

Information Literacy Lesson Plan

Class Title	Who Can I Trust? – Questions to Ask When Evaluating Information Sources (featuring SIFT, PIE, and SMELL methods)
Class Instructor	Reference Librarian or other instructor familiar with information literacy concepts.
Date	December 1 st , 2020
Task/Assignment/Topic	This lesson is intended as a one hour, single-session overview of one aspect of information literacy: evaluating the trustworthiness of resources, particularly online. The lesson is designed for a group of 10-25 adults in a public or academic library, or is also suitable for high school students. Instructor will teach students how to investigate a source and apply three small but powerful information literacy tools to evaluation: SIFT, PIE, and SMELL.
Teacher Materials	<p>This lesson broadly assumes that the instructor and hopefully students have access to computers or other devices with internet for the session.</p> <p>If no online access is available the instructor would need to either a) print off screenshots of the websites used in Teaching Strategy 2, or b) replace online content with several examples of print information sources that vary in contextual value. (e.g. a popular magazine, news tabloid, newspaper, books, printed articles, etc.)</p> <p>A board with colored markers to note important phrases would help to replace or supplement a projector.</p>
Student Materials	A writing utensil is recommended but not required.
Teacher Preparation for Class	<p>Read through this Lesson Plan and Appendix (a. Evaluating Sources Cheat Sheet, b. Questions to Ask When Evaluating Sources, and c. Questions to Ask - possible answers) to prepare to instruct and discuss the evaluative strategies. If using a computer lab it would be helpful to project the appendix or the sources of its information for the group to see.</p> <p>When using a computer lab, have the appendix available as a file for students to view on their devices. If students do not have computers in the learning setting, print enough copies of Appendix a. Evaluating Sources Cheat Sheet and b. Questions to Ask When Evaluating Sources for everyone in the group and hand them out at the beginning of the session.</p>

Student Preparation for Class	None is necessary; lesson may be more effective if student has a research topic or question ready.
Learner Needs Assessment	Library users frequently seek reference service and advice about how to tell if an information source is reputable, particularly on the internet regarding topics like Health and News. Users have demonstrated the need to improve their skills in evaluating information sources for credibility and relevance.
Relevant Literature	<p>This lesson does not require the students or instructor to visit any of these resources, they are for further reading.</p> <p><u>U.C. Berkeley Library's Libguide page for evaluating resources:</u> https://guides.lib.berkeley.edu/evaluating-resources</p> <p><u>Mike Caulfield's The Four Moves for better fact checking:</u> Caulfield, M. (2019, June 17). SIFT (The Four Moves). https://happgood.us/2019/06/19/sift-the-four-moves/</p> <p><u>The SMELL test by John McManus</u> - 2-page overview of SMELL by CUNY Library: https://library.cuny.cuny.edu/ld.php?content_id=55827551</p> <p>- 38-page chapter covering PIE and SMELL methods in detail: McManus, J. H. (2017). Chapter 8: The SMELL Test. In McManus, J. H., <i>Detecting bull: How to identify bias and junk journalism in print, broadcast and on the wild web</i>. Sunnyvale, CA: Unvarnished Press. https://ethics.journalism.wisc.edu/files/2020/07/3-The-Smell-Test-McManus.pdf</p> <p><u>Research by Wineburg and McGrew on the effectiveness of lateral searching:</u> Spector, C. (2017, October 24). <i>Stanford scholars observe "experts" to see how they evaluate the credibility of information online</i>. https://news.stanford.edu/press-releases/2017/10/24/fact-checkers-outline-information/</p>
Enduring Understandings	<ul style="list-style-type: none"> • The credibility of an information source can be evaluated using criteria that examine its authorship and motivations. • The legitimacy of a source can be compromised or manipulated by the presence of bias or misinformation. • Readers' interpretation of sources and information is also contextualized by their own biases and relationship to the content.

