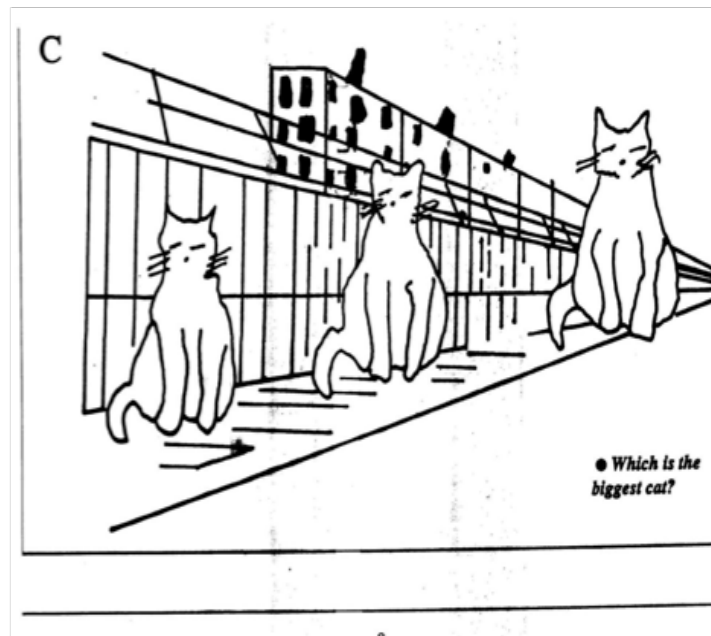
- My wife and my mother-in-law



But where is the meaning?

- In your head?
- In the text?
- In the transaction between text and self?

Reading is conventional

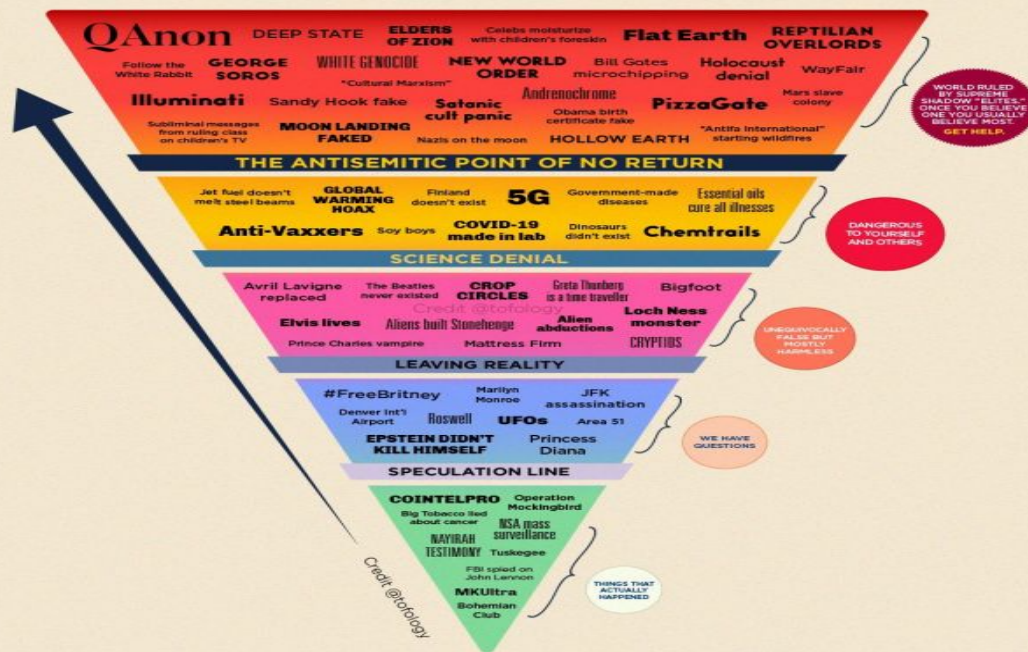


Consider this . . .

What is one thing you could do to help yourself and help young people recognize and control for availability, confirmation or overdramatization biases?

THE CONSPIRACY CHART

DETACHED
FROM REALITY



Credit to **ABBIE RICHARDS**

@tofology

@abbiesr

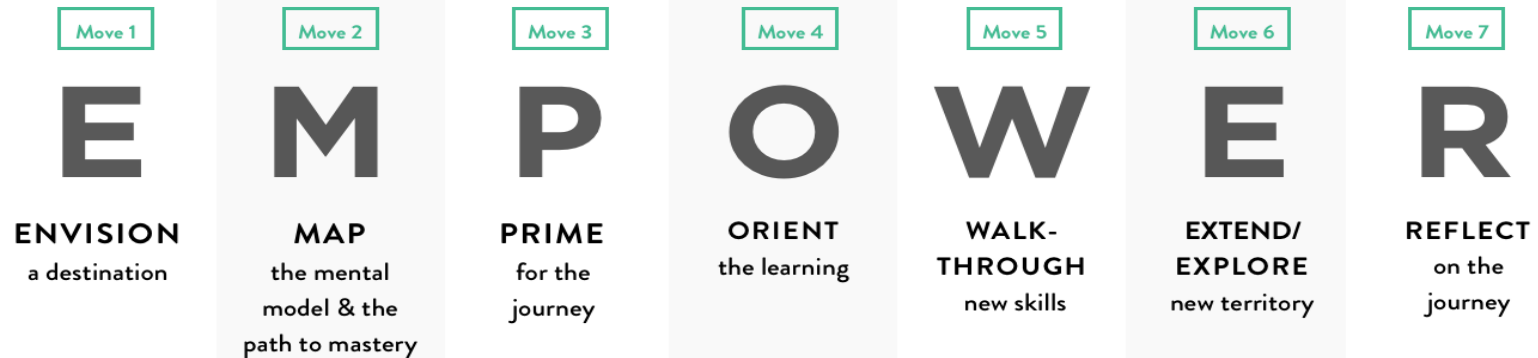
@abbieasr

For licensing & creative questions: tofology@gmail.com

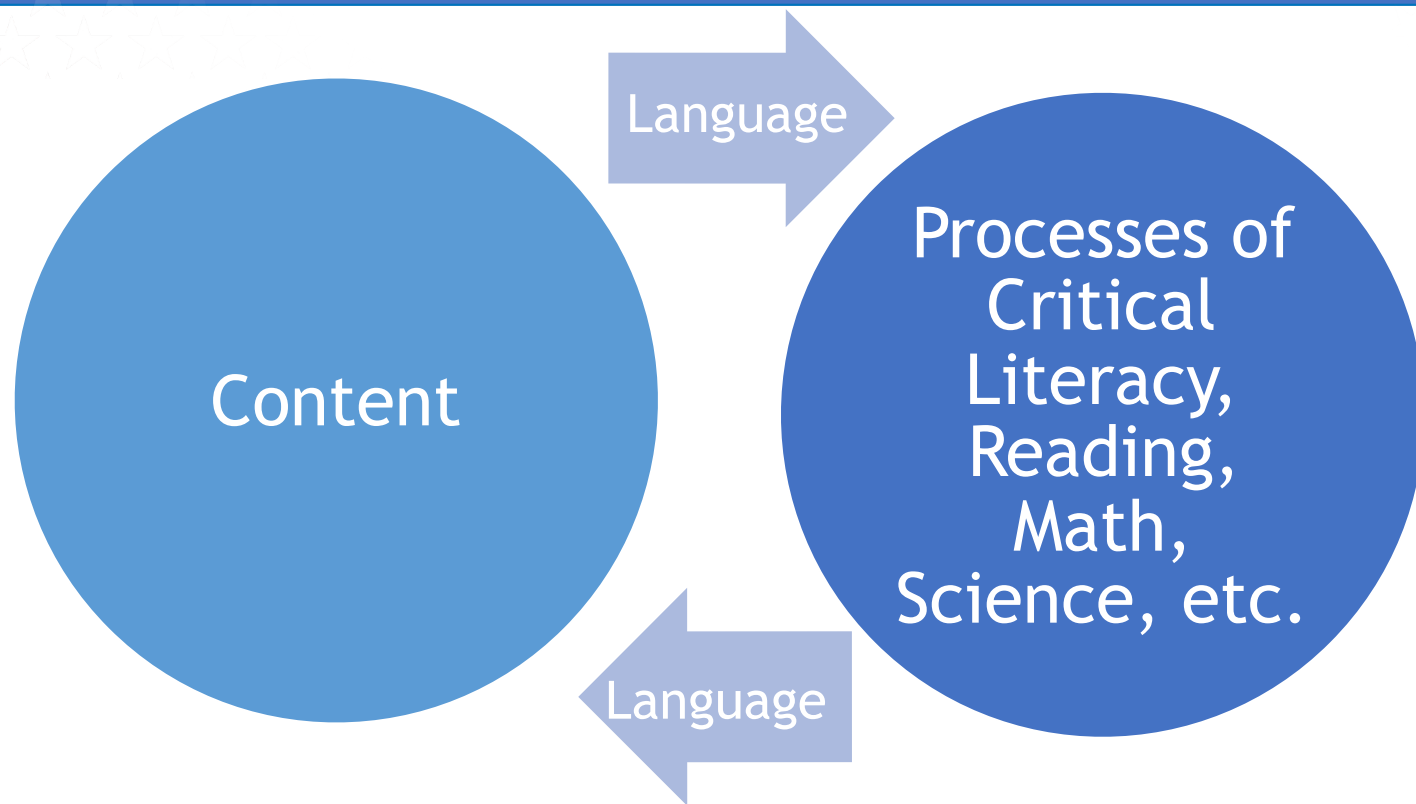
Design @ @anti_conspiracy_memewars



EMPOWER is a *mental model* that captures exactly how experts apprentice learners into expertise:



Building Expertise Through Disciplinary Literacies in a context of use: situated, integrated cognition



Practice makes Perfect . . . **NOT!- Practice makes PERMANENT**

So, you better be darn careful what you practice and how you practice . . .

