

The Insiders: Information Literacy for Okies Everywhere

THE INSIDERS: INFORMATION LITERACY FOR OKIES EVERYWHERE

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CONTENTS

Title Page	xiii
A Note for Instructors	xvi
Read Online or Download This Book	xix

[Part I. Introduction: What is Information Literacy?](#)

1. College Research and Information Literacy	3
2. What This Book Will Cover	9

[Part II. Disinformation](#)

3. Information Disorder, Truth, and Trust	15
4. Web Evaluation Skills: A “Bleak” Track Record	22
5. Information Cynicism	28

6. College Students and Cynicism	32
7. Degree of Bias	37
8. Avoiding Confirmation Bias in Searches	45
9. Information Hygiene and Info- Environmentalism	53
10. Conclusion	59

[Part III. Fact-Checking](#)

11. Why Fact-Checking?	63
12. Four Moves	66
13. When Emotional Content Goes Viral	70
14. Tracking the Source of Viral Content	76
15. Fact-Checking Images and Memes	84
16. Fact-checking Sites	90
17. Has it Already Been Fact-Checked?	93
18. Conclusion	99

Part IV. Types of Information Sources

19. <u>Chapter Scenario</u>	103
20. <u>Information Sources: Primary, Secondary, Tertiary</u>	104
21. <u>How They Fit Together: The Information Cycle</u>	110
22. <u>Critical Thinking: Source Types</u>	114
23. <u>Information Sources: Traditional Formats</u>	116
24. <u>Information Sources: Media</u>	124
25. <u>Information Sources: Online</u>	127
26. <u>Critical Thinking: Choosing Resources</u>	131
27. <u>Information Sources: Bias</u>	133
28. <u>Critical Thinking: Bias</u>	137
29. <u>Conclusion</u>	138

Part V. Getting Your Research Started

30. <u>Choosing a Topic</u>	141
31. <u>Background Reading</u>	148

32. Conclusion	151
--------------------------------	-----

[Part VI. Search Strategies](#)

33. Research Questions	157
34. Identifying the Main Concepts	162
35. Avoiding Confirmation Bias	165
36. Brainstorming Related Terms	170
37. Creating a Search Statement	173
38. Conclusion	182

[Part VII. Finding Materials in the Library](#)

39. Chapter Scenario	185
40. Using Your College Library's Search Tool for Books and eBooks	186
41. Critical Thinking	190
42. Finding Your Books	192
43. Filters and Advanced Search Options	195
44. Practice	197

45. How Libraries Organize Materials	199
46. Dewey Decimal Classification (DDC)	201
47. Critical Thinking	206
48. Library of Congress Classification (LCC)	208
49. Critical Thinking	213
50. Conclusion	215

[Part VIII. Using Library Databases](#)

51. Chapter Scenario	219
52. Library Databases: What's Inside Them?	221
53. Critical Thinking	226
54. Choosing a Library Database	227
55. Critical Thinking	230
56. Specialized Library Databases: Videos, Ebooks, and More!	231
57. Scholarly Articles, Magazine Articles, and Newspaper Articles	235
58. You Found Some Resources! Now What?	240
59. Preparing to Use a Database: What Do You Need to Find?	243
60. Full Text? HTML, PDF, and EPUB	248

61. Critical Thinking	253
62. Conclusion	254

[Part IX. Searching the Web: Strategies and Considerations](#)

63. Chapter Scenario	259
64. A Very Brief History of the Internet	260
65. Critical Thinking	265
66. Search Engines and Tools	266
67. Comparing Search Tools	267
68. Practice	270
69. Academic Search Tools	273
70. Open Access	276
71. Critical Thinking	280
72. Searching and Privacy	281
73. Controlling Your Search	285
74. Practice	289
75. Citing: Websites, Web pages, Files, Articles	291
76. Conclusion	294

Part X. Ethical and Legal Use of Information

77. <u>Contributing to the Conversation</u>	299
78. <u>Why We Cite Sources</u>	302
79. <u>Plagiarism and Academic Integrity</u>	307
80. <u>Conclusion</u>	315

Part XI. Citing Sources

81. <u>Citation Styles</u>	319
82. <u>When to Cite Sources</u>	322
83. <u>MLA Style</u>	327
84. <u>APA Style</u>	337
85. <u>Citation Steps for Any Style</u>	344
86. <u>Citation Generators</u>	347
87. <u>Conclusion</u>	353

<u>Glossary</u>	355
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TITLE PAGE

The Insiders: Information Literacy for Okies Everywhere

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PART I

INTRODUCTION: WHAT IS INFORMATION LITERACY?

Learning Objectives

By the end of this chapter, you will be able to:

1. Define information literacy

1.

COLLEGE RESEARCH AND INFORMATION LITERACY



Why This Book?

The key to successful college research is to develop your information literacy skills as early as possible. These skills will prepare you to find and use information for your coursework, in the workplace and your personal life. Having strong information literacy skills will make you a more thoughtful and effective consumer and creator of information, and will increase your awareness of and resilience toward the

psychological, physiological, and sociological effects of living in a society overloaded with information.

“Recent events underscore the threat that digital illiteracy poses to public health and democracy” (Breakstone et al.).

What is Information Literacy?

Some of the skills and abilities that fall under the umbrella of information literacy include:

- research skills
- critical thinking
- media literacy
- digital literacy
- news literacy
- algorithmic literacy
- ethical reasoning
- civic engagement



Information literacy acknowledges that students are not just **passive consumers** of knowledge, but that they are **active creators** and participants in the information environment. It

is a set of skills that aims to help students navigate this landscape, “not just for college courses but **beyond**—in the workplace, in their personal lives, as lifelong learners, and as news consumers, creators, and voters” (Head et al. 12; emphasis added).

This idea is also sometimes referred to as “information competency,” which is an equivalent term.

“Information literacy is an integrated set of skills, knowledge, practices, and dispositions that prepares students to discover, interpret, and create information ethically while gaining a critical understanding of how information systems interact to produce and circulate news, information, and knowledge” (Head et al. 8).

National & International Perspectives

In the U.S., the Obama administration highlighted the importance of information literacy in its 2009 “Presidential Proclamation on National Information Literacy Awareness Month,” which stated that:

Over the past decade, we have seen a crisis of authenticity

emerge. We now live in a world where anyone can publish an opinion or perspective, whether true or not, and have that opinion amplified within the information marketplace. At the same time, Americans have unprecedented access to the diverse and independent sources of information, as well as institutions such as libraries and universities, that can help separate truth from fiction and signal from noise....The ability to seek, find, and decipher information can be applied to countless life decisions, whether financial, medical, educational, or technical.

