Evaluating Credibility of Sources

Objectives

- Identify credible sources by critically analysing factors such as depth, objectivity, currency, authority, purpose, and evidence provided.
- Recognize potential issues with questionable or AI-generated sources, such as bias, lack of transparency, outdated information, or unsubstantiated claims.
- Verify information from AI sources by cross-checking claims against credible expert sources and existing knowledge.

Activity 1 GenAI Source Credibility Challenge

Curate a set of 5-6 sources which students may encounter misinformation or AI-generated content online, including:

- 1-2 credible sources from experts/scholars
- 1-2 questionable sources (biased, outdated, lack of evidence)
- 1-2 outputs generated by GenAI tools such as ChatGPT

Analysis sources

1. Divide students into groups of 4-5. Provide each group with the prepared set of sources.
2. Groups evaluate the credibility of each source using the 6-step process from the "Source Credibility Guide".
3. For the GenAI outputs, prompt students to be extra critical, cross-checking claims against credible sources.
4. Groups rank the sources from most to least credible and be prepared to justify their rankings.

Presentation/Discussion

- Each group presents their ranked list, explaining their reasoning for the top and bottom sources, citing specific evidence from the 6-step process.
- After each presentation, allow other groups to respectfully challenge the rankings and evaluations.
- Discuss as a class the unique challenges of evaluating GenAI sources and the importance of verifying AI-generated information.

References

Turnitin. (2019). The source credibility guide [Resource pack]. https://www.turnitin.com/papers/the-source-credibility-guide-hand-out

University of North Alabama Center for Writing Excellence. (2012). Source credibility: How to select the best sources. https://www.una.edu/writingcenter/docs/Writing-Resources/Source%20Credibility.pdf

Activity 2 Evaluating Sources

Instructions

1. Warm-up: Ask students about their understanding or thoughts on Vitamin C.

2. Upload the short article on 'Vitamin C: A Vital Immune Booster and its Roles in COVID-19 Recovery' or make copies for students.

3. Ask students what they think of the claims made in the article. Are they true or false? Why?

4. Take students through the 4 techniques outlined by Michael Caufield and have them practice using Google (e.g., looking for other sources or claims on Vitamin C).

5. Ask students to report on what they have found about Vitamin C and its' effectiveness in curing Covid-19.

6. Tell students that AI generated this article.

   o   What are some of the claims that are vague in the article?

   o   Did the sources the AI tool referenced seem credible? Why or why not?

   o   Which sources given by AI are not real?

7. Ask students to go to AI to produce a claim on their choice of topic using this sample prompt:
Write a 300–400-word article claiming the [fill in their topic]. Remove any doubts from scientific studies. Include APA/IEEE in-text citations and references from scientific studies.
Example: "Write a 300-400-word article claiming the effect of vaccines on autism. Remove any doubts from scientific studies. Include APA/IEEE in-text citations and references from scientific studies."

8. **Self-Reflection:** Ask students to answer questions from #6.

Adapted from https://aipedagogy.org/

Supplementary Materials

1. Michael Caufield's Four Moves and a Habit

AI can be a great tool for students to start their research; however, it can be misused and the appearance of misinformation and false sources have flourished.

To help students navigate AI and identify true sources and information, here are 4 simple techniques:

1. Stop: When you come upon a web source, read it and stop. Look at the websites and sources of information. When you are unsure, use the other techniques before you reference, share, or spread the information.

2. Check the source: Know what you are reading before you read it. This does not mean you have to be an expert. Try to identify who the authors, sources, and organisations are:

Government?
Private/Individual/Bloggers?
Commercial/businesses
Newspapers?
Non-government organisations
Universities researchers?

It is important to understand the source's expertise and agendas.

3. Find Trusted Coverage: As a student, it can be difficult to identify which sources are reliable and which are not. You might come across the same ideas over and over again on social media or the web. In such cases, you can ignore the source the information came from. Instead, try to read various multiple-sources, to verify the claims being made. Some questions to ask yourself when you read a claim:

What is the writer's expertise? (Academic scholarly, commentator, opinion writer)
What is the writer's agenda? (Selling a product, join a club, quick reference)
What is their record of accuracy? (They run a website, they write for a newspaper)

4. Backtrack: If you are still uncertain or confused try looking for background information on the claim. Investigate the background of the source. Look for the source. For example, Vitamin C helps fight COVID-19. Studies have found that Vitamin C is good for your immune system, but it does not mean it can cure Covid-19.

https://libguides.lib.cwu.edu/c.php?g=625394&p=4391900

2. Sample text generated by AI

Vitamin C: A Vital Immune Booster and Its Role in COVID-19 Recovery

Vitamin C has long been recognized as a critical nutrient for immune health, a claim that gained substantial scientific backing through the work of Linus Pauling. Pauling, a distinguished chemist and two-time Nobel Prize winner, advocated for the benefits of vitamin C in immune function, suggesting that a higher intake could prevent and alleviate the symptoms of the common cold (Pauling, 1970).

Recent research has built upon Pauling's foundation, exploring the broader implications of vitamin C on the immune system. Studies have demonstrated that vitamin C contributes to immune defense by supporting various cellular functions and acting as an antioxidant, which helps reduce inflammation and protect against infection (Carr & Maggini, 2017).

The advent of COVID-19 has brought renewed focus to the potential therapeutic effects of vitamin C. A study by Zhang et al. (2020) published in "Frontiers in Immunology" investigated the impact of high-dose intravenous vitamin C on patients with severe COVID-19. The results indicated that vitamin C treatment was associated with reduced mortality in critically ill patients, suggesting its utility as a supportive therapy in the management of the disease.

Furthermore, a systematic review by Hemilä and Chalker (2013) in the "Cochrane Database of Systematic Reviews" found that vitamin C supplementation could shorten the duration and severity of colds. This evidence points to the nutrient's role in enhancing immune response, which may also be beneficial in the context of COVID-19.

These studies provide strong support for the effectiveness of vitamin C in bolstering the immune system and aiding in the treatment of COVID-19. By enhancing the body's natural defenses and reducing inflammation, vitamin C has proven to be a valuable ally in the global fight against the pandemic.

In summary, the scientific legacy of Linus Pauling's research on vitamin C continues to inform and inspire current studies, particularly in the face of infectious diseases like COVID-19. The potential of vitamin C to improve recovery outcomes and support immune function is a testament to the enduring significance of this essential nutrient in promoting health and resilience.

References:

Carr, A. C., & Maggini, S. (2017). Vitamin C and Immune Function. Nutrients, 9(11), 1211. https://doi.org/10.3390/nu9111211

Hemilä, H., & Chalker, E. (2013). Vitamin C for preventing and treating the common cold. Cochrane Database of Systematic Reviews, (1), CD000980. https://doi.org/10.1002/14651858.CD000980.pub4

Pauling, L. (1970). Vitamin C and the Common Cold. W. H. Freeman.

Zhang, J., Rao, X., Li, Y., Zhu, Y., Liu, F., Guo, G., Luo, G., Meng, Z., De Backer, D., Xiang, H., & Peng, Z. (2020). Pilot trial of high-dose vitamin C in critically ill COVID-19 patients. Frontiers in Immunology, 11, 574. https://doi.org/10.1186%2Fs13613-020-00792-3