We must deliberately practice in ways that lead us towards expertise, that use the mental models of experts, that move us down the **correspondence concept** continuum.

Ericsson on how to achieve expertise

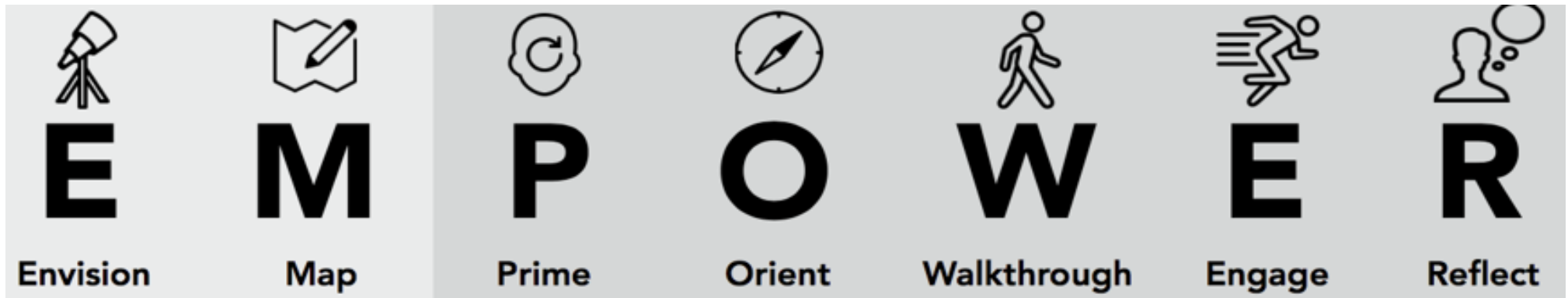
1. **a mental model:** a highly conscious and articulated representation of a task and how to complete it
2. **deliberate practice:** mindful focused practice aligned with “correspondence concept”



Building Bridges: TEACH CRITICAL READING of both linear and digital texts

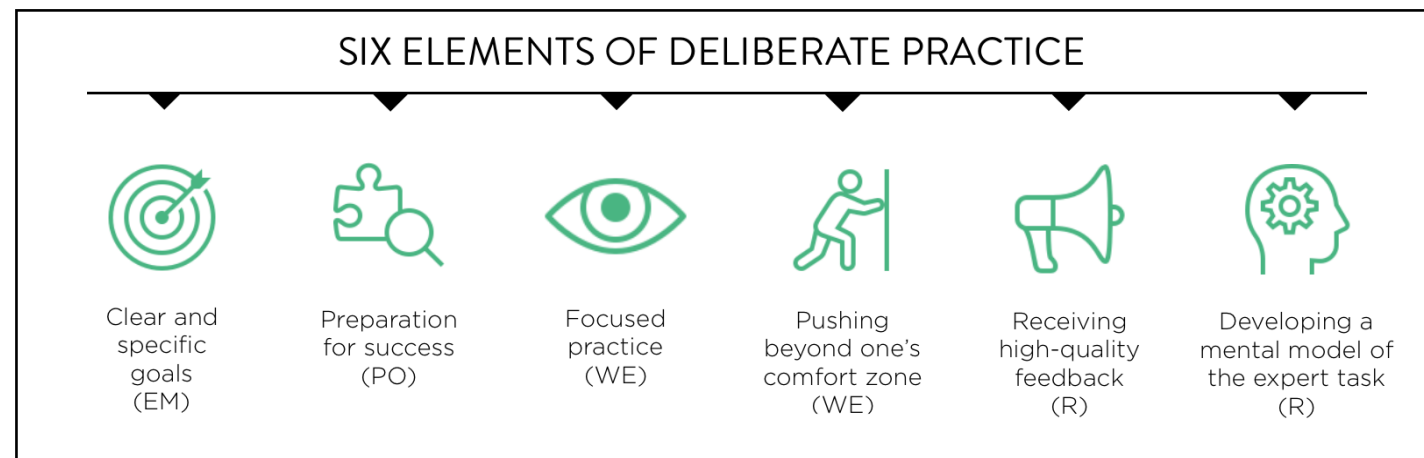
Q. But I already teach critical reading in the context of literature and other linear texts. Won't that suffice?

A. HARD NO. Readers, texts, and contexts are all profoundly different in the digital domain



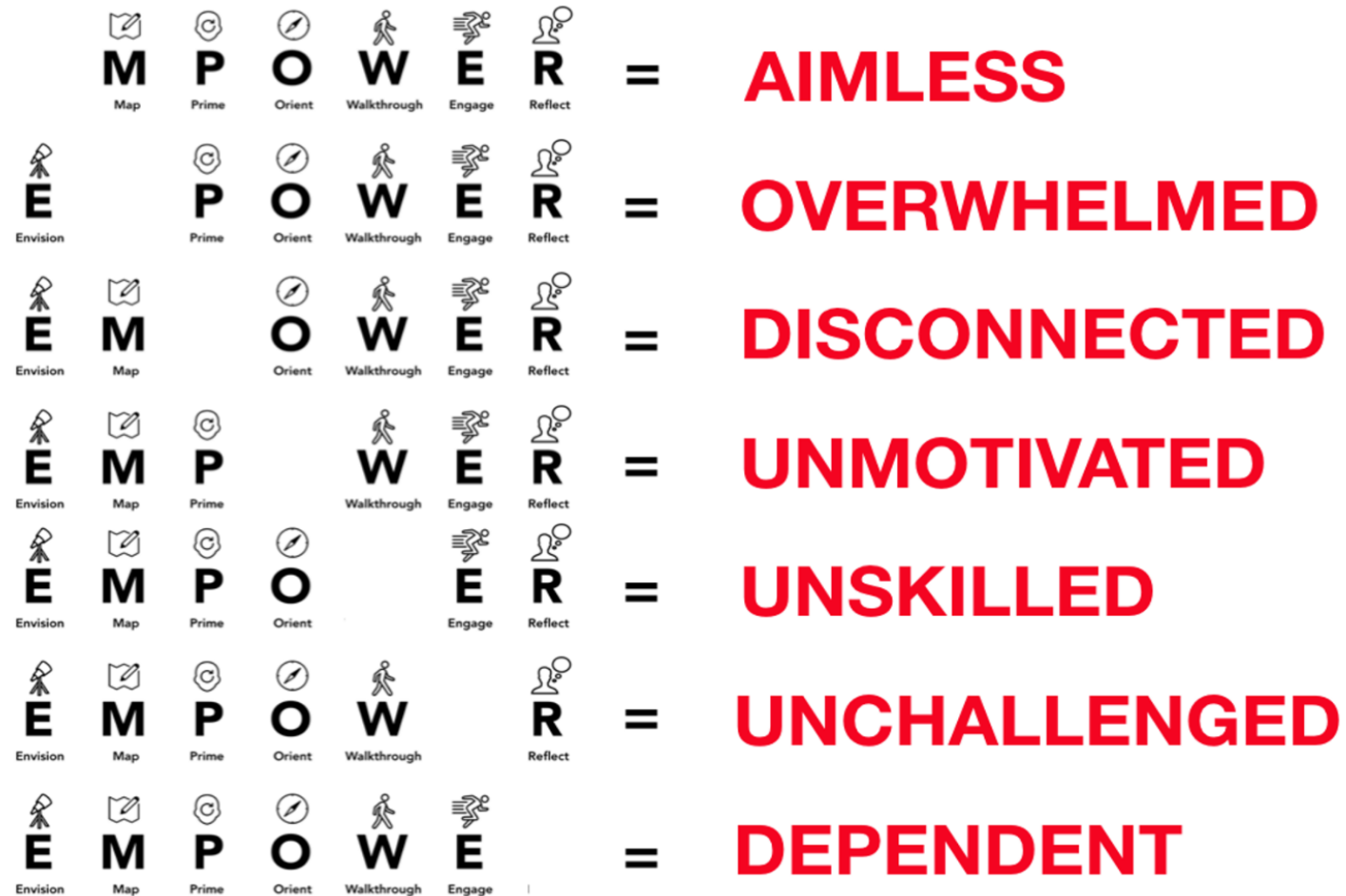
- Through guided inquiry addressing important or required topics and strategies
- Embed instruction in media/news literacy, evidence and reasoning, positioning and point of view, cognitive bias and control, rules of notice, critical lenses in such units

LOTS OF DELIBERATE
PRACTICE!! TWO-FERS
PEOPLE! MAKE THE
CONNECTIONS!