Internationally, the Alexandria Proclamation of 2005 connected the concept to human rights issues:

Information Literacy lies at the core of lifelong learning. It empowers people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals. It is a basic human right in a digital world and promotes social inclusion in all nations.



“Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning” (“Framework for Information Literacy for Higher Education”).

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2.

WHAT THIS BOOK WILL COVER



Overview

This book acknowledges the changing information landscape, covering key concepts in information literacy to support a research process with intention. We start by critically examining the online environment many of us already engage with every day, looking at information disorder and cynicism, information hygiene, bias, and fact-checking. We then move into an exploration of information source types, meaningful research topics, keyword choices, effective search strategies, library resources, Web search considerations, the ethical use of information, and citation.

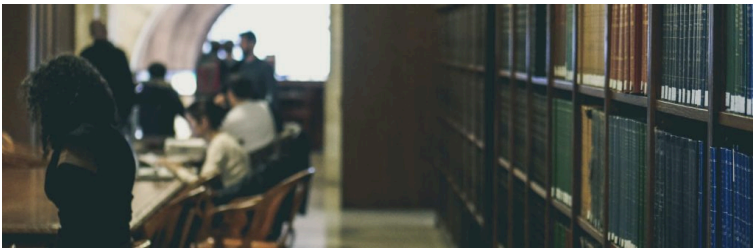
Key Questions

Throughout the book, we will explore a number of critical and timely questions, including:

- Are Google search results really an unbiased presentation of the best available information on a research question?
- In a world of misinformation and disinformation, how do we determine truth? How do we know which sources of information to trust?
- When we find a source of information, how can we verify that it is a reliable and effective piece of evidence for our research?
- Why might it be valuable to include different information types and formats in our research? How do we recognize when a resource has bias? Whose voices are included in our research, and whose are left out?
- Why is choosing a topic such a challenging part of the research process? What are some strategies for developing a meaningful research topic?
- How do we break a research topic into an effective combination of keywords and phrases for searching? How can we avoid confirmation bias when choosing our keywords?
- How do we search and find information through our college library? How are the materials organized in the

library?

- What are library “databases” and how are they different from Google? What kinds of information can be found in these databases, and what are the advantages of using them?
- How has Web search become embedded in our daily lives, and what conveniences and concerns does this present? How can we conduct academic research effectively on the Web?
- When we engage in the scholarly conversation through research, how can we respect intellectual property and academic integrity by using sources ethically?
- How can we give credit to the work of others by citing our sources in MLA, APA, or another style?



Sources

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PART II

DISINFORMATION

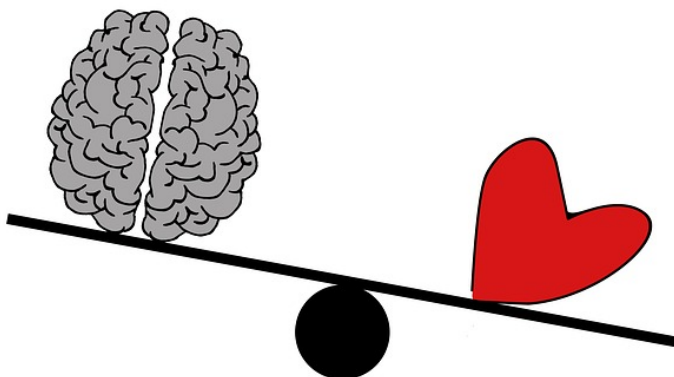
Learning Objectives

By the end of this chapter, you will be able to:

1. Identify the psychological, physiological, and sociological effects of disinformation
2. Recognize bias and methods to avoid bias as a consumer and producer of information
3. Describe information hygiene and info-environmentalism

3.

INFORMATION DISORDER, TRUTH, AND TRUST



“We tend to think that we have rational relationships to information, but we don’t. **We have emotional relationships to information**, which is why the most effective disinformation draws on our underlying fears and worldviews....We’re less likely

to be critical of information that reinforces our worldview or taps into our deep-seated emotional responses” (Wardle, qtd. in Vongkiatkajorn; emphasis added).

Background

In an information environment shaped by algorithms, the attention economy, engagement, and polarization, how do we determine truth? How do we know which sources of information to trust? These questions are becoming increasingly difficult to answer, and even more so as “disinformation that is designed to provoke an emotional reaction can flourish in these spaces” (Wardle).

Indeed, in 2016, Oxford Dictionaries selected post-truth as the Word of the Year, defining this as: “relating to or denoting circumstances in which objective facts are less influential in shaping



public opinion than appeals to emotion and personal belief.”

To learn more about how this emotional appeal causes unconscious defensiveness when an opinion gets challenged (called the backfire effect), check out the Oatmeal's [You're Not Going to Believe What I'm About to Tell You](#).

Trust

A 2020 study from Project Information Literacy confirms that the way information is delivered today—with opinion and propaganda mingled with traditional news sources, and with algorithms highlighting sources based on engagement rather than quality—has left many college students concerned about the trustworthiness of online content. Students reported that it was difficult to know where to place their trust when credible sources are buried by a deluge of poorer-quality content and misinformation. One student noted that “it’s not that we’re lacking credible information. It’s that we’re drowning in, like, a sea of all these different points out there” (Head, et al. 20).

“This is happening at a time when falsehoods proliferate and trust in truth-seeking institutions is being undermined. Even the very existence of truth itself has come into question....People no longer

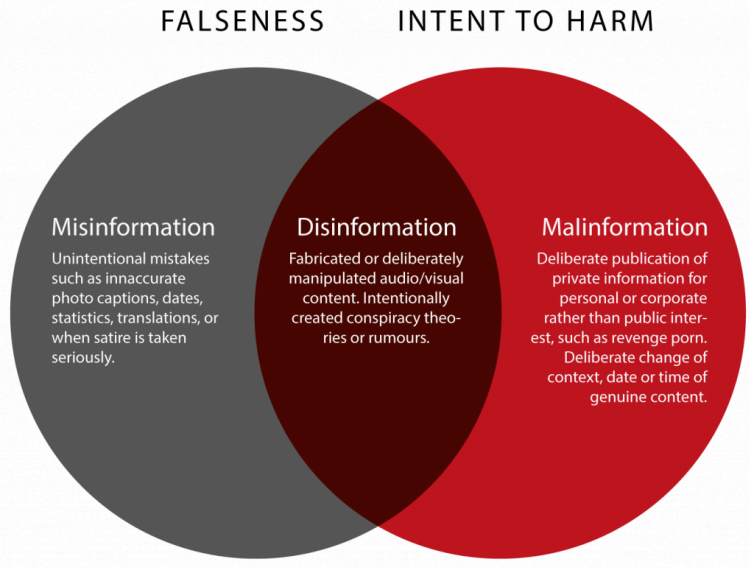
know what to believe or on what grounds we can determine what is true” (Head, et al. 11, 36).