<p>Essential Questions</p>	<ul style="list-style-type: none"> • What factors make one source of information more trustworthy than another? • What standards can I use to determine if information is accurate? • How can I tell if I am being intentionally misled? 	
<p>Learning Outcomes to be Taught & Assessed The student will be able to... + ACTIVE VERB.</p>	<p>Mapped Standard/Outcome/Indicator What standards are associated with these outcomes?</p>	<p>Assessment of Outcomes, or Determination of Acceptable Evidence How will I know the students have learned? What am I looking for (criteria)? How well do students need to perform? How will I communicate these expectations to students?</p>
<p>1. The student will be able to distinguish between standard evaluative criteria and apply appropriate criteria to an information source to determine its quality and relevance.</p>	<p>ACRL Standards 3.4. The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information. Outcomes Include: a. Determines whether information satisfies the research or other information need</p>	<p>After Teaching Strategy 1, the student will have matched up appropriate evaluative criteria to the questions in the list of Questions to Ask. Answers may match those given in the appendix, or instructor and class can judge the correctness of each answer. Comprehension would be demonstrated with appropriate answers on 80% of the questions students attempted.</p> <p>Expectations can be communicated simply as the goal of unanimous agreement on reasonable responses to most of the questions.</p>
<p>2. The student will be able to detect misinformation and defend the credibility of a source by using relevant evaluative criteria and verifying claims externally.</p>	<p>ACRL Standards 1.2.d. Identifies the purpose and audience of potential resources (e.g., popular vs. scholarly, current vs. historical) b. Uses consciously selected criteria to determine whether the information contradicts or verifies information used from other sources c. Draws conclusions based upon information gathered g. Selects information that provides evidence for the topic</p>	<p>After Teaching Strategy 2, students will agree with the instructor about the credibility of the given resources in the exercise. They will be able to explain the rationale of their opinion using evaluative criteria discussed in the lesson.</p> <p>Instructor should communicate the expectation that a students share their own evaluative process with the group for discussion if they do not agree or understand the consensus opinion.</p>

<p>3. Students will be able to locate a variety of sources about a topic and discern which would be most useful in fulfilling their information need.</p>	<p>ACRL Standards 1. 2. The information literate student identifies a variety of types and formats of potential sources for information. 2.4 The information literate student refines the search strategy if necessary. Outcomes Include: a. Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized</p> <p><i>Information Literacy Competency Standards for Higher Education. (2000). Association of College & Research Libraries</i> https://alair.ala.org/handle/11213/7668</p>	<p>After Teaching Strategy 3 students will have identified 2-3 relevant sources for their chosen topic or question. The instructor should be able to recognize the appropriateness of each source a student selects.</p> <p>As discernment of online sources is a sophisticated information literacy skill, students may still select sources whose credibility is questionable much of the time. If the instructor finds one of the sources the student selected to not be credible, the student can be redirected and the reasons for doubt communicated; if both/all of the sources selected are not credible, the student may not have gained comprehension.</p>
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Introduction	Time: 10 min
<p>Welcome!</p> <p>Let's begin by asking the group a couple questions:</p> <p>1. Where do you go for trusted information and news? (websites, other media, personal references, other?), and 2. How do you know that you can trust the information you get from them?</p> <p>(Students may answer very briefly. Instructor can pre-assess students' current levels of knowledge about information literacy and evaluating sources.)</p> <p>By the end of this lesson you'll know many helpful questions you can ask about an information source to judge its credibility, and you'll recognize the specific criteria that we can evaluate about a source by answering those questions.</p> <p>So what do we want to learn today? We want to find out:</p> <ul style="list-style-type: none"> • What are some ways to tell if an information source is credible? • What factors make one source of information more trustworthy than another? • What standards can you use to determine if information is accurate? • How can you tell if you are being intentionally misled? <p>First, take a look at the file named Questions to Ask When Evaluating Sources. This is a list of over 50 specific questions that can help you investigate the trustworthiness of information in a source as well as its relevance to your needs. We will answer many of these questions together</p>	

about various sources throughout the rest of this session, so keep it handy. You also have the Evaluating Sources Cheat Sheet, which is what we'll be going over before we do some activities.

(Instructor can digitally project the files or refer to printed copies. Alternately the instructor and/or students can pull up the list of questions directly from U.C. Berkeley Library's webpage on evaluating resources: <https://guides.lib.berkeley.edu/evaluating-resources>.

Instructor can also write key concepts on a whiteboard if appropriate.)

