

DEPARTMENT of COMPUTING

College of Business & Technology

EAST TENNESSEE STATE UNIVERSITY



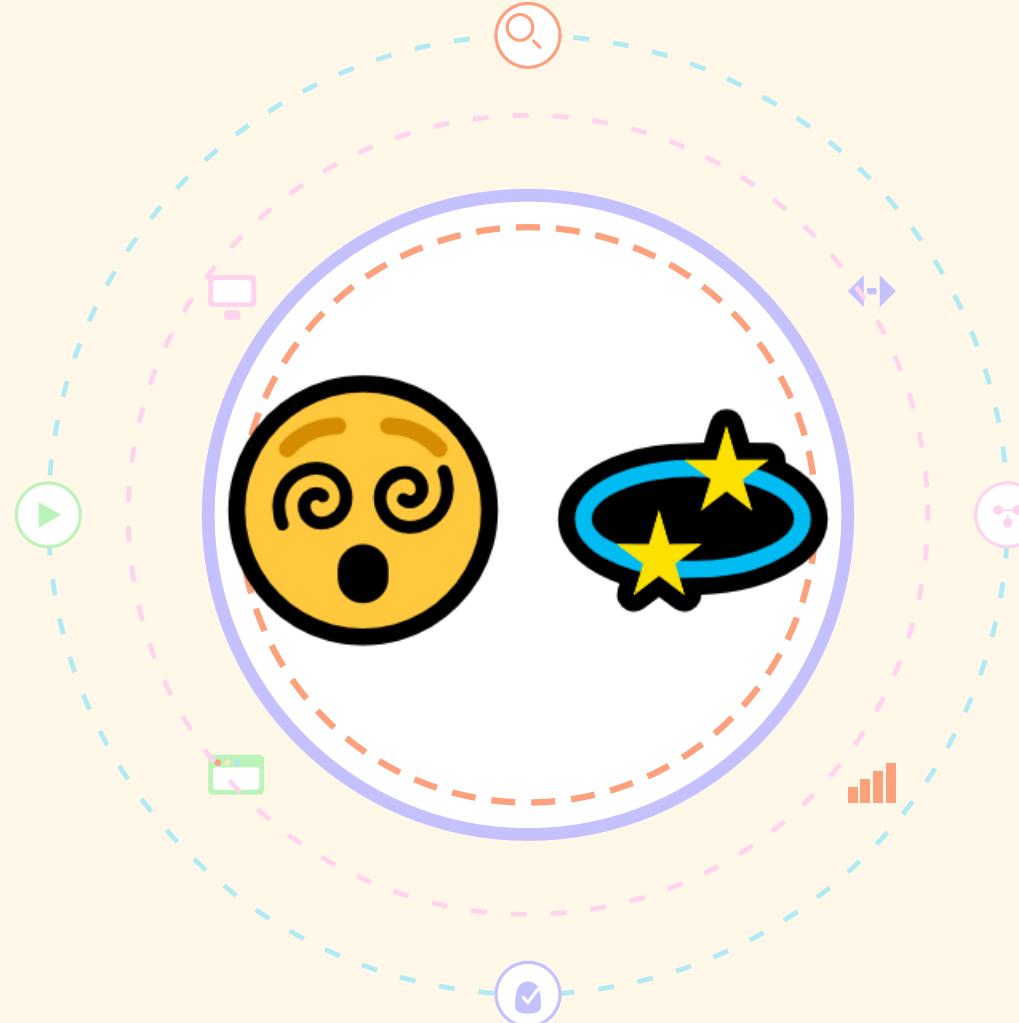
Information Literacy

Effective Strategies for Evaluating & Finding Information

Professor Ryan Haas



1. TMI (Too Much Information)



The Modern Information Challenge



We Live in an Information-Rich World

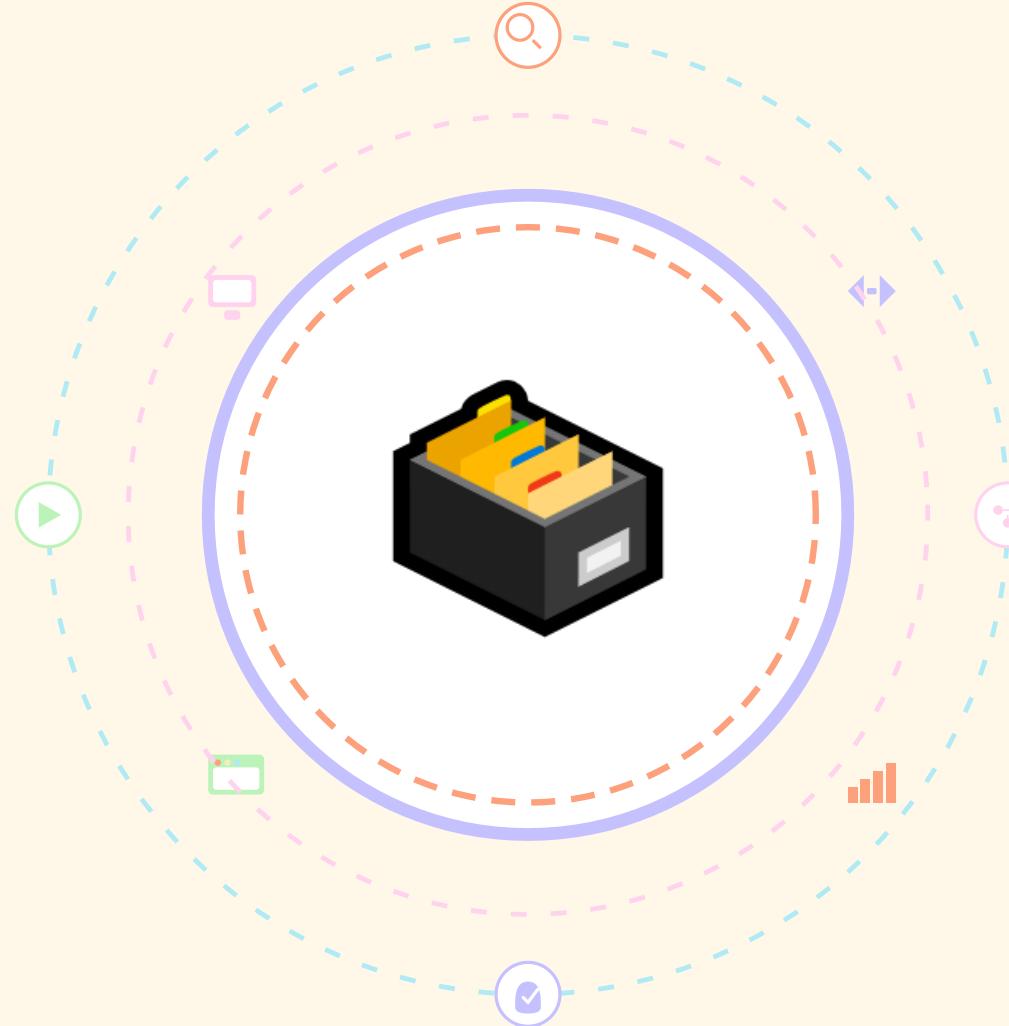
- More information is produced daily than previous generations saw in a lifetime
- Social media and digital platforms amplify both accurate and inaccurate information
- Anyone can publish content that looks professional and authoritative
- Emotional content spreads faster than factual content



The Challenge: How do we distinguish reliable information from misinformation in seconds or minutes rather than hours?

Traditional approaches (like lengthy checklists) are too slow for the modern web.

2. SIFT for your sanity



The SIFT Method

A Strategy Used by Professional Fact-Checkers

S STOP

Pause and check your emotional response.
Are you reacting strongly to this information?

F FIND

Look for better coverage. What do other reputable sources say about this claim?

I INVESTIGATE

Research the source. Who created this? What's their track record and motivation?

T TRACE

Follow information back to its original source and context.