Essential Definitions

First, it is important to establish a shared vocabulary and terminology so that we can better understand and discuss these concepts. Claire Wardle, a world-renowned expert in the areas social media, user generated content, and verification, has used “information disorder” as an umbrella term for the various types of false, misleading, manipulated, or deceptive information we have seen flourish in recent years. She also created an [essential glossary for information disorder](#), with definitions for related words and phrases. For example, you will find helpful definitions for terms like **algorithm**, **bots**, **data mining**, **deepfakes**, **doxing**, **sock puppet**, and **trolling**.

The graphic below illustrates the scale and range of intent behind false information, from unintentionally inaccurate to deliberately deceptive and harmful. For a much more detailed explanation of each form of information disorder, from “satire” to “fabricated content” to “false context,” see [First Draft’s Essential Guide to Understanding Information Disorder](#).

TYPES OF INFORMATION DISORDER



Text version of this Venn diagram

Concept Review Exercise: Information Disorder



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<https://open.ocolearnok.org/okinfolit/?p=66#h5p-7>

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Original material by book author Calantha Tillotson.

4.

WEB EVALUATION SKILLS: A “BLEAK” TRACK RECORD

“At present, we worry that democracy is threatened by the ease at which disinformation about civic issues is allowed to spread and flourish” (Wineberg, et al., “Evaluating Information”).

How are we doing when it comes to recognizing disinformation and navigating the information disorder landscape?

Web Evaluation Skills: Students



In 2016, a few months before the U.S. Presidential election, an influential study on Web literacy was completed by the Stanford History Education Group. Their report—titled “[Evaluating Information: The Cornerstone of Civic Online Reasoning](#)”—was concerned with the spread of disinformation online and how this might threaten our democracy. The study asked nearly 8,000 students (in middle school, high school, and college) to perform five Web evaluation tasks. The results were quite shocking:

- **80%** of students couldn’t distinguish “sponsored content” from news articles on websites;
- **67%** of students failed to recognize potential bias in online information;
- **65%** of students took online images at face value;
- Almost **all** struggled to evaluate information on social media.

In 2019, as yet another U.S. Presidential election approached, the Stanford History Education Group conducted a similar

[study of civic online reasoning](#), this time with a sample of 3,446 high school students. The results?

- **52%** of students believed a grainy video shot in Russia constituted “strong evidence” of voter fraud (ballot stuffing) in the U.S.
- **Two-thirds** of students couldn’t tell the difference between news stories and ads (“Sponsored Content”)
- **96%** of students did not consider how bias impacts website credibility (for example, ties between a climate change website and the fossil fuel industry).

These studies conclude by describing students’ abilities to reason about the information as either “bleak” or “troubling” (Wineberg, et al., “Evaluating Information”; Breakstone, et al.).

However, as we will see below, this trouble is **not** only limited to students.

Web Evaluation Skills: "Experts"



In 2017, the Stanford History Education Group conducted a study, "[Lateral Reading: Reading Less and Learning More When Evaluating Digital Information.](#)" Here, they assessed the Web evaluation skills of presumed **experts**: Stanford undergraduates, History professors, and professional fact-checkers. This fascinating study confirmed that even Stanford students and professors with PhDs in History struggled to identify credible sources on the Internet.

For example, in one task, the participants were presented with two websites that provided information on bullying, and they were given up to ten minutes to determine which was the more reliable site. One of the websites (American Academy of Pediatrics) was from the largest professional organization of pediatricians in the world, while the other site (American College of Pediatricians) had been labeled a hate group because of its virulently anti-gay stance. The result?

- Only **50%** of the historians identified the reliable website;
- Only **20%** of the undergrads identified the reliable

website;

- **100%** of the fact-checkers were able to quickly identify the reliable website (Note: For effective strategies, see the chapter on [Fact-Checking](#)).

Concept Review Exercise: Web Evaluation



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5.

INFORMATION CYNICISM



Skepticism vs. Cynicism

“While skepticism is healthy, cynicism—real cynicism—is toxic” (“Astroturfing: Last Week Tonight with John Oliver”).

As defined by the Oxford English Dictionary:

- **Skeptical:** Not easily convinced; having doubts or reservations
- **Cynical:** Believing that people are motivated purely by self-interest; distrustful of human sincerity or integrity

When it comes to information you encounter in your personal, professional, or academic research, a skeptical approach can be productive. For example, information skeptics might take a moment to fact-check, verify, or investigate a source before using or sharing it.

However, when skepticism turns to cynicism and deep distrust, research can become unproductive. Information cynics may feel powerless to identify reliable and useful sources. That is, while learning to question *everything*, they have begun to believe *nothing*—even highly-credible sources of information.

“Without feeling empowered to sort fiction on the web, a lot of students are merely cynical and believe they can’t trust **anything**” (Caulfield, qtd. in Young; emphasis added).

Concept Review Exercise: Skeptical vs. Cynical



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6.

COLLEGE STUDENTS AND CYNICISM

“It is really hard to know what is real in today’s society; there are a lot of news sources, and it is difficult to trust any of them,” (Anonymous student qtd. in Head, et al., “How Students Engage With News,” 14).

Project Information Literacy, a nonprofit research institute that studies what it is like to be a student in the digital age, has published a number of influential reports that illustrate the rise in information cynicism among college students.

An “Increasing Avalanche” of Information

In 2018, they conducted a study of almost 6,000 students at 11 U.S. colleges (Head, et al., “How Students Engage With News”), finding that:

- 82% of students said that news is necessary in a democracy;
- 72% get news from social media on a daily basis;
- 68% said the sheer amount of news available to them was overwhelming;
- 45% found it difficult to tell real news from “fake news”;
- 36% said “fake news” had made them distrust the credibility of any news;
- “Deep political polarization” had made students “suspicious of biased reporting”;
- Students were highly critical of an “increasing avalanche” of news that “appeals to emotions rather than conveying credible facts.”



“Super Cynical:” A Lack of Trust

Information cynicism was explored more deeply in their 2020 report based on student focus groups and faculty interviews at eight U.S. colleges (Head, et al., “Information Literacy”). This study found that:

- Students were cynical almost to the point of believing their concerns and actions had little meaning, and that it was not possible to change things;
- An important theme was that “no news source could be trusted at face value,” and there was a pervasive belief among students that they should “rely on themselves” to decide what to believe;
- Many students felt they had been taught to be critical of everything they encountered, which even extended to the authority of their teachers. One student noted: “We’re all super cynical and untrusting of information to the point that we want to find it out ourselves, so if a teacher says, ‘There’s five rows,’ then we actually look, and, yep, there’s five rows.”