(students can follow along on the Evaluating Sources Cheat Sheet)

Now I want to go over some important factors about information sources – especially ones you find online. **Remember that the credibility of a source can be compromised or manipulated by the presence of bias or misinformation.** Here are some things to think about:

- **Be deliberate in where you look for sources.** There are countless places to search, from different internet browsers, to academic databases, or looking at printed or primary sources. Ask yourself, where is the best place to find this information, and why? Where do the experts go? Do I need to access or learn to use resources that are new to me?
- **Be critical of the language used.** Look for words that mark a subjective opinion like “good” or “better”, and superlatives like “never” or “almost always”. Articles that propose a point of view should be explicit that the information presented is opinion rather than fact. They should be transparent about the intent of the information and all of the people responsible for its production (sponsors, publishers, etc.). In scholarly articles, look for disclaimers about limitations and conflict of interest.
- **Don't mistake STYLE for CONTENT.** Information that is intended to persuade or manipulate its audience with misinformation and disinformation is often formatted in a way that makes it appear attractive and/or legitimate. One way you can test the content of a website is to copy the words onto an empty document and remove all of the formatting. Then read it and ask, does all of this still sound sensible?
- **Think critically about a source's own claims of credibility.** Just because a website or author or publisher claims to be ‘trusted’ or ‘fact-based’, that doesn't automatically make the claim true (although it might be). Be very wary of articles online whose author does not provide links to the original context of the information presented. Since real facts can be verified independently through many different sources, don't trust anything that portrays itself as the *only* source for truth. Search laterally to investigate claims (we'll cover this more in a moment).

- **Examine the information's value in context of the need.** The criteria used to evaluate may be different depending on the question and audience. There may be times when the answers you're looking for aren't necessarily verifiable facts.

Can anyone think of an example of when a popular source like a magazine, a blog or a social media post may be more valuable to the topic than a scholarly source?

(ex. when looking for people's anecdotal opinions about a topic, when an 'authoritative' source is not needed or when there may be many different answers to a question)

Next, let's go over some tools and strategies that will help you evaluate sources more confidently. The first concept I want to talk about is called **lateral searching**.

Searching laterally rather than vertically means to verify claims and sources you read by seeking out as much information externally as you can find, on other websites, other articles, opposing perspectives, etc. Researchers at Stanford University found in 2017 that students who used lateral searching as a strategy to assess the reliability of sources were better at identifying bias and misinformation than those who did not. ([Wineburg and McGrew, in an article by Carrie Spector](#))

One method for lateral searching within a source is called **The Four Moves – SIFT**: 1) **Stop**, 2) **Investigate** the source by searching elsewhere, 3) **Find** external coverage of the topic or claim from a reliable source, and 4) **Trace** media (photos, quotes) and claims back to their original context and author. The Four Moves is an approach for *how* to judge a source.

(Check in with group for understanding, answer any questions)

For guidance on *what* to judge about a source, we can turn to two simple acronyms: **PIE** and **SMELL**. These are criteria we can use to think critically about a source's authorship and motivations, and to uncover hidden commercial or ideological bias. They can help us answer important, broader questions about our research like, *Why should I listen to this source? What aren't they telling me? Who else would agree or disagree, and why?*

(Using the appendix handout or other resources given in this lesson plan, go through each of the listed criteria briefly.)

P – Proximity

I – Independence

E – Expertise

S – Source

M – Motivation

E – Evidence

L – Logic

L – Left out

(Check in with group for understanding, answer any questions)

Lastly, another layer of evaluation is personal and emotional, and not always conscious. As responsible consumers and producers of information, **we always need to examine our own biases and relationship to the source** and its content that may be influencing the ways we interpret it. Observe your own thoughts and search habits while you're verifying information, and be sure to document where a factual claim or opinion comes from.

When you assume or reason something to be true, always **investigate your own feelings and ask challenging questions of yourself**:

- How do I know that?
- Does this information logically support my argument?
- What am I avoiding? Where do I not want to look?
- Are there parts of this I am identifying with?

Now let's test our knowledge with a few activities.

