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Critical Thinking Bootcamp

Skills, tools, and resources to help patrons navigate a world of misinformation

#CriticalThinkingBootcamp
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#CriticalThinkingBootcamp
Ziyad Marar
President of Global Publishing
SAGE Publishing
Travel Well: Equipping Our Communities with Resources for the Journey

@MeredithDClark
Assistant Professor
University of Virginia
What is PIL?

Project Information Literacy (PIL) is a nonprofit research institute that conducts ongoing, national studies on what it is like being a student in the digital age.

In the past decade, PIL has surveyed and interviewed almost 21,000 U.S. college students to examine how they interact with information resources for school, for life, for work, and most recently, for engaging with the news. To learn more, read PIL's FAQ or a summary of our key research findings.
How Black Twitter and other social media communities interact with mainstream news

A new report by Knight Foundation explores how social media subcultures — Black Twitter, Feminist Twitter, and Asian American Twitter — interact with the news. Scroll down to interact with the findings or click here to read more about the report.
What is PIL?

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1. How do I talk about the news in class and what does that signal to/teach students?
2. What news habits do I model in class?
3. How does news intersect with my discipline?
4. What are my source requirements and prohibitions based on?
5. How does social media play a role in keeping up?
6. What are the implications of the newspaths for becoming informed citizens?

7. What do students/novices in the discipline need to know about how their area of study appears in the news?

8. How can students’ existing news habits (lateral reading, following a spark of interest, sharing information with peers, checking more authoritative sources) be leveraged to develop deeper engagement with other types of information?

9. How can I model both warranted skepticism and reasons for trust in news media?

10. How will I approach such discussions when public attitudes toward news media are polarized?
DocNow

Documenting the Now develops tools and builds community practices that support the ethical collection, use, and preservation of social media content.

Digital Blackness in the Archive, December 2017
WHAT IS LEGAL IS NOT ALWAYS ETHICAL; WHAT IS ETHICAL IS NOT ALWAYS LEGAL
NO MATTER THE METHOD...
HONOR THE INTENTIONS IN SMALL HISTORIES
How Black Twitter and other social media communities interact with mainstream news

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THANK YOU
Misinformation, Disinformation, and COVID-19

Dan Chibnall
STEM Librarian
Drake University

Rosalind Tedford
Director for Research and Instruction
Z. Smith Reynolds Library at Wake Forest University

Sarah Morris
Head of Instruction and Engagement
Emory University Libraries

#CriticalThinkingBootcamp
Misinformation, Disinformation, and COVID-19

The perfect storm with a silver lining

Dan Chibnall, Rosalind Tedford, Sarah Morris
Mis/Disinformation and Our Students

- Definitions
- The System (Creators - Distributors - Consumers)
- External Factors (Algorithms, Media)
- Internal Factors (Cognitive Biases and Logical Fallacies)
- Why is this problematic for college students?
  - Play all three roles in the system
  - Digital natives (but not digital experts)
  - Just starting to look critically at their media habits and their favorite platforms.
  - Not yet aware of their biases
  - Container Collapse
  - Expectations for speed/immediacy of information
  - Good information hygiene must be taught
  - Emotionally immature - Risk/Reward thinking is off-kilter

https://www.flickr.com/photos/statefarm/17126328589
COVID-19: The Perfect Info-Storm

- Initial Problem: Brand New Virus
- Contrast: Science Skepticism & Expertise
- Information Speed: Expectation, Delivery, Re-Sharing
- Conspiracy Theories: Acceleration
- Non-Experts on the Same Playing Field
- Exposed Huge Gaps in Science Education & Understanding
- Mis/Disinformation Thrives on Fear
- Virtual Workplaces: Longer Exposure to the Internet
- Device + Internet = Everyone is a Creator/Sharer

https://www.bou.class.noaa.gov/saa/products/welcome
The Silver Linings

- Provides a real-world example to frame our discussions of mis/disinformation. This isn’t just a theoretical discussion but something playing out in real-time.
- Students have seen (and may have experienced) first-hand the negative consequences of mis/disinformation around COVID so we can include their experiences and observations for a more authentic discussion.
- Watching the scientific method play out in real time - building science literacy and science communication skills.
- Gives us a chance to teach students critical thinking skills in a familiar context:
  - Recognizing pseudoscience and distinguishing between it and science
  - Getting to root causes: cognitive biases and logical fallacies
  - Awareness and action assignments