Interestingly, the study found that as a whole, this lack of trust in traditional authority figures meant that trust was placed in Google as the arbiter of truth—a dangerous conclusion, given the nature of algorithms. One student who was also a parent described how he had tried to explain to his child that the bogeyman was not real, but his child had not believed him until a Google search confirmed it!

Concept Review Exercise: Ranking Trust



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Head, Alison J., John Wihbey, P. Takis Metaxas, Margy MacMillan, and Dan Cohen. “[How Students Engage with the News: Five Takeaways for Educators, Journalists, and Librarians](#).” *Project Information Literacy*, 16 Oct. 2018. Licensed under [CC BY-NC-SA 4.0](#).

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Image: “[Suspicious](#)” by [Freepik](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#).

Original material by book author Calantha Tillotson.

7.

DEGREE OF BIAS

Biases aren't wholly bad, and the flip side of a bias is a useful heuristic. Instead of thinking about biases and eliminating them, think about applying the right heuristics to the right sorts of problems, and organizing your environment in such a way that the heuristics don't get hacked.

— Memorizing List of Cognitive Biases Won't Help,
[Mike Caulfield](#)

Probably all sources exhibit some bias, simply because it's impossible for their authors to avoid letting their life experience and education have an effect on their decisions about what is relevant to put on the site and what to say about it.

But that kind of unavoidable bias is very different from

a wholesale effort to shape the message so the site (or other source) amounts to a persuasive advertisement for something important to the author.

Even if the effort is not as strong as a wholesale effort, authors can find many—sometimes subtle—ways to shape communication until it loses its integrity. Such communication is too persuasive, meaning the author has sacrificed its value as information in order to persuade.

While sifting through all the web messages for the ones that suit your purpose, you'll have to pay attention to both what's on the sites and in your own mind.

That's because one of the things that gets in the way of identifying evidence of bias on websites is our own biases. Sometimes the things that look most correct to us are the ones that play to our own biases.



Clues About Bias

Review the website or other source and look for evidence that the site exhibits more or less bias. The factors below provide some clues.

Coverage

Unbiased: This source's information is not drastically different from coverage of the topic elsewhere. Information and opinion about the topic don't seem to come out of nowhere. It doesn't seem as though information has been shaped to fit.

Biased: Compared to what you've found in other sources covering the same topic, this content seems to omit a lot of information about the topic, emphasize vastly different aspects of it, and/or contain stereotypes or overly simplified information. Everything seems to fit the site's theme, even though you know there are various ways to look at the issue(s).

Citing Sources

Unbiased: The source links to any earlier news or documents it refers to.

Biased: The source refers to earlier news or documents, but does not link to the news report or document itself.

Evidence

Unbiased: Statements are supported by evidence and documentation.

Biased: There is little evidence and documentation presented, just assertions that seem intended to persuade by themselves.

Vested Interest

Unbiased: There is no overt evidence that the author will benefit from whichever way the topic is decided.

Biased: The author seems to have a “vested interest” in the topic. For instance, if the site asks for contributions, the author probably will benefit if contributions are made. Or, perhaps the author may get to continue his or her job if the topic that the website promotes gets decided in a particular way.

Imperative Language

Unbiased: Statements are made without strong emphasis and without provocative twists. There aren’t many exclamation points.

Biased: There are many strongly worded assertions. There are a lot of exclamation points.

Multiple Viewpoints

Unbiased: Both pro and con viewpoints are provided about controversial issues.

Biased: Only one version of *the truth* is presented about controversial issues.

Examples: Bias

The following sources are great examples of embedding references for all data shared. Take a look and see if you can spot 2 or 3 in each!

- [Opioid Abuse vs. Marijuana](#)
- [Tracking Coronavirus Around the U.S.](#)

Making the Inference

Consider the clues. Then decide the extent that the bias you detected on the source is acceptable for your purpose. It might help to grade the extent that this factor contributes to the site being suitable on a scale like this one:

- A – Very Acceptable
- B – Good, but could be better
- C – OK in a pinch
- D – Marginal
- F – Unacceptable

You'll want to make a note of the source's grade for bias so you can combine it later with the grades you give the other factors.

Concept Review Exercise: Bias Evaluation

<https://www.oklahoman.com/story/news/2021/06/14/oklahoma-city-delta-flight-diverted-unruly-passenger-identified/7685477002/>



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=479#h5p-11>

Sources

This section includes material from the source chapter, “[Degree of Bias](#)” by Teaching & Learning, Ohio State University Libraries, found in [Choosing and Using Sources: A Guide to Academic Research](#), licensed as [CC-BY 4.0](#), as well as the following:

Adeline, Stephanie, et al. “[Tracking Coronavirus Around the U.S.: See How Your State Is Doing](#).” *National Public Radio*, 7 June 2021.

“[Memorizing List of Cognitive Biases Won’t Help](#)” by [Mike Caulfield](#).

Photo by [Chandler Cruttenden](#) on [Unsplash](#).

Wendelboa, Aaron M., et al. “[Is There Less Opioid Abuse in States Where Marijuana Has Been Decriminalized?](#)” *Journal of Patient-Centered Research and Reviews*, 28 October 2019.

Original material by book author Calantha Tillotson.

8.



AVOIDING CONFIRMATION BIAS IN SEARCHES

Students need to be aware of how search terms shape results....Like much of digital infolit, the key here is that the students know how to “zoom out” to a broader more neutral term, using diction likely associated with the things they would want to read.

— The Curation/Search Radicalization Spiral, [Mike Caulfield](#)



Now that we know a little more about bias, let's practice “debunking” a common example of confirmation bias, which is the impulse to only consume information that agrees with an already held belief, i.e. Was 9/11 a hoax? Let's find out. We type in ‘was 9/11 a hoax’ and we get:

[All](#)
[News](#)
[Images](#)
[Videos](#)
[Shopping](#)
[More](#)
[Settings](#)
[Tools](#)

About 562,000 results (0.46 seconds)

9/11 was a Hoax: The American government killed its own people

www.serendipity.li/wot/911_a_hoax.htm ▼

9/11 was a **hoax**. This is no longer a wild conspiracy assertion; it is a fact, supported by thousands of other verifiable facts, foremost of which are: The attacks of ...