Teaching Strategy 1	<p>Use the appendix of this lesson plan for a handout on SIFT, PIE, and SMELL, and an activity worksheet.</p> <p>In either pairs or as a group, take about 5-7 minutes to provide as many answers to the worksheet questions as possible, indicating which PIE or SMELL evaluative criteria (<i>ex. "Source"/"S"; "Proximity"/"P"</i>) are addressed by each question for investigating an information source.</p> <p>If working in pairs with handouts, have one partner record their answers; if working as a group, the instructor should access the appendix worksheet (or the list of criteria-addressing questions directly at https://guides.lib.berkeley.edu/evaluating-resources) and project it so everyone can read along. Alternately the instructor can read out the questions for group to answer aloud.</p> <p>Spend the last 5-7 or minutes together discussing answers and students' thought process. Was there anything about the questions or activity that stuck out, or felt especially challenging? Why?</p>	Time: 10 - 15 min
Learning Styles addressed by Strategy 1	Traditional: Bodily-kinesthetic (writing), Visual and Auditory (handout that can be read aloud) Kolb's ways of learning: Diverging – concrete experience/reflective observation	

	Gardner's Multiple Intelligences: interpersonal, intrapersonal, linguistic, book kinesthetic	
Comprehension Check	Instructor can use possible-answer key provided in the appendix as a guideline and use their own judgment to confirm that students understand the meaning and application of each of the evaluative criteria. Students should consistently agree on the majority of answers. If students are confused or have questions, resolve them completely before moving on.	Time -
Transition	Now that we have a complete understanding of these two sets of criteria that can be used to evaluate sources, let's apply them to some real-world examples. We are going to split up and ask these same questions to judge which of these sources is the most trustworthy.	Time: 2 min
Teaching Strategy 2	<p>Evaluate a set of given sources in teams and as a group. Split into as many teams as you provide sources – for example, have students divide into 3 teams and have each team evaluate one of three websites:</p> <p>https://www.medicalnewstoday.com/ https://www.medpagetoday.com/ http://medicine.news/index.html#</p> <p>(Students can work on computers if in a lab; if not, then website content would need to be printed out or another comparable set of sources given to evaluate.)</p> <p>Teams should spend about 10 minutes applying the PIE and SMELL criteria (can use the questions in the appendix/handout as a guide) to find information about the site and make conclusions about its credibility based on their findings.</p> <p>Groups should also search laterally (online or using whatever resources available) with the SIFT Moves to investigate the credibility of the source and attempt to verify one or more claims made on the page or its articles.</p> <p>In the last 5 minutes, reconvene and share results from all teams. Then as a group, rank the sources from most to least credible and have a couple students justify the ranking using some evaluative criteria.</p>	Time: 15 min
Learning Styles addressed by Strategy 2	Traditional: Visual and Auditory (seeing and hearing groupmates, viewing sources) Kolb's ways of learning: Accommodating – concrete experience/active experimentation	

	Gardner's Multiple Intelligences – interpersonal, linguistic, , spatial	
Comprehension Check	<p>For the websites given in this lesson plan, students would discern that https://www.medicalnewstoday.com/ is a generally trusted and credible source with wide scope. While judging the site, students might (for example) refer to their favorable rating on MediaBiasFactCheck.com or verify their reputation through info on its Wikipedia page.</p> <p>https://www.medpagetoday.com/ can be argued as more or less credible based on the specific information or article. Students should question the motivations of the site's authors due to its opinionated language as well as biased tone and political content outside the scope of medicine. Instructor/group might consult and discuss the points raised in this editorial article on HealthNewsReview.org (and perhaps investigate the article's own authors' Independence, Motivation, and Expertise).</p> <p>http://medicine.news/index.html# should be clearly identified as not credible. When evaluating, students might reference the site's creators and publishers not being fully transparent, authors not verifiable as subject experts, and articles sourcing claims internally from other places on the website or partner sites. Many external websites concur regarding the specious nature of this site, and MediaBiasFactCheck.com rates this group of .news properties as Conspiracy-Pseudoscience.</p> <p>Students should have correctly identified and analyzed various aspects of the information source using content within it as well as external sources if available. Students and instructor should unanimously agree on the final ranking of sources. Resolve any confusion before moving forward with the lesson.</p>	Time -
Transition	<p>Notice that the formatting of these websites is somewhat similar. If a website does not function properly and looks fake, there's a good chance it is. However, authors of sources which are intended to mislead or dishonestly persuade audiences are often very skilled at making the source appear legitimate.</p> <p>Similarly we can't necessarily trust a source just because it touts itself as trustworthy; remember that authors trying to misinform the audience will make the same claim. That's why we can't take it for granted and need to investigate sources as deeply as is appropriate for the task and timeframe to uncover hidden bias and help ensure we aren't getting fooled. For the last part of this session you will</p>	Time: 2 min