Photo by Rowan Heuvel on Unsplash
What inspired you to become a librarian?
Practices and Tools You Can Use

Dan Chibnall
STEM Librarian
Drake University

Sarah Morris
Head of Instruction and Engagement
Emory University Libraries

Mila Steele
Executive Publisher
SAGE Publishing

#CriticalThinkingBootcamp
Pandemic Pedagogy

3 quick lessons from historians who are going online and finding more critical thinking

Mila Steele
1. Using visual sources to encourage active engagement

Images fill the gap of face-to-face interaction
2. Encourage co-curation and annotation

Collaborative reading helps develop critical awareness of source quality and context
3. Don’t be afraid of unfamiliar tools

Presenting sources differently can disrupt the one-way knowledge transfer
Courses, Sessions, & Skills We Teach

What does a Critical Thinking Toolbox contain?
Strategies and resources to help build critical thinking skills:
- Overview of our courses & experiences
- Skills & assignments we teach
- Tools we teach to our students

Dan Chibnall, Sarah Morris
Courses, Sessions, & Skills We Teach

Dan Chibnall

Science Fiction, Science Fact
- First Year Seminar fall course
- Teaching differences between science and pseudoscience, predictive qualities of science, and importance of public science

Fake News, Filters, & Falsehoods: Navigating Information Overload in the 21st Century
- Accelerated January Term course focusing on misinformation, information behaviors, cognitive biases, & technology

Communicating Science: Bringing Scientific Information Literacy to the Public
- Spring course focused on the overall value of scientific thinking and seeing current events and social issues through the lens of science

Photo by Luis Villasmil on Unsplash
Courses, Sessions, & Skills We Teach

Dan Chibnall

What skills & assignments do we focus on?

- Awareness & Action assignment
- Creative Communication assignment
- Science Fiction Writing assignments
- Reflecting on and designing new information behaviors in personal and professional lives
- Critiquing pseudoscience to help distinguish between real, quasi-real, and fake
- Distinguishing between academic & public information, its purpose, and potential audience
- ACRL Framework: Authority & Information Creation as Process
- Understand & evaluate evidence, cognitive biases, fallacies, communicative biases
- Critique the impact of social media and mobile technology
- Coverage of COVID-19 in my winter & spring courses - student critical thinking activities

Photo by Edgar Chaparro on Unsplash
Courses, Sessions, & Skills We Teach

Sarah Morris

**Introduction to Misinformation course**
- Fall Undergraduate seminar course
- Explored different units around misinformation, including conspiracy theories, historic examples, social media and internet culture, the psychology behind misinformation, and examples such as health misinformation
- Discussion and activities where students could develop their media and information literacy skills

**Fact-checking and media literacy workshops**
- Part of an undergraduate workshop program that focuses on transferable skill-building
- Activities and strategies to help students become better at recognizing and evaluating different examples of mis/disinformation

**Data literacy learning community**
- Community of faculty, librarians, and grad student instructors
- Explore interdisciplinary approaches to teaching data literacy skills to undergraduates
- Focus on data in the news and data and news literacy as critical skill sets
Courses, Sessions, & Skills We Teach

Sarah Morris

What skills & assignments do we focus on?

• Fact-checking skill building activities
• Critically analyzing how topics are covered in different media outlets and types of sources
• Distinguishing between different types of sources
• Reflection assignments and media logs
• Identifying and analyzing cognitive biases, rhetorical strategies, and logical fallacies
• Evaluation activities for visual misinformation
• Algorithm mapping
• Scenarios-based activities and games
• Action and awareness assignments, including researching local issues and digital citizenship activities

Photo by Silas Baisch on Unsplash
Courses, Sessions, & Skills We Teach

Rosalind Tedford

Misinformation & Disinformation on the Internet
- **Half-Semester LIB290 Class**: Fall 2018
- **First Year Seminar**: Spring & Fall 2020
- **Lifelong Learning Class**: Summer 2019 & Fall 2020

Workshop Series:
- Mechanics of Mis/Disinformation
- Psychology of Mis/Disinformation
- Know Better, Do Better
- Mis/Disinformation and COVID-19
- Mis/Disinformation and Vaccines
Send us your questions!