9/11 conspiracy theories - Wikipedia

https://en.wikipedia.org/wiki/9/11_conspiracy_theories ▼

9/11 conspiracy theories are conspiracy theories that attribute the planning and execution of another, and claim that such "**hoax** theories ... appear calculated to alienate victims' survivors and the larger public from the 9/11 truth movement".

THE TOP 40 Reasons to Doubt the Official Story - 911Truth.Org

www.911truth.org/the-top-40-reasons-to-doubt-the-offical-story/ ▼

May 16, 2006 - 2001), in which he supposedly confesses to masterminding 9/11, appears to be a **fake**. In any event, the State Department's translation of it is ...

the proof that no real planes were used on 9/11 - 9/11 PLANES HOAX

<https://911planeshoax.com/2014/01/11/proof-that-no-real-planes-were-used-on-911/> ▼

Jan 11, 2014 - In the 9/11 story, Flight 175 strikes the South Tower at 450 m.p.h. Now top and bottom of the fuselage indicates we are viewing a **fake** plane.

9/11 PLANES HOAX | A plane does not pass through steel & concrete ...

<https://911planeshoax.com/> ▼ [Translate this page](#)

A plane does not pass through steel & concrete like a ghost!

Well, look at that. Not only the top result says that the attack on 9/11 was faked—the *top five* results do. To the untrained eye it looks like the press has been hiding something from you.

But of course the 9/11 attacks were not faked. So why does *Google* return these results?

The main reason here is the term. The term “hoax” is applied to the 9/11 attacks primarily on conspiracy sites. So when *Google* looks for clusters on that term (and links to

documents containing that term), it finds that conspiracy sites rank highly.

Think about it: reputable physics journals, policy magazines, and national newspapers are not likely to run headlines asking if the attacks were a hoax. But conspiracy sites are.

The same holds true even for more benign searches. The question, “Are we eating too much protein” has *Google* return a panel from the *Huffington Post* (now *HuffPost*) and a website from a vegan advocacy group.

The screenshot shows a Google search interface. The search bar contains the text "are we eating too much protein". Below the search bar, the number of results is "About 4,670,000 results (0.70 seconds)". A featured snippet is displayed, stating: "These nine essential amino acids can only be obtained from the foods **we eat**. But **are we eating too much?** ... For starters, meat is a major source of **protein** in the American diet, and animal foods high in **protein** are often high in saturated fat. Sep 21, 2012". Below this, a link is shown: "The Protein Myth: Why You Need Less Protein Than You Think | The ... www.huffingtonpost.com/jessica-jones-ms-rd/protein-diet_b_1882372.html". A "People also ask" section follows, with questions: "How many grams of protein do you need per day?", "What happens when you eat too much protein?", "How much protein do you need?", and "Why is too much protein bad?". Below this, another link is shown: "The Protein Myth | The Physicians Committee www.pcrm.org/health/diets/vsk/vegetarian-starter-kit-protein". A final link is shown: "Are We Eating Too Much Protein? A Scientist Makes the Connection ... www.onegreenplanet.org/news/t-colin-campbell-protein-and-cancer/".

Google Search Results

To avoid confirmation bias in searches:

- Avoid asking questions that imply a certain answer. If I ask “Did the Holocaust happen?” for example, I am implying that it is likely that the Holocaust was faked. If you want information on the Holocaust, sometimes it’s better just to start with a simple noun search, e.g. “Holocaust,” and read summaries about what

happened.

- Avoid using terms that imply a certain answer. As an example, if you query “Women 72 cents on the dollar,” you’ll likely get articles that tell you [women make 72 cents on the dollar](#). But if you search for “Women 80 cents on the dollar,” you’ll get [articles that say women make 80 cents on the dollar](#). Searching for general articles on the “wage gap” might be a better choice.
- Avoid culturally loaded terms. As an example, the term “black-on-white crime” is a term used by white supremacist groups, but is not a term generally used by sociologists. As such, if you put that term into the *Google* search bar, you are going to get some sites that will carry the perspective of white supremacist sites, and be poor sources of serious sociological analysis.
- Plan to reformulate. Think carefully about what constitutes an authoritative source before you search. Once you search, you’ll find you have an irrepressible urge to click into the top results. If you can, think of what sorts of sources and information you would like to see in the results before you search. If you don’t see those in the results, fight the impulse to click forward, and reformulate your search.
- Scan results for better terms. Maybe your first question about whether the Holocaust happened turned up a poor result set in general but did pop up a *Wikipedia* article on Holocaust denialism. Use that term to make a

better search for what you actually want to know.

Concept Review Exercise: Confirmation Bias



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=476#h5p-12>

Sources

This section includes material from the source chapter, [Avoiding Confirmation Bias in Searches](#) by NSCC and Michael Caulfield, in [Choosing and Using Sources: A Guide to Academic Research](#), licensed as [CC-BY 4.0](#), as well as the following:

[“The Curation/Search Radicalization Spiral”](#) by [Mike Caulfield](#).

Photo by [Mick Haupt](#) on [Unsplash](#).

Original material by book author Calantha Tillotson.

9.

INFORMATION HYGIENE AND INFO-ENVIRONMENTALISM



Information Hygiene

The term **information hygiene** refers to the “metaphorical

handwashing you engage in to prevent the spread of **misinformation**” (Caulfield, “It Can Take”).

This idea has gained prominence in recent years, particularly during the COVID-19 pandemic as we have witnessed a massive outbreak of misinformation, disinformation, hoaxes, and conspiracies surrounding this coronavirus. The World Health Organization (WHO) and other experts have even referred to the COVID-19 pandemic as an “**infodemic**”—an epidemic of information. In their February 2020 Novel Coronavirus Situation Report, the WHO noted that the COVID-19 outbreak and response “has been accompanied by a massive ‘infodemic’—an over-abundance of information—some accurate and some not—that makes it hard for people to find trustworthy sources and reliable guidance when they need it.”

This is a stark example of the real-world impact that our online information can have. In this case, false information that we view, “like,” and share can actually help to shape the public perceptions about the pandemic, as well as our responses and decisions about how to behave. Can you think of any other recent examples that demonstrate the **real-world impact** of disinformation?



So, the message here is that, in addition to actual hygiene, we also need to focus on information hygiene and **"flattening the curve"** of dangerous falsehoods online by taking proactive steps to reduce their spread" ("Practice Information Hygiene"). Fact-

checking, which we will discuss in the next chapter, is an example of good information hygiene. Much like hand sanitizer or hand washing, it isn't a cure, but rather a prevention for the spread of misinformation (Caulfield, "Misinformation").