	<p>explore topics of your choice individually using everything we've learned so far.</p>	
<p>Teaching Strategy 3</p>	<p>Students should choose their own topic or research question and find 2-3 sources to quickly evaluate, deciding which among them would provide the best information for their need. If there are computers or laptops in the learning setting, students can do this research online and email articles and sources to themselves.</p> <p>If students have no access to computers or other internet-enabled device, it is assumed they have other print sources to select from in the library or academic setting of the lesson. From the sources available, students should find 1 credible and appropriate source for their topic.</p> <p>Students can use the lesson plan appendix/handout or the list of questions from https://guides.lib.berkeley.edu/evaluating-resources as a guide to apply SIFT, PIE, and SMELL tests.</p> <p>Students should also be reflecting on their own research process be mindful to observe any internal biases or assumptions that come up while they are performing their search and evaluating sources. The student should ask themselves questions such as, 'What is my relationship with this source? What are the factors that could be influencing how much I personally value and trust this information? Is there anywhere I am avoiding looking, or any answers I subconsciously don't want to find?', etc.</p> <p>Instructor can rove through the group and help students when necessary.</p> <p>Group can reconvene and a few students can briefly share their research experiences before transitioning into the Closing/Wrap-up parts of the session.</p>	<p>Time: 10 - 15 min</p>
<p>Learning Styles addressed by Strategy 3</p>	<p>Traditional: Bodily-kinesthetic (writing, searching, using computer), Visual (computer and handout) Kolb's ways of learning: Converging – abstract conceptualization/active experimentation; Accommodating – concrete experience/active experimentation Gardner's Multiple Intelligences –intrapersonal, linguistic, logical/mathematical, spatial, book kinesthetic</p>	

<p>Comprehension Check</p>	<p>Instructor should be able to ascertain that students can independently evaluate sources using the criteria taught in the lesson. Students who fail to identify clearly biased or unreliable information should be redirected to proper sources and followed up with. Students should be able to identify their own biases and gaps in their knowledge or evaluative ability if asked to share.</p>	<p>Time -</p>
<p>Closing</p>	<p>Keep in mind that properly evaluating an information source also involves examining your own biases and being aware of what factors about a source you typically privilege over others or don't always consider that may affect your judgment of it.</p> <p>As a final exercise, I would ask the question, what makes you believe the information I provided you in this session? Some of the content for this session that was taken from a U.C. Berkeley's Libguides page is arguably credible because it is published by a reputable academic institution. But be sure to also question traditional frames of authority and authorship and consider who does or doesn't recognize a source's credibility. How is information structured? Who has the power to create knowledge?</p> <p>What are some ways you could verify the credibility of the resources I showed you today or of me as an information professional? (Answers may include):</p> <ul style="list-style-type: none"> • Searching laterally to verify claims and my/authors' credentials in multiple, diverse additional sources • evaluating expertise of authors who created the evaluative methods discussed • analyzing the complex process that led to the information's creation and the source's publication, as well as the researcher's relationship and proximity to the info presented that might affect their evaluation. <p>Additional resources to share with the class if desired: The Four Moves' creator Michael A. Caulfield has published a 3-hour, self-paced, free online course to develop skills in verifying online sources: https://www.notion.so/Check-Please-Starter-Course-ae34d043575e42828dc2964437ea4eed</p>	<p>Time 5 min</p>