EVERY STEP IS ESSENTIAL!

When an educator does not _____, then it usually causes learners to feel or be _____.

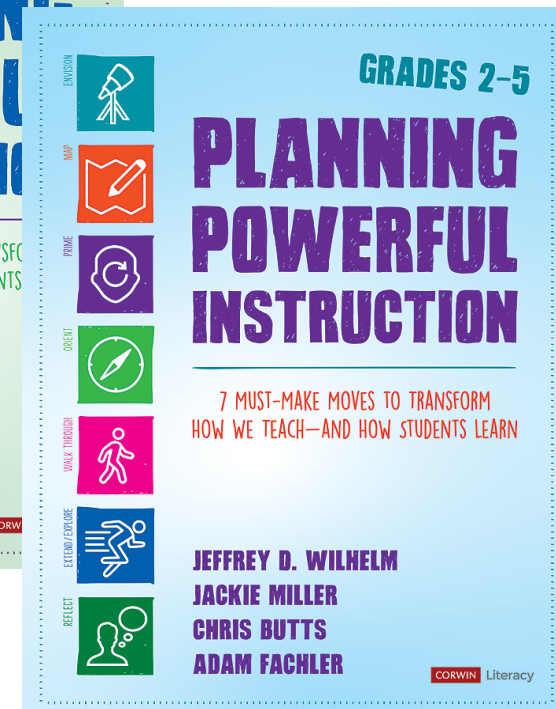
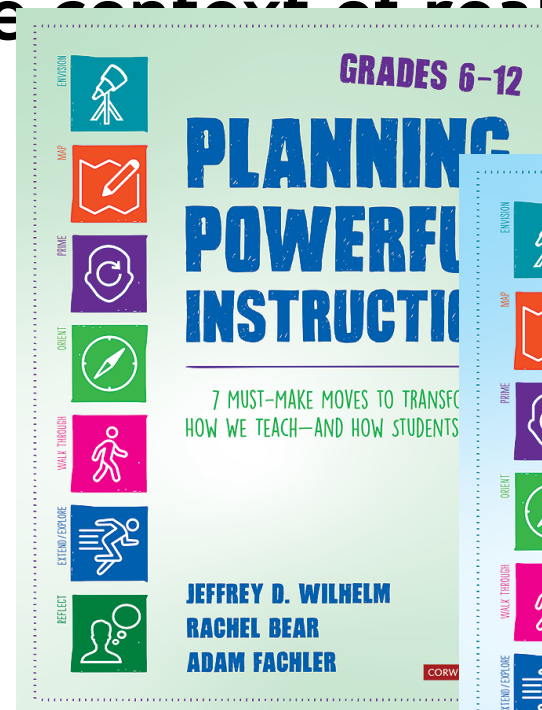


How can we teach news literacy and misinformation control in the context of what we already do? Which supports students to deliberately practice the strategies and stances of experts in the context of real world activity.

COMPETENCE and EXPERTISE is developed over time by the conscious practice of the strategies of experts over time in real contexts of use.

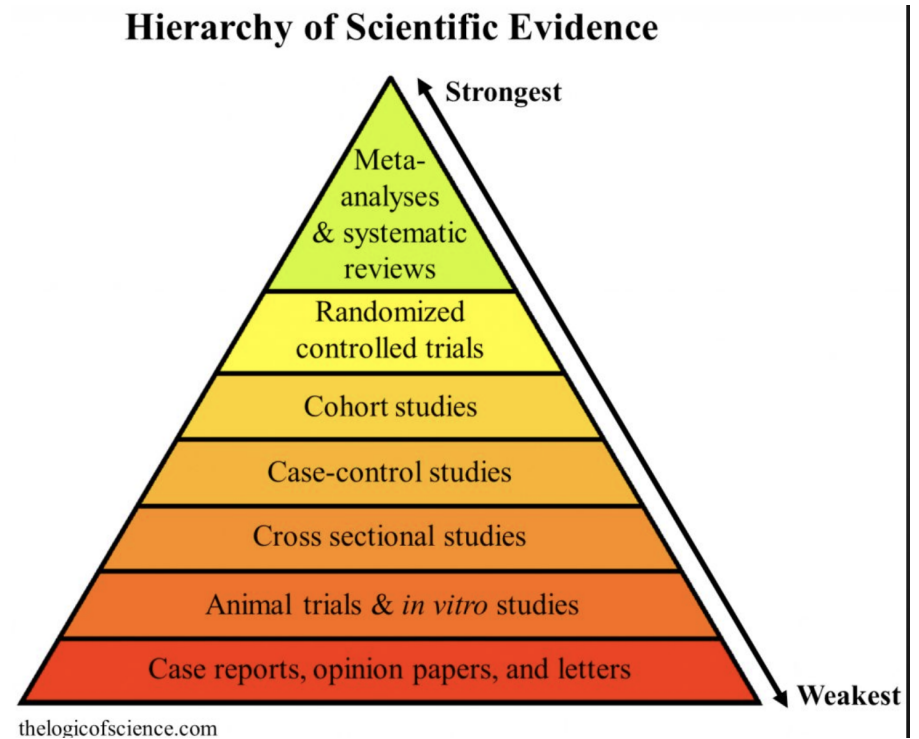
George Hillocks, Fred Newman studies, Anders Ericsson Expertise studies, Czikszenmihayi studies of optimal experience, etc. etc.

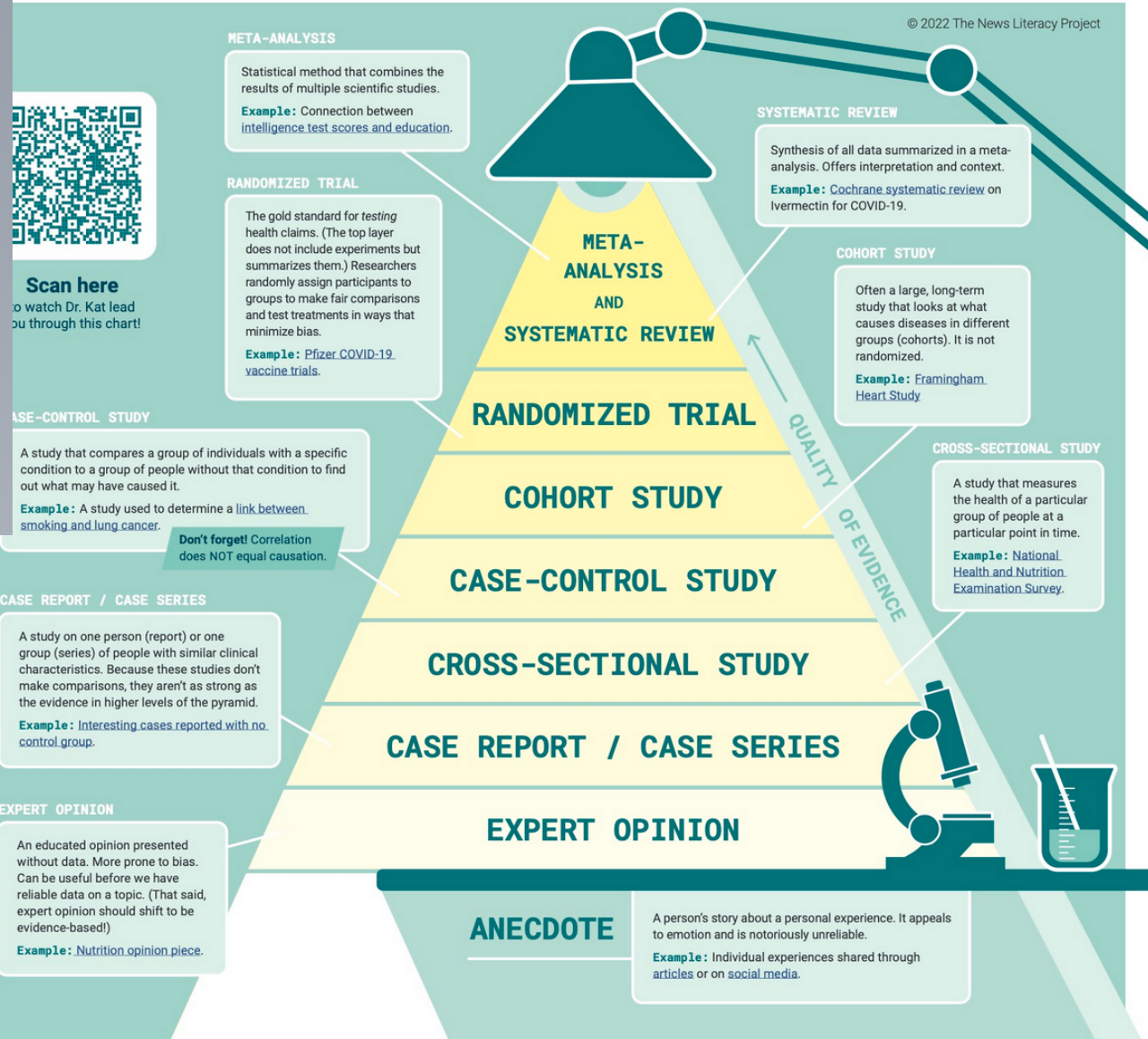
THIS IS WHY GUIDED INQUIRY AND COGNITIVE APPRENTICESHIP APPROACHES ARE CRUCIAL TO TRANSFORMATIONAL TEACHING