S STOP: Check your emotions

- Content that produces strong emotions spreads fastest on social media
- We're more likely to share information that confirms our beliefs Emotional reactions can override critical thinking
- Misinformation often targets our emotions *deliberately*

Before you read, react, or share, ask yourself:



- What is my immediate emotional response to this?
- What do I already know about this topic?
- Do I want this information to be true or false?
- Could my biases be influencing my reaction?



Key Principle: The stronger your emotional reaction, the more important it is to fact-check before sharing.

I INVESTIGATE: Research the source



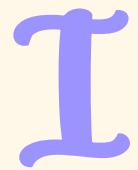
Who posted the claim?

The Author

- Who posted the information?
- What can you find out about the account/author?
- What might be their motivation for sharing the claim?

Scrutinize the Author's Profile

- Links in the bio + post history can clue us in as to their affiliations, biases
- Some authors are not even people!
They're bots!



INVESTIGATE: Research the source



Leave the page to learn about the page...

X Vertical Reading

- Stay on the same website
- Look for "About Us" pages
- Trust the site's self-description
- Can be easily fooled

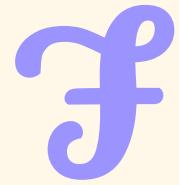
✓ Lateral Reading

- Open new tabs immediately
- Search for the source name
- Check Wikipedia for background
- See what other sources say

Quick Investigation Checklist:

- | | |
|---|--|
| <ul style="list-style-type: none">✓ Open a new tab and search: [source name] + "Wikipedia"✓ Look for the source in news articles | <ul style="list-style-type: none">✓ Check if fact-checkers have evaluated this source✓ Note any conflicts of interest or bias |
|---|--|





FIND: Look for better coverage

Don't Stop at One Source!



Effective Search Strategies

- **Fact-checking sites:** Search Snopes, FactCheck.org, PolitiFact
- **News search:** Use Google News to find recent coverage
- **Multiple perspectives:** Look for coverage across different types of sources
- **Expert sources:** Find subject matter experts who have weighed in



Red Flags to Watch For

- Only one source is reporting this "breaking" news
- Reputable news sources aren't covering a major claim The story significantly contradicts established facts
- Sources are all from the same political or ideological perspective



TRACE: Follow information to its source

What to Trace

- **Research studies:** Find the original paper, not just the press release
- **Quotes:** Verify the full context, not just the excerpt
- **Statistics:** Find the original data source
- **Images and videos:** Use reverse image search to find origins



Common Problems with Second-Hand Reporting

- Important **context gets lost** in retellings
- Headlines may **misrepresent** the actual findings
- **Preliminary** research gets presented as definitive
- **Correlation** gets reported as **causation**

Tracing Techniques

- ✓ Look for links to original sources in articles
- ✓ Search for study titles in academic databases
- ✓ Use Google's reverse image search for photos
- ✓ Check if quotes are taken out of context

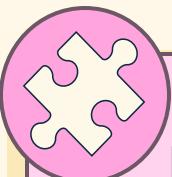


SIFT In Action

- Let's work through the SIFT method with a current social media post!