Info-Environmentalism

The idea behind "info-environmentalism" is that if our information environment is polluted, we shouldn't abandon it—instead, we should help to clean it up. That is, if we are frustrated with the content posted on platforms like Facebook or YouTube or with low-quality Google search results, why not clean it up by posting as much reliable information as we can?

Of course, a big part of this movement will involve putting pressure on the platforms themselves to act responsibly. But because the Web is a collectively-maintained and produced environment, we, as consumers and creators, can also

participate in the process through direct action. Here are some examples of actions you might take to improve the information environment (Caulfield, “Info-Environmentalism”):

- Minimize your own “misinformation footprint” by being more thoughtful about what you post and share on social media. [Do a quick fact-check](#) first.
- Shift your focus from arguing points to explaining things to others.
- Edit and improve Wikipedia articles.
- Create explanatory YouTube videos.
- Post pages on blogs or wikis that provide helpful guidance on important issues.
- Post better answers on question-and-answer websites like Quora or StackExchange.
- When you do share information, use evidence and [cite your sources](#).



Concept Review Exercise: Information
Environmentalism



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=82#h5p-13>

Sources

This section includes material from the source book, *[Introduction to College Research](#)*, as well as the following:

Caulfield, Mike. [“Info-Environmentalism: An Introduction.”](#) *EDUCAUSE Review*, vol. 52, no. 6, Nov/Dec. 2017. Licensed under [CC BY 4.0](#)

Caulfield, Mike. [“It Can Take As Little as Thirty Seconds, Seriously.”](#) *Hapgood*, 23 Jan. 2018.

Caulfield, Mike. [“Misinformation Is a Norovirus and the Web Is a Cruise Ship.”](#) *Hapgood*, 17 Feb. 2017.

Image: “[Hand Sanitizer](#)” by [Freepik](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#)

Image: “[Recycle](#)” by [Freepik](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#)

Image: “[Wash Your Hands](#)” by [Dhaya Eddine Bentaleb](#) on [Unsplash](#)

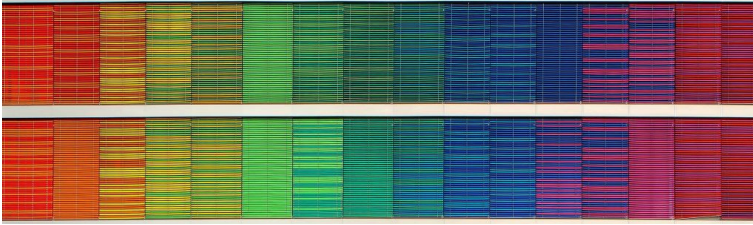
“[Novel Coronavirus\(2019-nCoV\): Situation Report – 13.](#)”
World Health Organization, 2 Feb. 2020.

“[Practice Information Hygiene.](#)” *The Sift*, News Literacy Project, 16 Mar. 2020.

Original material by book author Calantha Tillotson.

10.

CONCLUSION



This chapter covered information disorder, information cynicism, information hygiene, info-environmentalism, and the broad psychological, physiological, and sociological effects of disinformation. A common thread runs through all of these concepts in that they focus on the behaviors and actions that we should take not only when consuming but also when sharing information.

In other words, our goal should be to:

1. Minimize our own exposure to information disorders like misinformation and disinformation, **and**
 2. Avoid spreading those information disorders to others.
-

Sources

Image: “[Rainbow Frequency](#)” by [Ricardo Gomez Angel](#) is in the [Public Domain, CC0](#)

PART III

FACT-CHECKING

Learning Objectives

By the end of this chapter, you will be able to:

1. Identify effective strategies for fact-checking sources
2. Investigate a source of information to determine reliability
3. Find better coverage for a source of information
4. Trace claims, quotes, and media to their original context

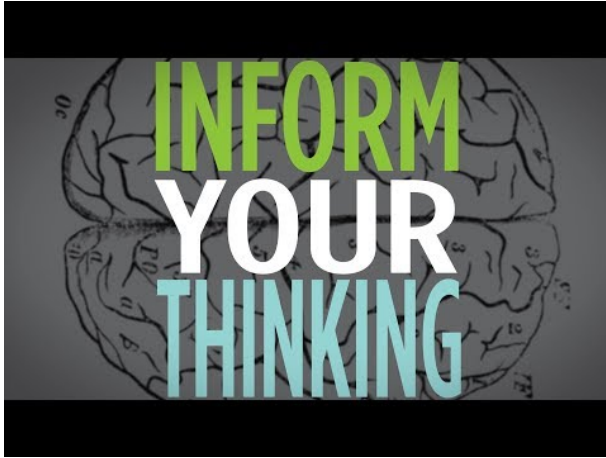
11.

WHY FACT-CHECKING?

Introduction

When you find a source of information, how do you know if it's true? How can you be sure that it is a reliable, trustworthy, and effective piece of evidence for your research? This chapter will introduce you to a set of strategies you can use to quickly and effectively verify your sources based on the approach taken by professional fact-checkers. Fact-checking is a form of [information hygiene](#)—it can minimize your own susceptibility to misinformation and disinformation, and help you to avoid spreading it to others.

As an introduction, please watch the following video [3:51], which discusses why fact-checking information is vital for filtering out bad information. How can you know what information you can trust?



A YouTube element has been excluded from this version of the text. You can view it online here:

<https://open.ocollearnok.org/okinfolit/?p=87>

Note: Turn on closed captions with the “CC” button.

Concept Review Exercise: Social Media



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=87#h5p-14>

Sources

This section includes material from the source book, *[Introduction to College Research](#)*, as well as the following:

“[Inform Your Thinking: Episode 7 – Fact Checking](#).”
YouTube, uploaded by OkStateLibrary, 3 August 2018.
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Original material by book author Calantha Tillotson.

12.

FOUR MOVES



What people need most when confronted with a claim that may not be 100% true are *things they can do to get closer to the truth*. They need something called “moves.”

Moves accomplish intermediate goals in the fact-checking process. They are associated with specific tactics. Here are the four moves this guide will hinge on:

1. **Check for previous work:** Look around to see if someone else has already fact-checked the claim or provided a synthesis of research. Check out Mike Caulfield's "[Investigate the Source](#)" video for an example of this step.
2. **Go upstream to the source:** Most web content is not original. Get to the original source to understand the trustworthiness of the information. Check out Mike Caulfield's "[Find the Original Source](#)" video for an example of this step.
3. **Read laterally:** Once you get to the source of a claim, read what other people say about the source (publication, author, etc.). The truth is in the network. Check out Mike Caulfield's "[Look for Trusted Work](#)" video for an example of this step.
4. **Circle back:** If you get lost, hit dead ends, or find yourself going down an increasingly confusing cyclone, back up and start over knowing what you know now. You're likely to take a more informed path with different search terms and better decisions.