Approach 3: Teach how knowledge is constituted, and respect for this process

Misconstrual of factfulness, how knowledge is constituted, a misunderstanding of what evidence needs to be, how it is constituted, and no practice with how to create and evaluate and use evidence.





Scan here

to watch Dr. Kat lead you through this chart!



This infographic was developed by the News Literacy Project and Dr. Katrine Wallace, an epidemiologist and assistant professor at the University of Illinois at Chicago. Follow Dr. Kat on TikTok @epidemiologistkat.

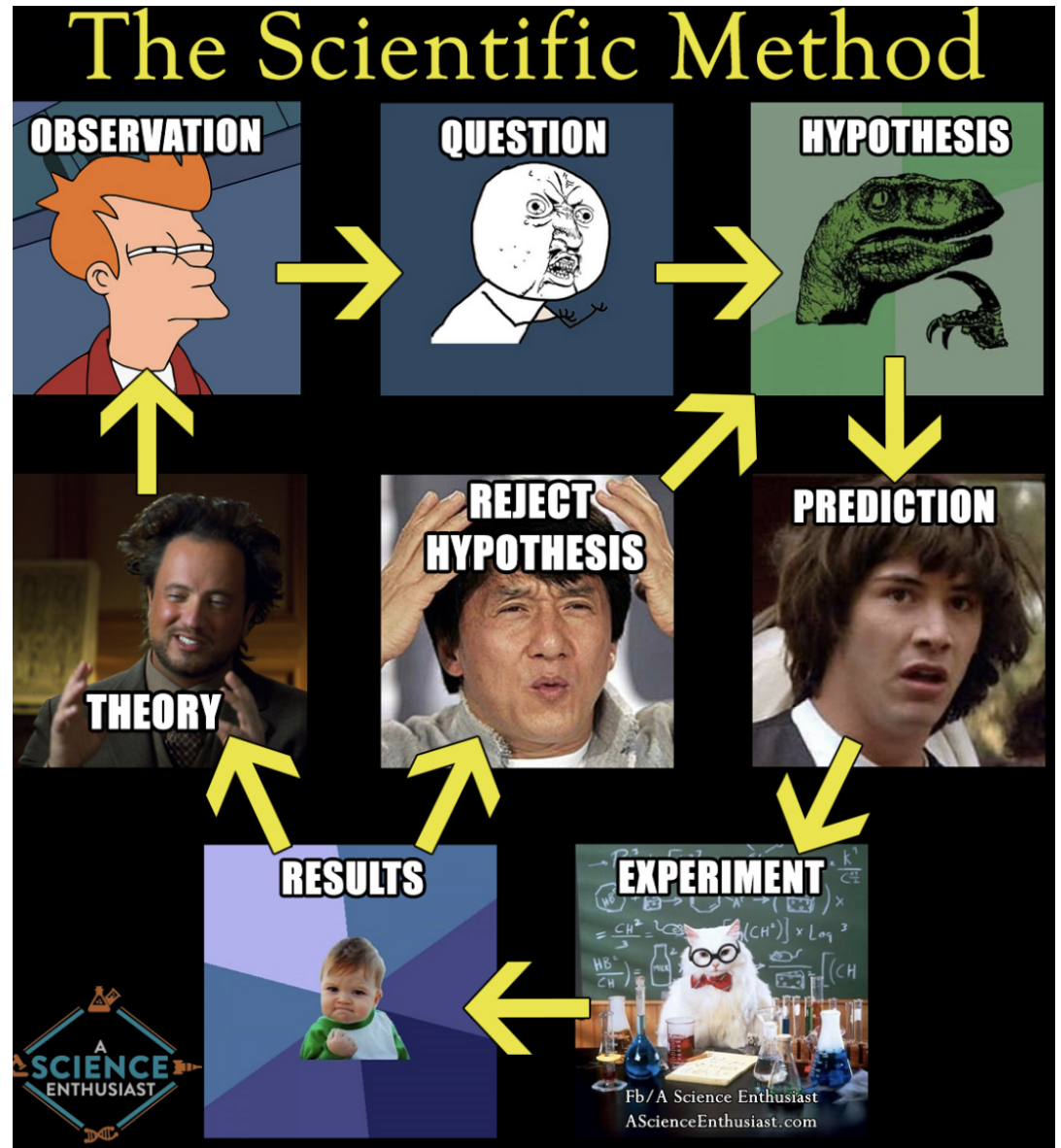
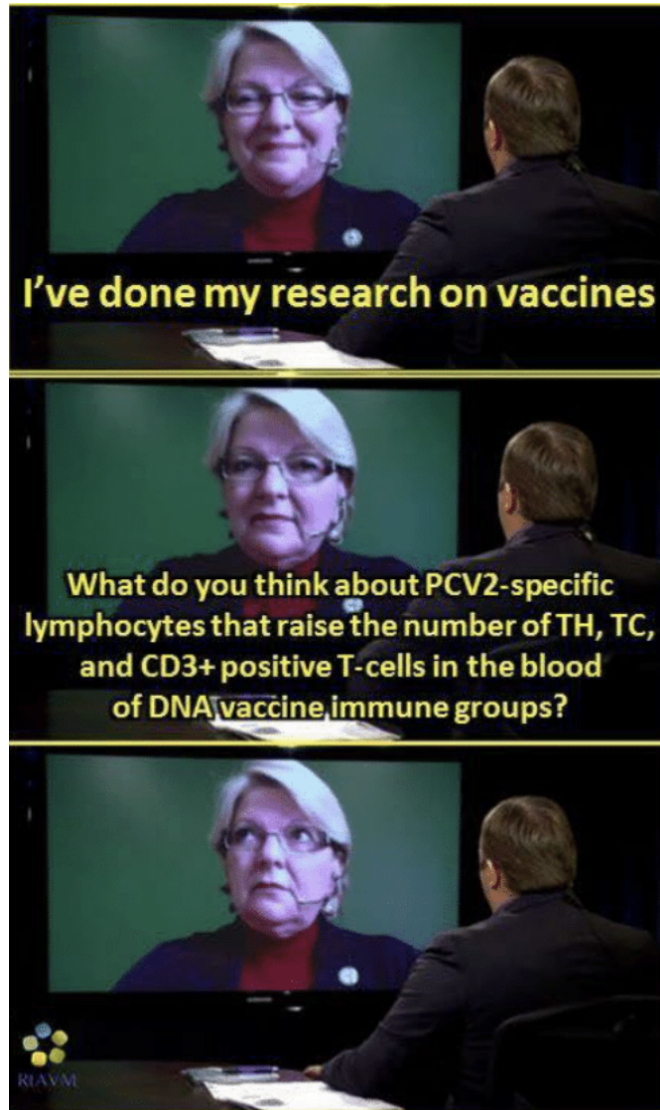
newsliit.org