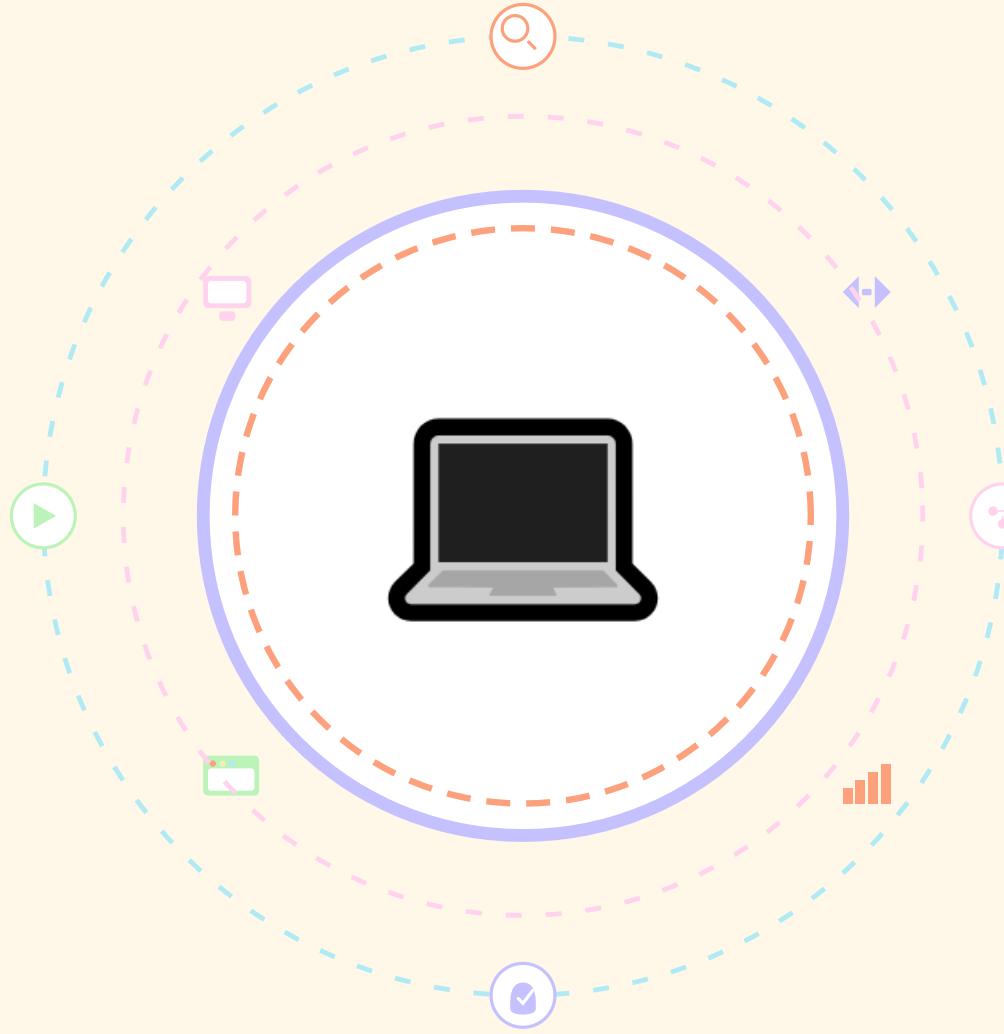
Step-by-Step Process:

- 1. STOP:** Notice our emotional reaction to the claim
- 2. INVESTIGATE:** Research the source making the claim
- 3. FIND:** Look for coverage by reputable news sources
- 4. TRACE:** Follow the claim back to its original source

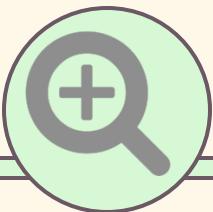


Key Insight: This entire process should take a minute or two for most claims. If it's taking longer, you might be going down a rabbit hole—circle back and try a different approach.

Beyond Google: Finding Scholarly Sources



Finding Scholarly Sources: ETSU Databases



OneSearch ↗

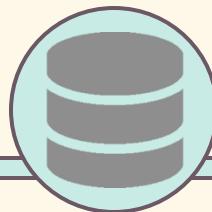
Search across multiple databases simultaneously.

- A quick way to get started on libraries.etsu.edu

Search the Library with OneSearch
Find articles, books, journals, media and more all in one place

Enter keywords, title, author, or identifier Search

FAQ + SEARCH TIPS ↗ BROWSE JOURNALS ↗ ADVANCED SEARCH ↗



Subject Databases ↗

Specialized collections for your field of study.

- I found filtering by Subject most useful as a student.

✓ All Subjects
Accountancy (15)
Anthropology (24)
Appalachian Studies (11)
Archival Studies (3)
Art (18)
VIR (18)



Research Assistance ↗

Librarian support for complex research questions.

- While you can schedule an appointment, you can also just casually start a chat!
- I'm sure your tuition helps pay for it, so you might as well use it!

Academic Databases: *Why not just... Google?*

Why use Academic Databases?