	<p>as well as an ebook to help students improve their skills at the link below: Caulfield, M. (2017). <i>Web Literacy for Student Fact-Checkers</i>. Self-published. https://webliteracy.pressbooks.com/front-matter/web-strategies-for-student-fact-checkers/</p> <p>The chapter of John McManus' book that explains how to apply PIE and SMELL is hosted at this site: https://ethics.journalism.wisc.edu/files/2020/07/3-The-Smell-Test-McManus.pdf (38pp.)</p> <p>Regarding verifying health information online, the National Institutes of Health has a handy list of questions to help users evaluate content and claims related to health and medicine on the internet: https://ods.od.nih.gov/HealthInformation/How_To_Evaluate_Health_Information_on_the_Internet_Questions_and_Answers.aspx</p> <p>You now have a few more expert tools in your kit to be increase their information literacy skills. Remember that asking the right questions always leads to a fuller understanding of a topic or source.</p>	
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<p>Accommodations for Special Circumstances</p>	<p>This lesson attempts to incorporate auditory and visual information so that content may remain accessible for people with impairments in either area.</p>
<p>Assessment Results, or What Evidence Demonstrates Students Did/Didn't Learn?</p>	<p>Evidence of student learning may include a completed appendix worksheet with answers that generally match up with the answer key and instructor's expectations. If tested, students should be able to recall what each letter of the acronyms SIFT, PIE, and SMELL stand for, be able to reasonably define each and explain why using these criteria would improve a person's ability to identify bias and misinformation. Students and instructor should broadly agree on the level of trustworthiness of any source used as an example for assessment.</p>
<p>Wrap Up</p>	<p>You may leave the handouts here or bring them with you to use for future source evaluation.</p>

	<p>Please feel free to contact me (or the library/school) any time you would like more help or would like to follow up to meet one-on-one about your research.</p> <p>Thank you for attending this session!</p>
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Appendix a. Evaluating Sources Cheat Sheet

Remember that the credibility of a source can be compromised or manipulated by the presence of bias or misinformation. Here are some things to think about:

- **Be deliberate in where you look for sources.** There are countless places to search, from different internet browsers, to academic databases, or looking at printed or primary sources. Ask yourself, where is the best place to find this information, and why? Where do the experts go? Do I need to access or learn to use resources that are new to me?
- **Be critical of the language used.** Look for words that mark a subjective opinion like “good” or “better”, and superlatives like “never” or “almost always”. Articles that propose a point of view should be explicit that the information presented is opinion rather than fact. They should be transparent about the intent of the information and all of the people responsible for its production (sponsors, publishers, etc.). In scholarly articles look for disclaimers about limitations and conflict of interest.
- **Don't mistake STYLE for CONTENT.** Information that is intended to persuade or manipulate its audience with misinformation and disinformation is often formatted in a way that makes it appear attractive and/or legitimate. One way you can test the content of a website is to copy the words onto an empty document and remove all of the formatting. Then read it and ask, does all of this still sound sensible?
- **Think critically about a source's own claims of credibility.** Just because a website or author or publisher claims to be ‘trusted’ or ‘fact-based’, that doesn't automatically make the claim true (although it might be). Be very wary of articles online whose author does not provide links to the original context of the information presented. Since real facts can be verified independently through many different sources, don't trust anything that portrays itself as the *only* source for truth. Search laterally to investigate claims.
- **Examine the information's value in context of the need.** The criteria used to evaluate may be different depending on the question and audience. There may be times when the answers you're looking for aren't necessarily verifiable facts.

Evaluating Sources

How to judge – **search laterally** using **The Four Moves: SIFT**

What to judge – Information in and about the source (its **content and its context**) using **PIE** and **SMELL**

The Four Moves: SIFT

S – Stop

I – Investigate source externally

F – Find trusted coverage

T – Trace media and claims back to their original context

Evaluative Criteria: PIE (low, medium, high)

P – Proximity

- How close was the author to the event or information provided? Is it firsthand?
- How close are the other witnesses or sources quoted?

I – Independence

- What is the author's conflict of interest or level of self-interest in telling this story? What might they stand to gain or lose?

E – Expertise

- What prolonged experience does the author have in the subject field they are covering?
- Does their knowledge about the topic lend confidence to their report?

Evaluative Criteria: SMELL

S – Source

- Who is providing the information? Are all creative and production sources clear?
- Can you verify the credentials of the authors, publishers, donors, associated institutions, etc.?

M – Motivation

- Is the tone of the content persuasive or purely informative?
- Do they use hyperbolic language?
- Is their viewpoint, biases, and intent clear?
- Are they promoting a product or policy?