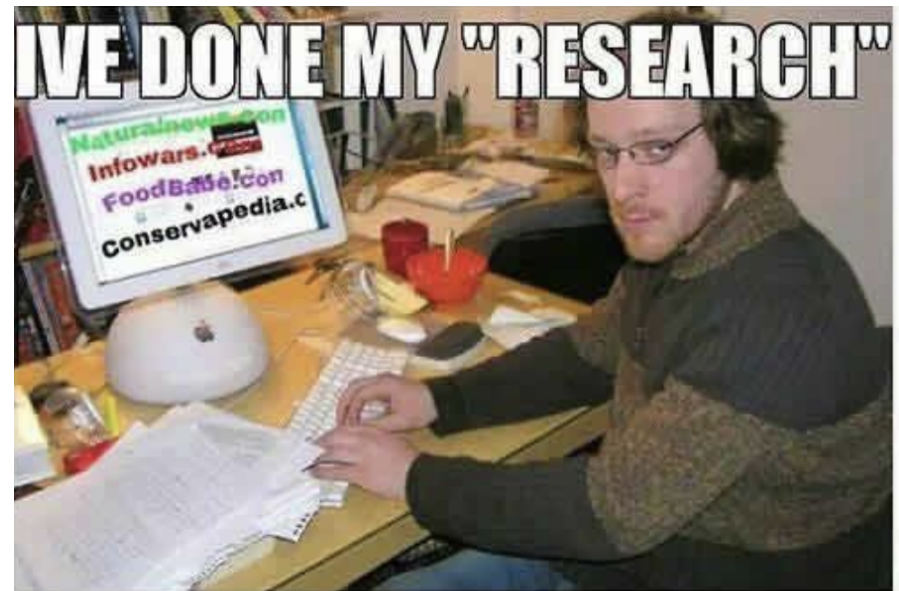
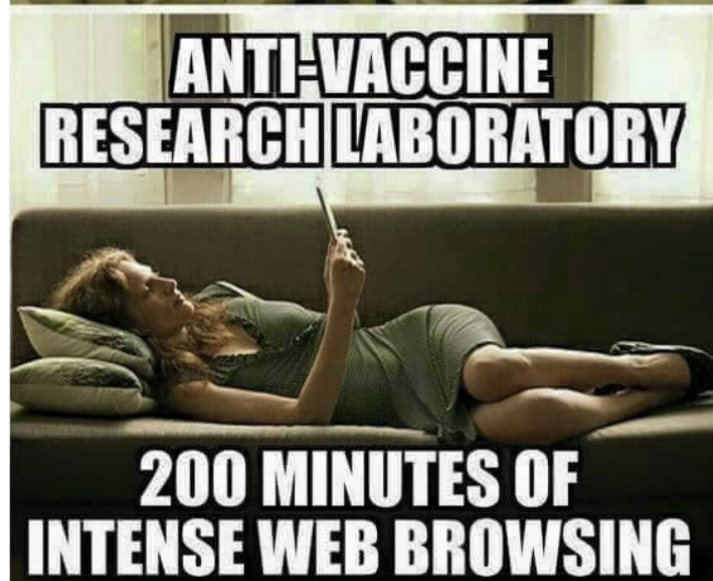
A future founded on facts

TIP

Scientific evidence in the news

News reports and opinion pieces about scientific topics might cite a mix of different kinds of evidence. Be sure to examine what type is being presented: *Is it quoting an expert? Is it a "study"? What kind of study?* Refer back to the pyramid to evaluate the quality of evidence included. (And don't forget to check the date! If the study or date of the news report is old, the data might have changed.)





Doing your own research is a good way to end up being wrong



Analysis by [Philip Bump](#)
National columnist

January 17, 2024 at 7:00 a.m. EST



ADVERTISEMENT



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06:31

How 'doing your own research' can confirm fake news

January 05, 2024



A new study has found that when you 'do your own research' using search engines like Google, you are more likely to have conspiracy theories, disinformation or fake news confirmed by your results.

Host Scott Tong speaks to [Kevin Aslett](#) an assistant professor at the University of Central Florida in the School of Politics, Security and International Affairs, who co-authored the report. They also talk about how this issue with 'doing your own research' biases towards right-wing conspiracy theories and the part it may have played in the narrative of the Jan. 6 attempted insurrection, before and after that fateful day.

This segment aired on January 5, 2024.

5 Key Questions: Evaluating Research and evidence from “research

Question 1: Who’s doing the study?

SOURCE

Question 2: Who are the participants?

EVIDENCE

Question 3: What causes what?

ANALYSIS OF EVIDENCE

Question 4: What instruments are used?

COLLECTION OF EVIDENCE

Question 5: Can I reason from a single story? THE LIMITS OF EVIDENCE



Questionable research

Mail Online website (2016)

Brain implants will soon help us develop [superhero night vision!](#) Scientists at a prestigious U.S. Medical Center have used brain implants to give rats a 'sixth-sense' that enables them to detect and react to a normally invisible light source. The technologies used will make it possible for the adult brain to adapt to new forms of input and opens up the possibility of enabling humans to gain a wide array of superhuman senses, and perhaps to heal blindness caused by brain injuries and many other health issues!



Questionable research

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- An exciting revelation indeed. But if this was such a groundbreaking and impactful development, why did so few other news publishers cover it?
- The scientists who conducted the research brain implants with rats suggested their findings could have important implications for basic neuroscience and rehabilitative medicine. But the Mail Online article took this to another level and interpreted this as the possibility of giving people a number of superhuman senses.

Approach 4: Embed instruction in News literacy in practice

TEACHING AND LEARNING

Media literacy education laws address misinformation



(Ute Grabowsky/Getty Images)

Amid concerns about misinformation, states like New Jersey and California have passed laws requiring media literacy education, teaching students to critically evaluate information sources.

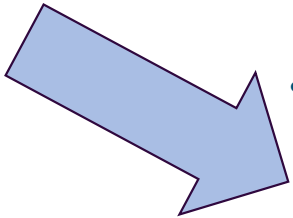
Advocates emphasize the importance of news literacy in developing a healthy skepticism, preparing students to navigate the information landscape and contribute to a more informed and

resilient democracy. **Full Story:** [The Hechinger Report](#) (2/6)



The News Literacy Project uses five primary standards to define the core competencies students need to be news-literate.

- **Standard 1:** Students distinguish news from other types of information and can recognize both traditional and nontraditional ads.
- **Standard 2:** Students acknowledge the importance of the First Amendment in American democracy and a free press to an informed public.
- **Standard 3:** Students understand the standards of quality journalism and can use them to identify credible information and sources.
- **Standard 4:** Students demonstrate increased critical habits of mind, including effective verification skills and the ability to detect misinformation and faulty evidence.
- **Standard 5:** Students express a sense of responsibility for the information they share and feel more empowered to be civically engaged.



Types of Information Pollution: Naming and Knowing

Reader Errors

- Motivated misunderstanding
- Fake skepticism
- Reader misunderstands due to lack of knowledge (e.g., insufficient background or insufficient reading strategies or genre knowledge; a satire, parody, irony misconstrued)
- Cognitive bias misleads us

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spacing between
edge of boxes and
bullets across all
three boxes> x 3

Misinformation

- Inaccurate, misleading, incorrect, false information that is accepted, disseminated, or forwarded regardless of intent to deceive (e.g., many ads, testimonials, infotainment, soft news)

Deliberatively Manipulative Content and Action

- Malinformation: genuine ~~info~~ with intent to cause harm (e.g., false connections, misleading context, misleading framing, false context)
- Exaggeration, commentary/opinion masquerading as news, manipulative/poor reasoning from data, imposter content, manipulated content, fabricated content, disinformation, propaganda

Factful Information,
Credible/Authoritative,
No Desire to Deceive

Entirely Made Up,
Manipulative,
Consciously Designed,
and Used to Deceive

We need News Literacy, including ways to identify and control for information pollution

<p>S4: Students demonstrate increased critical habits of mind, including effective verification skills and the ability to detect misinformation and faulty evidence.</p>	<p>In age-appropriate ways, recognize rumors and misinformation. Gather facts before coming to a decision.</p>	<p>Define misinformation. Understand the ways texts use other texts. Determine the overall strength of an argument. Rate evidence on a continuum, identifying different elements/criteria as justification of strong evidence.</p>	<p>Recognize, define and differentiate different types of <u>misinformation</u>: Satire, False context, Imposter content, Fabricated content and Manipulated content. Explain how algorithms use data to personalize information for individuals. Utilize disciplinary knowledge of how information is created and its different purposes to analyze and critique texts. To verify information, use news literacy skills such as lateral reading, multiple sources, critical discourse analysis, web archives and reverse image search. Differentiate between claims supported by actual evidence and sound reasoning and those which rely on faulty or inauthentic “evidence” and logical fallacies: ad hominem, false dilemma, false equivalence, slippery slope, straw man. Explain how algorithms use data to personalize information for individuals.</p>	<p>Deepen understanding of misinformation types, logical fallacies and algorithms. Differentiate news mis/disinformation from the use of logical fallacies in an argument or opinion piece. Differentiate between credible and questionable sources of data. Explain why understanding and debunking misinformation matters. Identify websites, apps, and social media platforms that use personalization algorithms. Recognize how personalization can reinforce personal biases and how algorithms can lead to encountering mis/disinformation. Explain what “conspiracy theories” are and why people find them appealing and compelling.</p>
<p>Throughlines: Quality journalism (like any community of practice) is dedicated to rigorous standards of accuracy and the constitution of verifiable knowledge. No source or representation of knowledge is perfect, but there are critical standards for the production, representation and sharing of information that must be respected.</p>				