- **Peer-reviewed** content: Experts have evaluated the research
- **Credible** sources: Authors are identified with their credentials
- **Current** information: Recent publications in your field
- **Full-text access**: Complete articles, not just abstracts



Hot Tip:

Even before using Google Scholar, Log into **libraries.etsu.edu** with your ETSU *username* (everything before "@etsu.edu") and password to access full-text articles and avoid paywalls!

Effective Database Searches: *Why not just... Google?*

Using Boolean Operators

AND: climate change AND agriculture (both terms must appear)

OR: teenagers OR adolescents (either term can appear)

NOT: apple NOT fruit (exclude the second term)

Quotes: "machine learning" (exact phrase)

Advanced Search Features

- **Field searching:** Search specific parts (title, author, subject)
- **Date filters:** Limit to recent publications
- **Source type filters:** Academic journals, books, conference papers
- **Subject filters:** Narrow by discipline or topic area

Evaluating Academic Sources

Not all sources are equal!

Weaker Academic Sources

- Predatory journals
- Self-published works
- Outdated research (field-dependent)
- Sources with clear conflicts of interest
- Non-peer-reviewed preprints

Strong Academic Sources

- Peer-reviewed journals
- University press publications
- Government research reports
- Established research institutions
- Recent publications in your field

Quick Quality Checklist:

- ✓ Is the journal indexed in major databases?
- ✓ Do the authors have relevant credentials?
- ✓ Are there proper citations and references?
- ✓ Has the work been cited by other researchers?



Wikipedia: A Powerful Research Starting Point



Moving beyond "Wikipedia is unreliable"



How Professional Fact-Checkers Use Wikipedia

- **Background research:** Quickly understand topics and controversies
- **Source mining:** Use Wikipedia's references as a launching pad
- **Verifying credentials:** Check author and organization backgrounds
- **Finding experts:** Identify key researchers in a field