#CriticalThinkingBootcamp on Twitter

To SAGE Publishing in the chat box on your screen

While we do our best to answer as many questions as we can, time constraints may not allow us to answer every question.
What is the third lesson we can learn from historians on critical thinking?
Lightning Talks

• 5 minute talks
• 8 different speakers
• Submit questions to SAGE Publishing in the chat box
The COVID-19 Misinformation Challenge
COVID-19 Misinformation Challenge

Day 1: The Virus Goes Viral

Day 2: Trick or Treatment

Day 3: Doctor or Doctored?

Day 4: Fact or Fiction (Toilet Paper Edition)

Day 5: Science or Science Fiction?
COVID-19 Misinformation Challenge
The COVID-19 Misinformation Challenge
libguides.library.umaine.edu/covid19

Jen Bonnet
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Senta Sellers
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University of Maine
Stepping into Success

How to Boost Students’ Self-Efficacy

Amber Eakin
Instruction Librarian
Impact of Self-Efficacy on Critical Thinking

- Critical thinking, self-efficacy, and self-direction are connected
- Self-efficacy is the top contributor to autonomy in EFL contexts
- Critical thinking is the second-most contributor
- Vicarious experience can contribute to self-efficacy through metacognition

Modeling as a Scaffolding Technique

- Live demonstration allows for vicarious experience
- If personal experience does not align with vicarious experience, students may have decreased self-efficacy
- Demonstrate and explain “failures” to introduce critical thinking concepts
Ways to Model Search Behavior to Increase Self-efficacy

- Allow the students or professor to select the research topic on the spot
- Move to a phrase search after a failed keyword search
- Choose limiters poorly to emulate a search by an inexperienced user
READING THE NEW YORK TIMES

COVID-19 AS SEEN IN STUDENTS’ DISCUSSIONS IN THE INFORMATION LITERACY COURSE

BY IRINA I HOLDEN, UNIVERSITY AT ALBANY, STATE UNIVERSITY OF NEW YORK

IHOLDER@ALBANY.EDU
THE COURSE: INFORMATION LITERACY IN MATHEMATICS AND STATISTICS

• One credit
• Eight weeks
• General education requirement (information literacy) for students in the Department of Mathematics and Statistics at the University at Albany, SUNY
• Semester: Spring 2020, two sections: January 25 – March 11 and March 12 - May 19
• Course Management Software: Blackboard
• Student body: Sophomores, Juniors and Seniors
THE ASSIGNMENT: DISCUSSION OF THE SCIENCE SECTION OF THE NEW YORK TIMES

- Designed to replicate in-class discussion for an online version of the course
- Requirement: Students were required to select 2-3 articles from the Science section of the NYT and write one or two paragraphs, discussing the content of their selected sources and explaining the reason for their choices of articles
- Rationale: To practice the concept of civic science literacy and critical evaluation of the information sources
CIVIC SCIENCE LITERACY AND CRITICAL THINKING

“…Civic science literacy refers to a level of understanding of scientific terms and constructs sufficient to read a daily newspaper or magazine and to understand the essence of competing arguments on a given dispute or controversy.” (Miller, J.D. (1998). The measurement of civic scientific literacy. Public Understanding of Science, 7, 203-223.)

• “Critical thinking — in being responsive to variable subject matter, issues, and purposes — is incorporated in a family of interwoven modes of thinking, among them: scientific thinking, mathematical thinking, historical thinking, anthropological thinking, economic thinking, moral thinking, and philosophical thinking.” (from The Foundation for Critical Thinking website, http://www.criticalthinking.org/pages/index-of-articles/defining-critical-thinking/766)
TWO SECTIONS OF THE COURSE COMPARED:

SECTION 1: JANUARY 25 – MARCH 11
MODE: ONLINE AS PLANNED

• Total NYTimes discussion posts: 79
• COVID-related: 21
• Topics: Bats as a source of the virus, China dealing with the virus, COVID emerging in the U.S., first mentioning of the necessity of social distancing

SECTION 2: MARCH 12 – MAY 19
MODE: MOVED ONLINE FROM IN-PERSON

• Total NYTimes posts: 78
• COVID-related: 42
• Topics: COVID-19 spread in the U.S., health issues in isolation, preventing spread, developing vaccines, impact on environment, business of COVID (PPE and tests manufacturing)
Accessibility and Critical Thinking