We need News Literacy, including ways to identify and control for information pollution

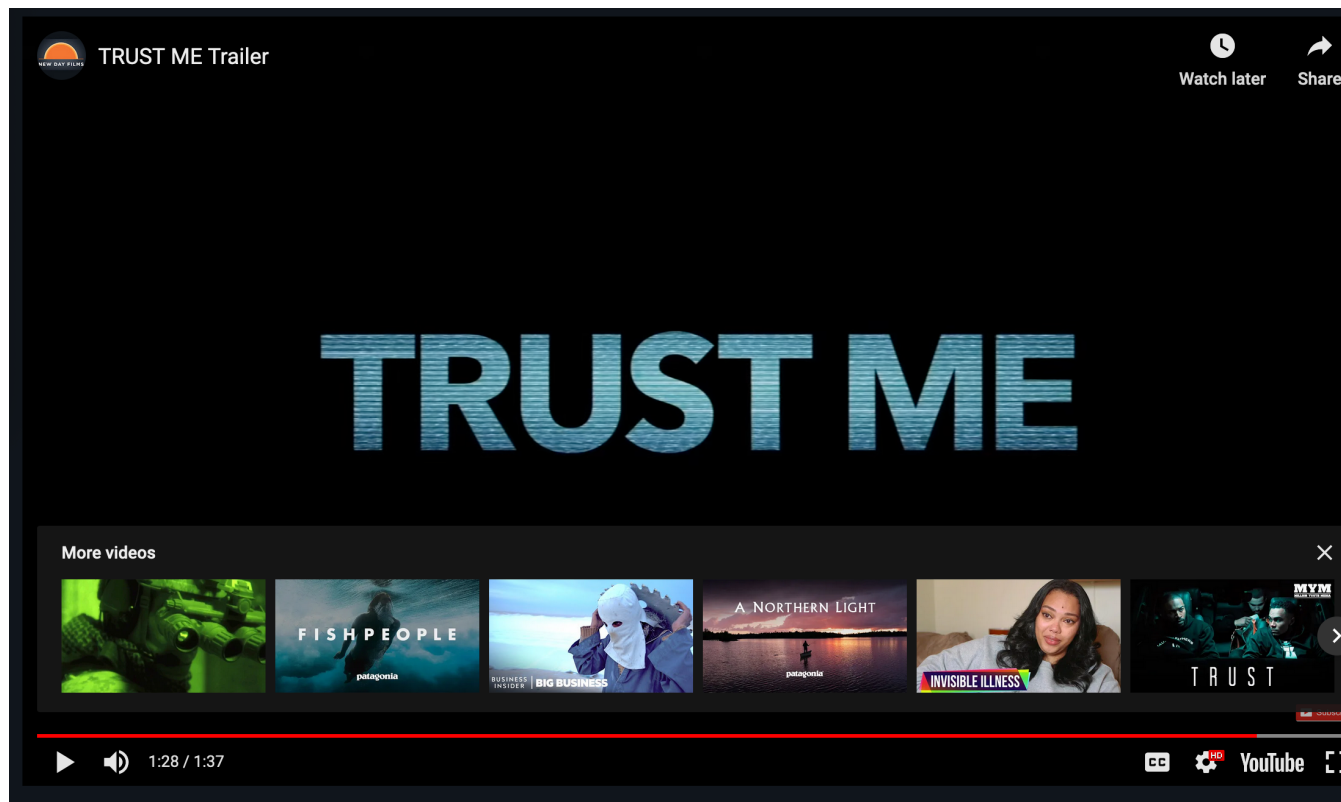
<p>S5: Students express a sense of responsibility for believing, producing, confirming, justifying and sharing <u>credible information</u>.</p> <p>...and use these skills to participate effectively in various communities and democratic life.</p>	<p>Develop notions of community-building. Be responsible with information in age-appropriate ways, such as avoiding repeating things that aren't true, helpful, necessary or kind. Exercise caution in what is repeated/shared because of its effect on others.</p>	<p>Be active, critical consumers and sharers of information. Reinforce what makes a good community and consider what goes into building a reputation in relation to information sharing. Begin to explore the information environment and solutions to <u>information pollution</u>.</p> <p>Seek out quality information. Don't share information you know is untrue, that will hurt people.</p> <ul style="list-style-type: none"> Your information reputation is your credibility. Don't be an <u>Information pollutor</u>. Start to think about solutions for cleaning it up. 	<p>Express what it means to be responsible in the digital age. Exercise "click restraint" but don't share, or share with context. Use news literacy skills to justify positions and see the value of others' positions. Recognize the value of engaging with well-reasoned opinions based on sound evidence, including those with whom you disagree. Look across data sources and base decisions on a pattern of credible evidence.</p> <p>Actively put together a healthy media diet composed of multiple credible sources.</p>	<p>Demonstrate understanding of the pros and cons to citizen watchdogs/reporting. Identify ways to publish and amplify individual compositions. Demonstrate the ability to responsibly share information: Share, and provide alternative sources; and Share, with links to resistance sources.</p> <p>Actively de-echo chamber oneself. Extend one's media diet to include multiple platforms.</p>
<p>Throughlines: Participants in any community or community of practice, and of a democracy, have a responsibility to seek, confirm and share credible information; to control for information pollution; to consider the good of others and the whole; being informed is a prerequisite to engaging in productive civic discourse.</p>				

Approach 5: Teach directly about effects of social media. Involve parents and home study, e.g. Watch, create survey questions, and respond with points of agreement and disagreement to. Propose technology fasts; Responsible tech use rules.

- [*The Social Dilemma*](#)



Watch, create survey questions, and respond with points of agreement and disagreement to [TRUST ME](#)



Approach 6: Use The COR (Civic Online Reasoning) Questions, Sam Wineburg and SHEG- now DIG! For EVERYTHING!

Who is behind this information?
(and how reliable and credible are they?)

What's the provided evidence?
(and how strong and authoritative is it?)

What do other sources say? (is the position supported by lateral reading?)



Applying Civic Online Reasoning Questions

Mail Online website (2016)

Brain implants will soon help us develop [superhero night vision!](#) Scientists at a prestigious U.S. Medical Center have used brain implants to give rats a 'sixth-sense' that enables them to detect and react to a normally invisible light source. The technologies used will make it possible for the adult brain to adapt to new forms of input and opens up the possibility of enabling humans to gain a wide array of superhuman senses, and perhaps to heal blindness caused by brain injuries and many other health issues!

COR Questions:

Who is behind this information? (and how reliable and credible are they?)

What's the provided evidence? (and how strong and authoritative is it?)

What do other sources say? (is the position supported by lateral reading?)

Step 1

Use the sequence of lessons provided by SHEG to introduce students to each of these COR questions.

1. Who is behind this information?
2. What's the evidence?
3. What do other sources say?

You can dig deeper into Question 1 by asking:

- Is the source(s) authoritative?

And into Questions 2 and 3 by asking:

- Is the evidence credible and safe?
- Is the evidence from an authoritative source?
- Is the evidence repeated across sources? (employ lateral reading!)
- Is the evidence relevant (i.e., on point for our current questions or inquiry)?

Step 2

Model how to use the COR protocol with a text from the unit at hand: You do it *for* the students. Invite students to join in and help out: doing the work *with* you. After some run-throughs students should be able to use the protocol on their own, *by* themselves, or with a peer, and if not, you can do more work with them. (This is the *for-with-by protocol* for gradual release of responsibility.)

APPROACH 7: USE RULES OF NOTICE WHEN READING
EVERYTHING:

The Things that Authors Count on Readers' Doing to Determine
what to Attend to

Calls to Attention/Attention grabbers

1.
Ruptures/Twists

Direct Statements/ Statements and Demands

Reader Response/ The Vibe

Rules of Notice Alerting Us to Possible Info Pollution

CALLS TO ATTENTION/ATTENTION GRABBERS

Publication date is old

- **Anonymous author**
- **Publication lacks expected elements (title, sources, etc.)**
- **The news source is partisan**
- **There's math involved (check it!)**
- **Inference leaps unjustified by evidence and acceptable reasoning**

RUPTURES/TWISTS

Too many ads

- **The language is loaded, overly emotional, extreme, or inflammatory**
- **Too many BOLDs or EXCLAMATION POINTS!!!!!!!!!!**

(Overdramatization bias)

- **Includes Known errors: grammar, spelling, factual**

DIRECT STATEMENTS AND DEMANDS

The author uses absolutes and superlatives

- **The message argues that it is NOT false**

READER RESPONSE/THE VIBE

**You are deeply triggered or emotional in agreement or disagreement
(confirmation and availability bias is at play)**



Applying Rules of Notice for Bogusness

Mail Online website (2016)

Brain implants will soon help us develop [superhero night vision!](#) Scientists at a prestigious U.S. Medical Center have used brain implants to give rats a 'sixth-sense' that enables them to detect and react to a normally invisible light source. The technologies used will make it possible for the adult brain to adapt to new forms of input and opens up the possibility of enabling humans to gain a wide array of superhuman senses, and perhaps to heal blindness caused by brain injuries and many other health issues!