In general, you can try these moves in sequence. If you find success at any stage, your work might be done.

When you encounter a claim you want to check, your first move might be to see if sites like [Politifact](#), or [Snopes](#), or even [Wikipedia](#) have researched the claim (Check for previous work).

If you can't find previous work on the claim, start by trying to trace the claim to the source. If the claim is about research, try to find the journal the research appeared in. You can do this by looking for citations or places in the text that mention name of researchers or publication names. If the claim is about an event, try to find the news publication in which it was originally reported (Go upstream).

Maybe you get lucky and the source is something known to be reputable, such as the journal *Science* or the newspaper the *New York Times*. Again, if so, you can stop there. If not, you're going to need to find out more about the source you are using and asking whether it is trustworthy (Read laterally).

And if at any point you fail—if the source you find is not trustworthy, complex questions emerge, or the claim turns out to have multiple sub-claims—then you circle back, and start a new process. Rewrite the claim. Try a new search of fact-checking sites, or find an alternate source (Circle back).

Concept Review Exercise: Fact-Checking Moves



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=441#h5p-15>

Sources

This section includes material from the source chapter, [Four Moves](#) by Mike Caulfield and Kristin Conlin, found in [Strategic Information Literacy](#), licensed as [CC BY 4.0](#), as well as the following:

Photo by [Raychel Sanner](#) on [Unsplash](#).

“[Online Verification Skills – Video 2: Investigate the Source](#).” *YouTube*, uploaded by CTRL-F, 29 June 2018.

“[Online Verification Skills – Video 3: Find the Original Source](#).” *YouTube*, uploaded by CTRL-F, 25 May 2018.

“[Online Verification Skills – Video 4: Look for Trusted Work](#).” *YouTube*, uploaded by CTRL-F, 25 May 2018.

Original material by book author Calantha Tillotson.

13.

WHEN EMOTIONAL CONTENT GOES VIRAL

Check your emotions.

This isn't quite a strategy (like "go upstream") or a tactic (like using date filters to find the origin of a fact). For lack of a better word, let's call this advice a habit.

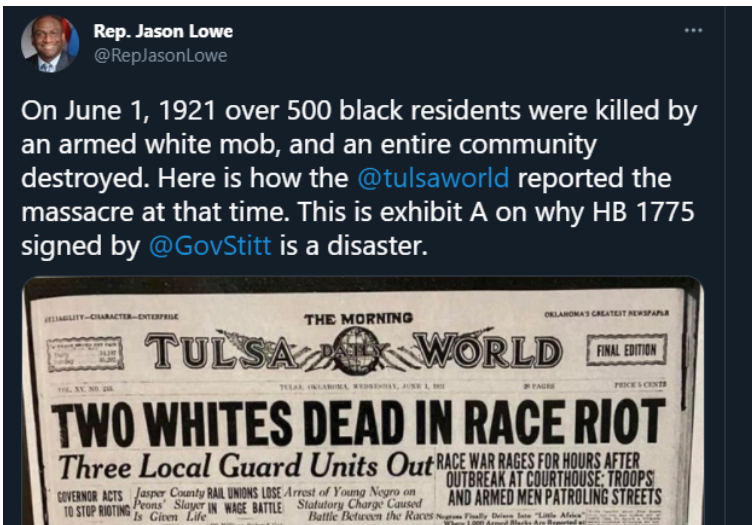
The habit is simple. When you feel strong emotion—happiness, anger, pride, vindication—and that emotion pushes you to share a "fact" with others, STOP. Above all, these are the claims that you must fact-check. — Building a Fact-Checking Habit by Checking Your Emotions, [Michael Caulfield](#)

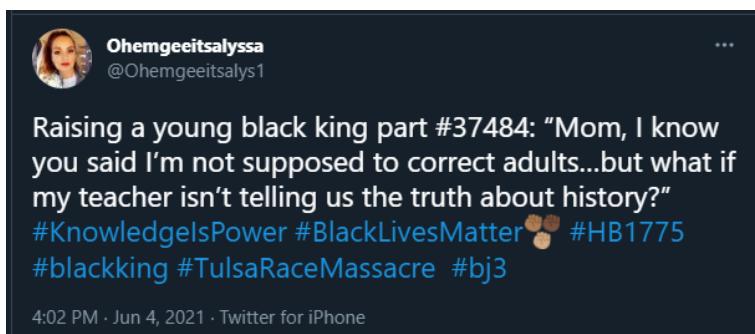
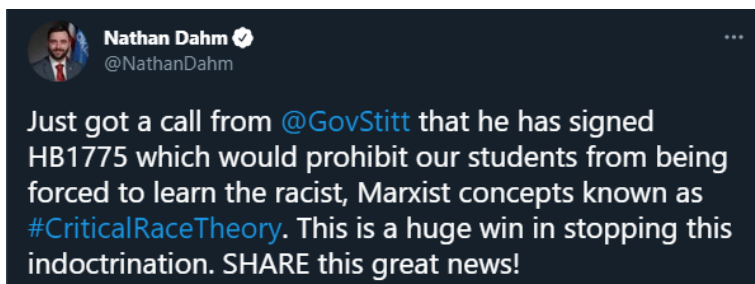
Why should a person fact-check as a habit? Answer: Because you're already likely to check things you know are important to get right, and you're predisposed to analyze things that put you in an intellectual frame of mind. But things that make you

angry or overjoyed, well... our record as humans are not good with these things.

In addition to the four strategies discussed in the last section, it is especially important to fact-check claims when they evoke strong emotions. Some of the information found on social media or the web may cause us to experience emotions such as happiness, anger, pride or vindication, and our inclination is to immediately share this information with others. Remember to verify these claims, just as you would when you fact-check statistics for inclusion in an academic paper.

Below are some examples of emotionally-charged tweets:





You do not need to know much of the background of these tweets to see the topic is controversial and emotional. Governor Stitt signed into law HB 1775 which prohibits the teaching of Critical Race Theory in Oklahoma schools. As you can see, some people believe this is an excellent idea and paint the other side in inflammatory terms. On the other end, other people are reacting to the issue in a similar heightened state of defensiveness and connect their response to both historical and current trauma.

The question for you as the information consumer is which voices are trustworthy. And if we are not sure what is true, should we really be retweeting it?

Our normal inclination is to ignore the need to fact-check when we react strongly to content, and researchers have found that content that causes strong emotions (both positive and negative) spreads the fastest through our social networks. For further reading, see “[What Emotion Goes Viral the Fastest?](#)” by Matthew Shaer. Activists and advocates take advantage of our emotional response to information.