E – Evidence

- What independently verifiable evidence do they provide for generalizations made?
- Are their conclusions transparent?

L – Logic

- Does the evidence presented support the author's conclusions?
- Do their claims make sense both internally, within the content, and externally, in context of everything else I know?
- Watch for internal logic failures:
 - anecdotes presented as proof
 - flawed comparisons
 - binary thinking

L – Left out

- Whose voices or what information is missing?
- Is the author omitting or marginalizing the viewpoint of any other groups?
- How are others from alternate sources responding to the information, especially those whose perspectives differ by race, gender, class, generation, etc.?
- How might knowing their perspective change our interpretation of the info?

Adapted from material in these references:

Caulfield, M. (2019, June 17). SIFT (The Four Moves). Retrieved November 30, 2020, from <https://hapgood.us/2019/06/19/sift-the-four-moves/>

McManus, J. H. (2017). Chapter 8: The SMELL Test. In McManus, J. H., *Detecting bull: How to identify bias and junk journalism in print, broadcast and on the wild web*. Sunnyvale, CA: Unvarnished Press. <https://ethics.journalism.wisc.edu/files/2020/07/3-The-Smell-Test-McManus.pdf>

Appendix b. Questions to Ask When Evaluating Sources

Criteria: Proximity Independence Expertise Source Motivation Evidence Logic Left out

Activity: Identify 1-2 evaluative criteria addressed by each question

.Source Info category:	Authority
<i>Ex. "Source" or "S"</i>	Who is the author?
	What else has the author written?
	In which communities and contexts does the author have expertise?
	Does the author represent a particular set of world views?
	Do they represent specific gender, sexual, racial, political, social and/or cultural orientations?
	Do they privilege some sources of authority over others?
	Do they have a formal role in a particular institution (e.g. a professor at Oxford)?
Source Info category:	Purpose
	Why was this source created?
	Does it have an economic value for the author or publisher?
	Is it an educational resource? Persuasive?
	What (research) questions does it attempt to answer?
	Does it strive to be objective?
	Does it fill any other personal, professional, or societal needs?
	Who is the intended audience?
	Is it for scholars?
	Is it for a general audience?
Source Info category:	Publication & format
	Where was it published?
	Was it published in a scholarly publication, such as an academic journal?
	Who was the publisher? Was it a university press?
	Was it formally peer-reviewed?
	Does the publication have a particular editorial position?
	Is it generally thought to be a conservative or progressive outlet?
	Is the publication sponsored by any other companies or organizations? Do the sponsors have particular biases?
	Were there any apparent barriers to publication?
	Was it self-published?
	Were there outside editors or reviewers?
	Where, geographically, was it originally published, and in what language?
	In what medium?
	Was it published online or in print? Both?
	Is it a blog post? A YouTube video? A TV episode? An article from a print magazine?

	What does the medium tell you about the intended audience?
	What does the medium tell you about the purpose of the piece?
Source Info category:	Relevance
	How is it relevant to your research?
	Does it analyze the primary sources that you're researching?
	Does it cover the authors or individuals that you're researching, but different primary texts?
	Can you apply the authors' frameworks of analysis to your own research?
	What is the scope of coverage?
	Is it a general overview or an in-depth analysis?
	Does the scope match your own information needs?
	Is the time period and geographic region relevant to your research?
Source Info category:	Date of Publication
	When was the source first published?
	What version or edition of the source are you consulting?
	Are there differences in editions, such as new introductions or footnotes?
	If the publication is online, when was it last updated?
	What has changed in your field of study since the publication date?
	Are there any published reviews, responses or rebuttals?
Source Info category:	Documentation
	Did they cite their sources?
	If not, do you have any other means to verify the reliability of their claims?
	Who do they cite?
	Is the author affiliated with any of the authors they're citing?
	Are the cited authors part of a particular academic movement or school of thought?
	Look closely at the quotations and paraphrases from other sources:
	Did they appropriately represent the context of their cited sources?
	Did they ignore any important elements from their cited sources?
	Are they cherry-picking facts to support their own arguments?
	Did they appropriately cite ideas that were not their own?