ATTENTION GRABBERS, e.g. Anonymous Author, lack of citations

TWISTS, e.g. loaded language, exclamation points

DEMANDS, e.g. use of absolutes and definite statements

READER RESPONSE, e.g. oh how I wish this were true!

Applying Rules of Notice for Bogusness

Mail Online website (2016)

Brain implants will soon help us develop [superhero night vision!](#) Scientists at a prestigious U.S. Medical Center have used brain implants to give rats a 'sixth-sense' that enables them to detect and react to a normally invisible light source. The technologies used will make it possible for the adult brain to adapt to new forms of input and opens up the possibility of enabling humans to gain a wide array of superhuman senses, and perhaps to heal blindness caused by brain injuries and many other health issues!

**ATTENTION GRABBERS?
TWISTS? DEMANDS? READER
RESPONSE?**







APPROACH 8: DELIBERATELY PRACTICE THE MENTAL MODELS OF EXPERTISE, LIKE ASSESSING EVIDENCE!

Elvis is the greatest singer of all time! (claim)

He has sold more records than any other performer!

His movies are still shown on TLC!

He had a unique combination of charisma and talent.

(assess the evidence)



One worry about and one benefit of text-based arguments:

Evidence isn't under dispute.

You must reason from the evidence.

1. **Claim: Our school should not require summer reading.**

Audience: The principal

- ___ A. Most students hate the summer reading books that our school chooses.
- ___ B. Adults get to choose what they want to read.
- ___ C. If you read the assigned books too early in the summer, you'll forget them by the time school starts, so athletes who want to do the reading before practice starts during the summer are at a disadvantage.
- ___ D. According to Michael W. Smith and Jeffrey Wilhelm in their book "*Reading Don't Fix No Chevys*": *Literacy in the Lives of Young Men*, young people do quite a bit of reading on their own when they are allowed, encouraged and supporting to choose texts that match their interests.

One big insight about arguments:

They have to build
on a solid foundation
of “safe” and
“checkable”
evidence:

You should retire to
Boise:

It’s a great place to
live

vs.

It’s high desert

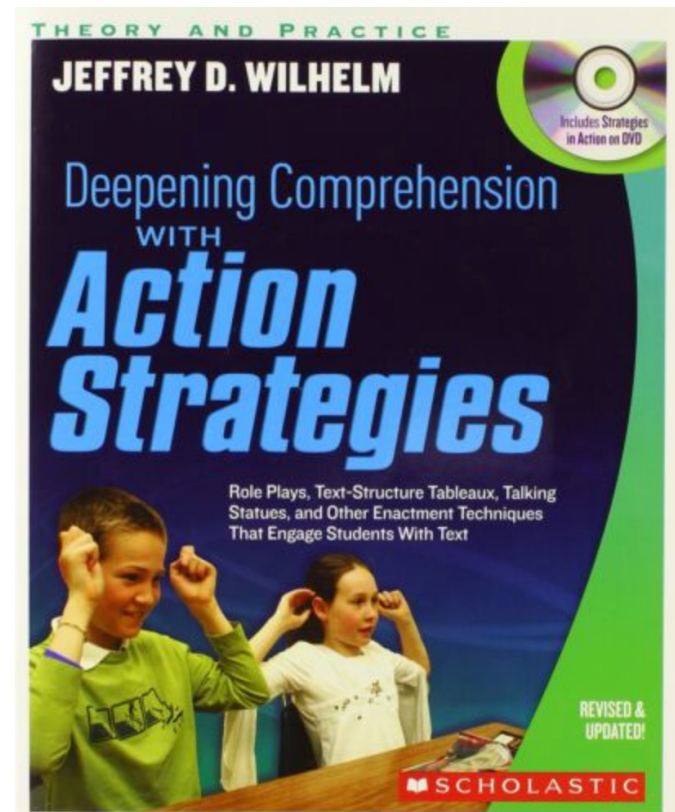
Semantic Scales: Analyzing Evidence

SAFETY OF EVIDENCE/ACCEPTABILITY AND VERIFIABILITY	
Is Safe, can be agreed upon	Unsafe, Illogical and Untrue
AUTHORITY OF SOURCE/s	
Positive	Negative
REPLICABILITY OF EVIDENCE – established through lateral reading	
Repeated/Replicable	Not repeated/Not replicable
Relevance of Evidence – ON-POINTNESS for our topic, inquiry or my claim about a topic of inquiry	
Clearly Relates to Topic	Does not relate to topic
Validity of Evidence – COLLECTION OF DATA IS SOUND	
Sound collection of data	suspect collection/methodology
Sufficiency of Evidence – patterns of evidence across credible source	

Approach 9: Use drama in education, e.g. Illeism to gain perspective and context

- Igor Grossman: Wise reasoning is made of reflective “metacognitive components” - including intellectual humility, acknowledgement of others’ viewpoints and the limitations of one’s own, categorical tentativeness, a search for compromise . . .

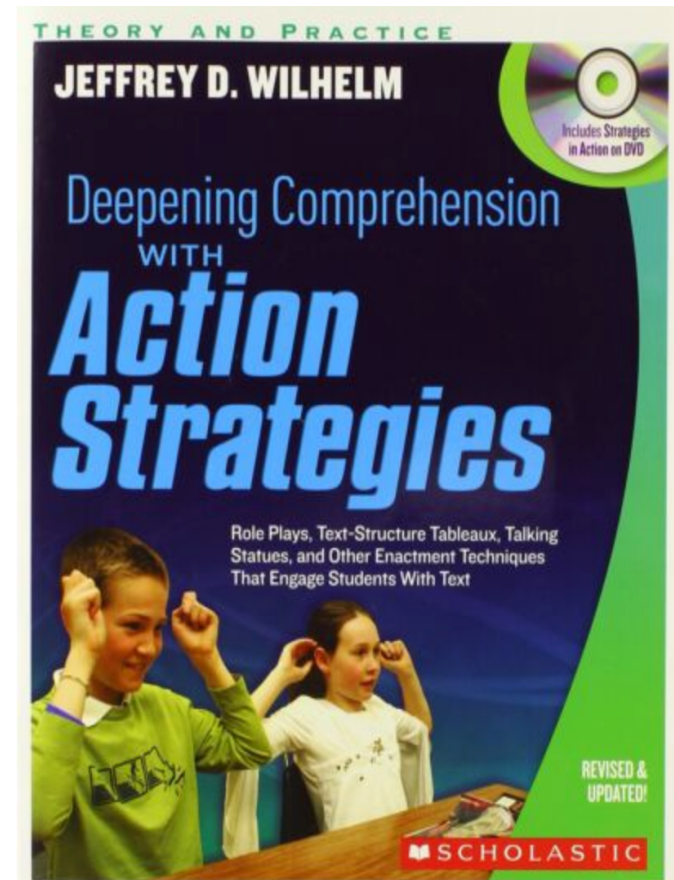
- By switching to the third person, our descriptions of a situation will start to sound as if we are talking about someone else rather than ourselves. This sense of detachment allows us to see the bigger picture, rather than getting caught up in our own feelings.



Illeism used to gain perspective and context

This is exactly what Grossman and Kross found in their studies:

They showed that people employing illeism to talk about their positions, experiences, and problems showed greater intellectual humility, greater capacity to recognize others' perspectives, and a willingness to reach compromise - increasing their overall "wise reasoning" scores, reducing anxiety about themselves and individual circumstances, etc.




What if? An exercise in social imagination

- You lived in the 19th Century?
- Were African American (or another race)?
- Had grown up in different, e.g. more impoverished circumstances?
- Had grown up without access to school?
- Had a loved one denied life-necessary medical care?

The Sociological Imagination

The Sociological Imagination is stimulated by a willingness to **view the social world from the perspective of others.**

It involves moving away from thinking in terms of the individual and their problems, **focusing rather on the social circumstances that produce social problems.**



Approach 10: lateral Reacing - Use ALLSIDES and fact checking to get started

Read across sources and
across perspectives before
deciding where to stand- put
texts and perspectives in
conversation with each other.
Use fact-checking
(credibility) sites and media
bias sites, but be careful!

AllSides™ Media Bias Chart™

Ratings based on online, U.S. political content only — not TV, print, or radio.
Ratings do not reflect accuracy or credibility; they reflect perspective only.



ALTERNET

BuzzFeed News

CNN

DEMOCRACY
NOW!

DAILY BEAST

HUFFPOST

The Intercept

JACOBIN

Mother Jones

msnbc

THE NEW YORKER

The New York
Times opinion

Nation.