Food for Thought
Angie Brunk
Reference and Instruction Librarian
(Mis)Information Creation as a Process:
A Method for Teaching Media Literacy by Applying an ACRL Framework Frame

Winn W. Wasson
Social Science Librarian
Critical Thinking Bootcamp 2020 Lightning Talk
August 4, 2020
Critical Thinking by Induction

The Problem

• Goal
  – Critical thinking about information consumption

• Roadblock 1
  – Naming and shaming sources can create pushback in politically charged times

• Roadblock 2
  – Principle in ACRL Framework Frame “Authority Is Constructed and Contextual”

A Potential Solution

• Rooted in ACRL Framework Frame “Information Creation as a Process”

• Avoid talking about “good” or “accurate” or “bad” or “inaccurate” news sources

• Focus on:
  – How the news gets from field observations to published/broadcast products
  – The social/cognitive psychology behind how we decide whether we will believe the information we consume
Putting the Idea into Practice:
January-Term 2019 Course at New College of Florida

Curriculum Content
• The journalistic process
• The social and cognitive psychology of information evaluation
• Fact-checking platforms
• Information hygiene

Activities
• Guest Speakers
  – Journalists
  – Politicians
  – Psychologists
  – Counselors
• Field Trip
  – ABC station in Sarasota, Florida

Final Projects
• Media product on topic of student’s choice related to misinformation and disinformation in the news or on social media
• Topics included:
  – Fossil fuel industry disinformation about climate change
  – Tobacco industry disinformation about tobacco use
  – Russian disinformation campaigns in Europe
  – Video games and mass shootings
  – Persistence of debunked news stories (Kitty Genovese and the Central Park Five)
Students’ Key Takeaways

As Indicated on a Post-Course Free-Response Assessment

• The impact on public perception of editorial decisions about what information to include or exclude in a published or broadcast story

• The importance of maintaining healthy information hygiene
Thank You.

Winn W. Wasson
Social Science Librarian
wwwasson@syr.edu
Using InfoLit to Support First Year Experience Critical Thinking Outcomes

Jennifer Joe
Assistant Professor and
Undergraduate Engagement Librarian
Misinformation and Statistics: The Role of Critical Thinking

Statistics are ubiquitous today. Alarmingly, recent studies reveal that one of the key drivers of fake news is with statistics. Too often students accept this data at face value with little attention to accuracy. Students need to practice informed skepticism and utilize a critical approach to determine the legitimacy of competing claims.

Joshua Becker, Information Literacy & Assessment Librarian
August 4, 2020
Common Statistical Traps

• Spurious Correlations
• Straw Man Arguments
• Chart Manipulation (see right)
• Suspect Sample Sizes
• Large Margins of Error
• Vaguely worded claims

❖ There are many other types.
Questioning the Source

• Who disseminated these statistics?

• Who compiled the original research?

• What is the “Gold Standard” for research in this area?
Critical Thinking Techniques to Evaluate Statistics

• **Be Skeptical** – Fake News can seem convincing

• **Analyze the Context & Claims** – Substance over style

• **Determine the Agenda** – Data is used to promote claims

• **Understand the Results** – What does that data really say?
Recommended Readings


What resources have you found to best help foster critical thinking?
Breakout sessions

• 30 minutes
• Consider:
  • What did you learn today?
  • What activities will you implement?
  • What advice or questions do you still need/have?
• Please designate one individual to share two discussion takeaways in the chat box once you return to the main room
Takeaways

• Consider:
  • What did you learn today?
  • What activities will you implement?
  • What advice or questions do you still need/have?

• If you are your team’s designated individual, please share two discussion takeaways in the chat box with “Everyone.”
Send us your questions!

#CriticalThinkingBootcamp on Twitter

To SAGE Publishing in the chat box on your screen

While we do our best to answer as many questions as we can, time constraints may not allow us to answer every question.

#CriticalThinkingBootcamp
A webinar recording will be emailed to you and made available at group.sagepub.com/critical-thinking in the coming weeks.

Be sure to check group.sagepub.com for updates on our webinar series.

Thank you!