Worksheet adapted from the list of questions found at:

Evaluating resources: Home. (2020). University of California, Berkeley Libraries. Retrieved November 30, 2020, from <https://guides.lib.berkeley.edu/evaluating-resources>

Appendix c. Questions to Ask (possible answers)

Criteria: **Proximity Independence Expertise** **Source Motivation Evidence Logic Left out**

Criteria addressed by each question: **possible answers**

Source Info category:	Authority
Source	Who is the author?
Proximity, Expertise	What else has the author written?
Independence, Expertise	In which communities and contexts does the author have expertise?
Independence, Motivation	Does the author represent a particular set of world views?
Source, Left out	Do they represent specific gender, sexual, racial, political, social and/or cultural orientations?
Motivation, Logic	Do they privilege some sources of authority over others?
Source, Expertise	Do they have a formal role in a particular institution (e.g. a professor at Oxford)?
Source Info category:	Purpose
Independence, Motivation	Why was this source created?
Source, Motivation	Does it have an economic value for the author or publisher?
Motivation, Evidence	Is it an educational resource? Persuasive?
Evidence, Logic	What (research) questions does it attempt to answer?
Independence, Logic	Does it strive to be objective?
Motivation, Left out	Does it fill any other personal, professional, or societal needs?
Motivation, Left out	Who is the intended audience?
Expertise, Left out	Is it for scholars?
Expertise, Left out	Is it for a general audience?
Source Info category:	Publication & format
Proximity, Source	Where was it published?
Expertise, Evidence	Was it published in a scholarly publication, such as an academic journal?
Motivation, Source	Who was the publisher? Was it a university press?
Motivation, Evidence	Was it formally peer-reviewed?
Independence, Motivation	Does the publication have a particular editorial position?
Independence, Logic	Is it generally thought to be a conservative or progressive outlet?
Source, Left out	Is the publication sponsored by any other companies or organizations? Do the sponsors have particular biases?
Left out	Were there any apparent barriers to publication?
Independence, Expertise	Was it self-published?
Source, Independence	Were there outside editors or reviewers?
Proximity, Logic, Left out	Where, geographically, was it originally published, and in what language?
Evidence, Left out	In what medium?
Source, Evidence, Left out	Was it published online or in print? Both?
Source, Expertise, Evidence	Is it a blog post? A YouTube video? A TV episode? An article from a print magazine?
Motivation, Left out	What does the medium tell you about the intended audience?

Motivation, Independence	What does the medium tell you about the purpose of the piece?
Source Info category:	Relevance
Expertise, Evidence, Logic	How is it relevant to your research?
Evidence, Logic	Does it analyze the primary sources that you're researching?
Proximity, Evidence	Does it cover the authors or individuals that you're researching, but different primary texts?
Independence, Expertise	Can you apply the authors' frameworks of analysis to your own research?
Expertise, Evidence, Logic	What is the scope of coverage?
Motivation, Evidence	Is it a general overview or an in-depth analysis?
Motivation, Logic	Does the scope match your own information needs?
Evidence, Logic	Is the time period and geographic region relevant to your research?
Source Info category:	Date of Publication
Proximity, Source	When was the source first published?
Expertise, Source	What version or edition of the source are you consulting?
Evidence, Logic	Are there differences in editions, such as new introductions or footnotes?
Source, Logic	If the publication is online, when was it last updated?
Source, Expertise	What has changed in your field of study since the publication date?
Evidence, Logic, Left out	Are there any published reviews, responses or rebuttals?
Source Info category:	Documentation
Source, Evidence	Did they cite their sources?
Proximity, Source, Evidence	If not, do you have any other means to verify the reliability of their claims?
Source, Left out	Who do they cite?
Independence, Motivation	Is the author affiliated with any of the authors they're citing?
Proximity, Independence, Logic	Are the cited authors part of a particular academic movement or school of thought?
Motivation, Logic, Left out	Look closely at the quotations and paraphrases from other sources:
Evidence, Logic	Did they appropriately represent the context of their cited sources?
Motivation, Logic, Left out	Did they ignore any important elements from their cited sources?
Independence, Motivation	Are they cherry-picking facts to support their own arguments?
Source, Evidence	Did they appropriately cite ideas that were not their own?

Worksheet adapted from the list of questions found at:

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