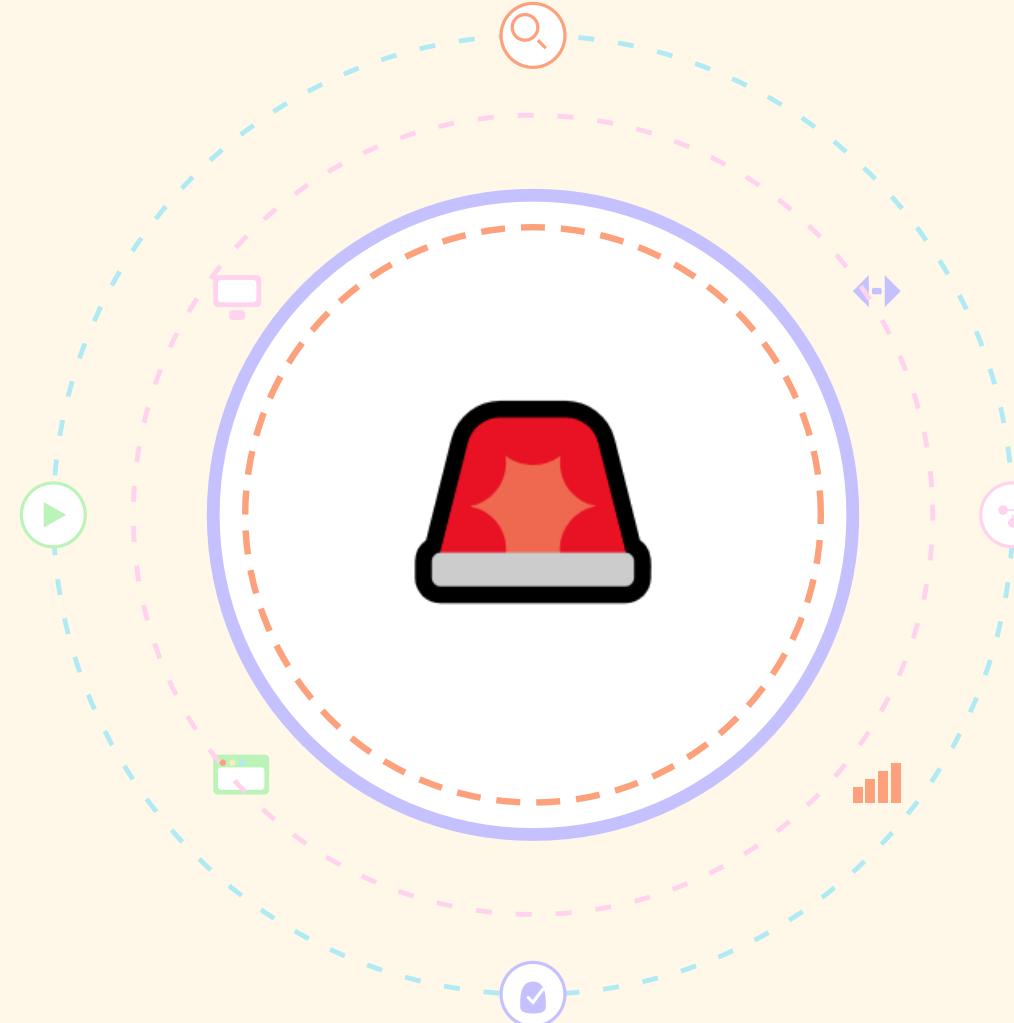
✗ Wikipedia's Weaknesses

- Wikipedia's open editing invites bias, vandalism, and variable accuracy.
- Anonymous authorship, reliance on potentially flawed sources, and lack of formal review raise credibility concerns.

✓ Wikipedia's Strengths

- Comprehensive coverage of topics
- Extensive citations to reliable sources
- Recent updates and edit history
- Multiple language versions for international perspectives

Recognizing Misinformation



Recognizing Misinformation Tactics

🚩 Red Flags

1. **Emotional language:** Excessive use of words like "shocking," "devastating," "miraculous"
2. **Lack of sources:** Claims without links to original research or data
3. **Anonymous authors:** No clear indication of who wrote the content
4. **Misleading headlines:** Headlines that don't match the actual content
5. **Cherry-picked data:** Selective use of statistics or quotes