SLATE

Vox

abc NEWS

AP

The Atlantic

Bloomberg

CBS

theguardian

INSIDER

NBC

The New York
Times news

npr

POLITICO

PROPUBLICA

TIME

The Washington Post

USA TODAY

yahoo!
news

AXIOS

BBC

The CHRISTIAN SCIENCE
MONITOR

Forbes

MarketWatch

[NEWSNATION]

Newsweek

REUTERS

REAL
CLEAR
POLITICS

THE
HILL

THE
WALL STREET
JOURNAL news

THE DISPATCH

THE EPOCH TIMES

FOX
BUSINESS

IJR. INDEPENDENT
JOURNAL REVIEW

NEW YORK POST news

The Post Millennial

reason

THE
WALL STREET
JOURNAL opinion

Examiner

The
Washington
Times

The American
Conservative
THE AMERICAN
SPECTATOR

BREITBART
B

THE
BLAZE

CBN

DAILY CALLER

Daily Mail

DAILY
WIRE

FOX
NEWS
channel

the
FEDERALIST
NATIONAL
REVIEW

NEW YORK POST opinion

NEWSMAX

THE WASHINGTON FREE BEACON

OAN
One America News Network

L LEFT L LEAN LEFT C CENTER R LEAN RIGHT R RIGHT

AllSides Media Bias Ratings™ are based on multi-partisan, scientific analysis.
Visit AllSides.com to view hundreds of media bias ratings.

Version 7 | AllSides 2022

Approach 11: Express these approaches as A MENTAL MODEL FOR CRITICAL READING FOCUSED ON INFORMATION POLLUTION

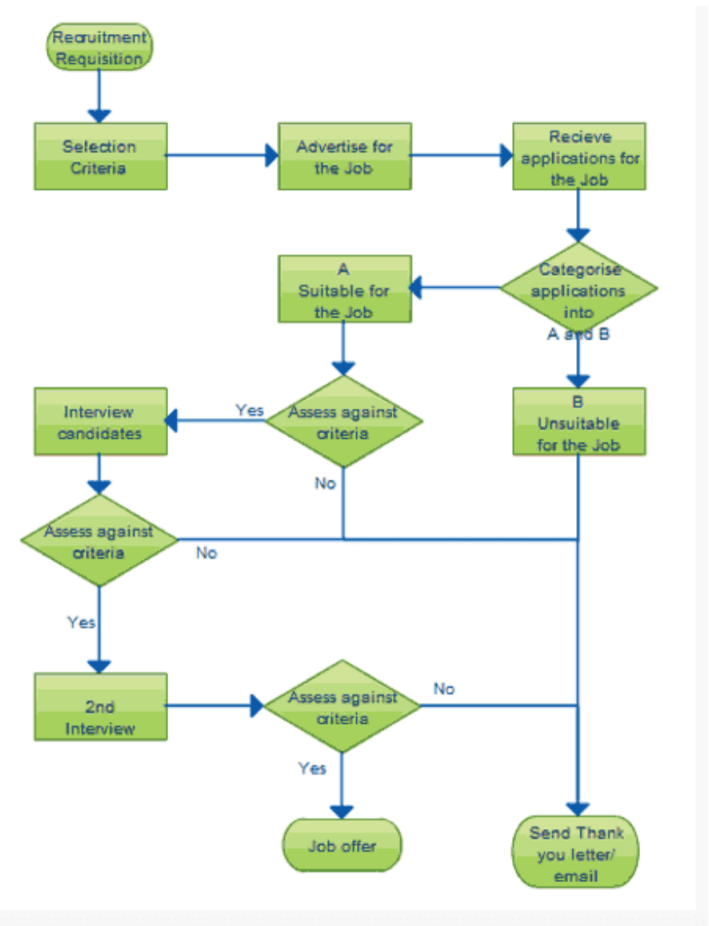
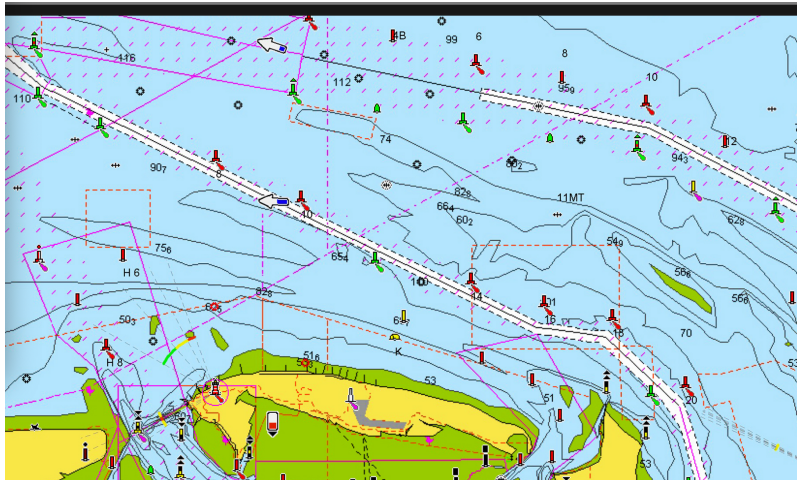
METACOGNITION and the DELIBERATE PRACTICE OF CRITICAL READING:

Be alert to rules of notice - use these rules to evaluate sources then to comprehend the text -use critical standards to evaluate evidence - then reason like an expert about patterns- consider other perspectives and counterclaims - the limits of application - test your thinking by reading laterally and engaging in dialogue



What will your mental model be?

- Your map, your flow chart, for a way forward to address problems of misinformation in your classroom?
- In your life?



Major Takeaways

Teach how to notice information pollution every day in all life circumstances, and every class at every grade level

Teach a user's manual for the mind and all its faults and how to control for these

Teach in the context of units and lessons you already teach - or in the context of life situations that come up


Teach through guided inquiry to teach the WHY and the HOW, and connect learners' lived experience to curricular content

Teach source and evidence evaluation - in all that we do . . .



Choose One Prompt ...

1. One strategy I could use in a specific lesson or unit is _____.
2. A way that I could invite students to self-assess would be _____.
3. I am now committed to rethink or recommit to _____ (e.g. beliefs, actions, systems, materials ...) because _____.



Type
"takeaways"
into chat box

INCLUDES
20+
LESSON
PLANS

FIGHTING **FAKE** NEWS

TEACHING STUDENTS TO
IDENTIFY AND INTERROGATE
INFORMATION POLLUTION

**F A K E
F A C T**

JEFFERY D. WILHELM MICHAEL W. SMITH
HUGH KESSON DEBORAH APPLEMAN

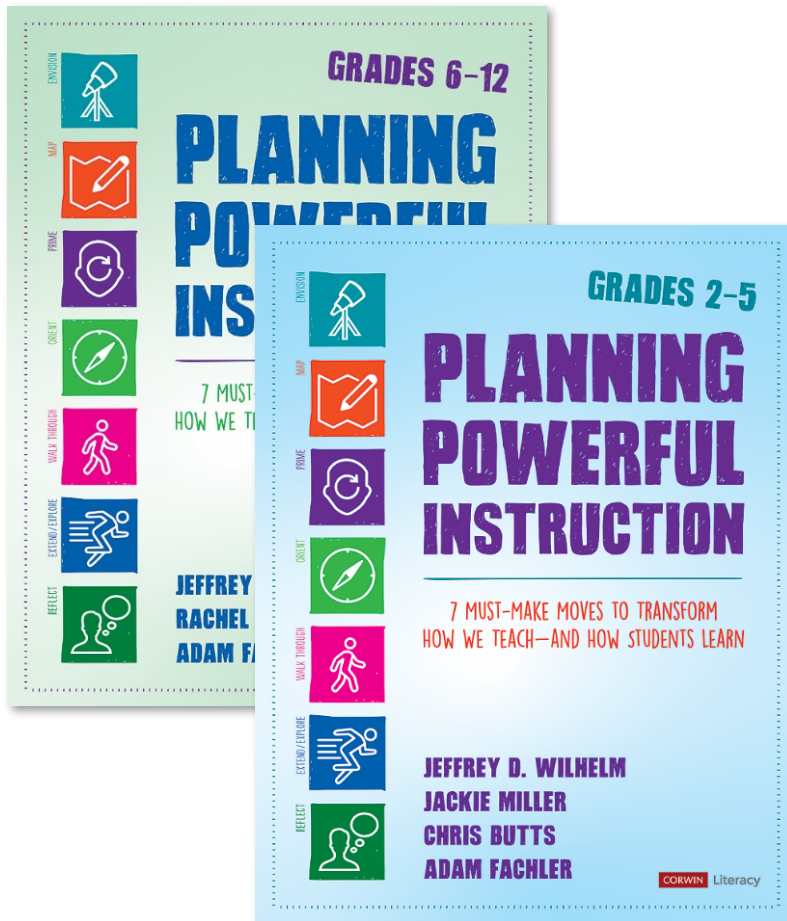
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