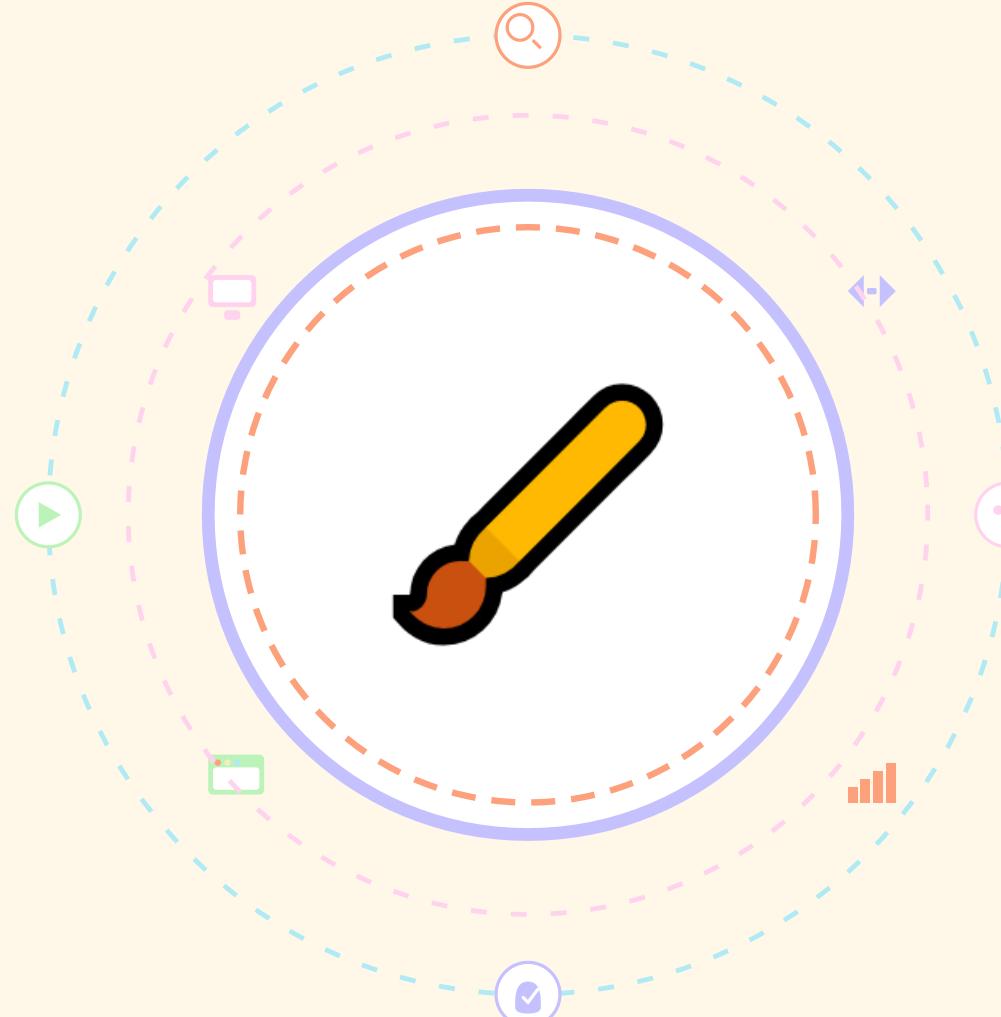


Sophisticated Misinformation Techniques

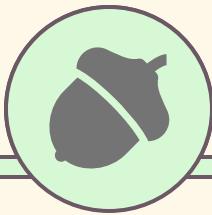
1. **Professional design:** Websites that look like legitimate news sources
2. **Partial truths:** Mixing accurate information with false claims
3. **False attribution:** Fake quotes from real experts
4. **Manipulated images:** Doctored photos or images from different contexts
 - Conversational AI is capable of partial truths, false attribution, and other manipulation! [1]

1. [Scheming reasoning evaluations](#). Apollo Research, 2024.

5. Applying & Integrating Digital Literacy

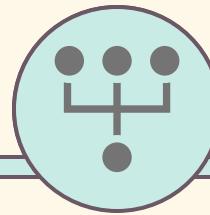


Building Lasting Information Habits



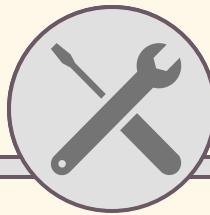
Daily Practices for Better Information Consumption

- **Diversify your sources:** Read across the political and ideological spectrum
- **Check before you share:** Use SIFT on content that triggers strong emotions
- **Update your understanding:** Be willing to change your mind with new evidence



Questions to Ask Regularly

- Who benefits if I believe this information?
- What might I be missing in this story?
- How does this fit with what I already know?
- **What would convince me this is wrong?**



Tools at Your Disposal

- Lateral reading for staying informed day-to-day
- ETSU library databases and Google Scholar for academic research
- Wikipedia for quick background research

Integrating Digital Literacy

1

Current Events

Use lateral reading to understand complex news stories with a fuller picture.

2

Research Projects & Professional Development

Apply SIFT to evaluate sources for academic papers, verify industry information or trends. Distinguish hype from sober reality.

3

Cybersecurity & Privacy

Identify phishing attempts and scam websites.

4

Your Personal Life

Make informed choices about health, finance, and lifestyle.

Sources



Primary Sources:

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<https://cognitiveresearchjournal.springeropen.com/articles/10.1186/s41235-021-00291-4>
- Caulfield, M. (2017). Web Literacy for Student Fact-Checkers. Washington State University Vancouver.
<https://pressbooks.pub/webliteracy/>
- University of Chicago Library. (2022). The SIFT Method.
<https://guides.lib.uchicago.edu/c.php?g=1241077&p=9082322>

ETSU Resources:

- ETSU Sherrod Library. Database guides and research assistance materials. libraries.etsu.edu