Concept Review Exercises: Checking Emotions



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocollearnok.org/okinfolit/?p=448#h5p-16>



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=448#h5p-17>

Sources

This section includes material from the source chapters, “[Building a Fact-Checking Habit by Checking Your Emotions](#)” by Michael A. Caulfield, found in [Web Literacy for Student Fact-Checkers](#), licensed as [CC BY 4.0](#), and “[When Emotional Content Goes Viral](#)” by NSCC and Michael A. Caulfield, found in [NEW Web Literacy for College Students \(2nd Ed\)](#), licensed as [CC BY 4.0](#), as well as the following:

“[Just got a call from @GovStitt...](#)” *Twitter*, uploaded by Nathan Dahm, 7 May 2021.

“[On June 1, 1921 over 500 black residents were killed...](#)” *Twitter*, uploaded by Rep. Jason Lowe, 1 June 2021.

“[Raising a young black king...](#)” *Twitter*, uploaded by Ohemgeeitsalyssa, 4 June 2021.

Shaer, Matthew. “[What Emotion Goes Viral the Fastest?](#)” *Smithsonian Magazine*, April 2014.

Original material by book author Calantha Tillotson.

14.

TRACKING THE SOURCE OF VIRAL CONTENT



Tracing the source of the information or claim is good internet citizenship. Articles on the web that re-purpose other information or artifacts should state their sources, and, if appropriate, link to them. This matters to creators because they deserve credit for their work. It also matters to readers who need to check the credibility of the original sources.

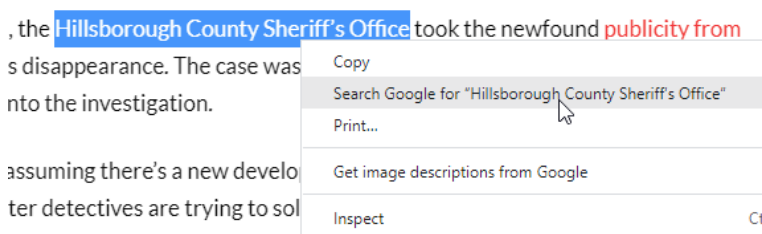
Unfortunately, some people on the web are not good internet citizens. This is particularly true with material that spreads quickly as hundreds or thousands of people share it – so-called “viral” content.

When that type of information travels around a network, people often fail to link it to sources, or they hide the sources altogether. For example, it was claimed that Carole Baskin killed her husband, and the Hillsborough County Sheriff’s Office was refocusing on solving the case.

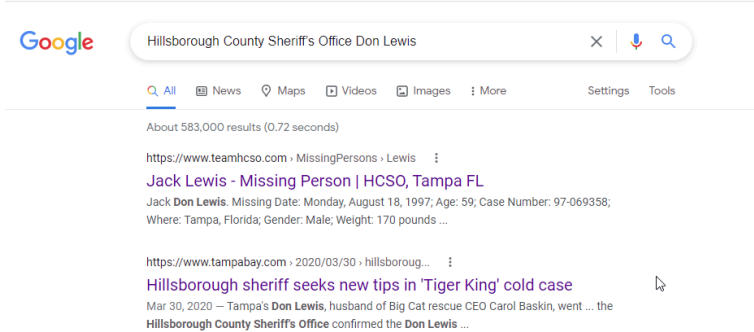
But the source of the information, *Hillsborough County Sheriff’s Office*, is not linked.



Here is a tip for locating the source. Using the Chrome web browser, select the text “Hillsborough County Sheriff’s Office.” Then right-click your mouse (control-click on a Mac), and choose the option to search *Google* for the highlighted phrase.



Your computer will execute a search for “Hillsborough County Sheriff’s Office.” To find the story, add “Don Lewis” to the end of the search:



The screenshot shows a Google search interface. The search bar contains the text "Hillsborough County Sheriff's Office Don Lewis". Below the search bar, there are tabs for "All", "News", "Maps", "Videos", "Images", and "More". The "All" tab is selected. The search results show "About 583,000 results (0.72 seconds)". The first result is from "https://www.teamhcsso.com" and is titled "Jack Lewis - Missing Person | HCSO, Tampa FL". The snippet below the title reads: "Jack Don Lewis. Missing Date: Monday, August 18, 1997; Age: 59; Case Number: 97-069358; Where: Tampa, Florida; Gender: Male; Weight: 170 pounds ...". The second result is from "https://www.tampabay.com" and is titled "Hillsborough sheriff seeks new tips in 'Tiger King' cold case". The snippet below the title reads: "Mar 30, 2020 — Tampa's Don Lewis, husband of Big Cat rescue CEO Carol Baskin, went ... the Hillsborough County Sheriff's Office confirmed the Don Lewis ...".

Our article appears at the top of the results list. Another option is to go directly to *Google* and type in the search terms.

So have we found the source? Not yet. When we click through to the supposed source article, we find that this article only shows us the missing person's poster for Don Lewis (Carole's missing husband); however, if we return to the results page, we see several articles referencing the Hillsborough Sheriff asking for new leads on the open case:

Google Hillsborough County Sheriff's Office Don Lewis

About 583,000 results (0.72 seconds)

<https://www.teamhcsco.com> > MissingPersons > Lewis > **Jack Lewis - Missing Person | HCSO, Tampa FL**
 Jack **Don Lewis**. Missing Date: Monday, August 18, 1997, Age: 59, Case Number: 97-069358; Where: Tampa, Florida; Gender: Male; Weight: 170 pounds ...

<https://www.tampabay.com> > 2020/03/30 > hillsboroug... > **Hillsborough sheriff seeks new tips in 'Tiger King' cold case**
 Mar 30, 2020 — Tampa's **Don Lewis**, husband of Big Cat rescue CEO Carol Baskin, went ... the **Hillsborough County Sheriff's Office** confirmed the **Don Lewis** ...

<https://www.wfla.com> > news > hillsborough-county > **\$100,000 reward now offered in disappearance of Don Lewis ...**
 Aug 10, 2020 — It's a theory previously dismissed by the **Hillsborough County Sheriff's Office**. Hillsborough County Sheriff Chad Chronister has now assigned a ...

<https://www.wtsp.com> > article > news > crime > hillsbo... > **Was Don Lewis murdered? Hillsborough Sheriff Chronister ...**
 Apr 1, 2020 — The case of **Don Lewis** remains open, and you can call the **Hillsborough County Sheriff's Office** with leads at 813-247-8200. You can watch the ...

So we can just repeat our technique here, and select a bit of text from the sheriff's quote and right-click/control-click. Our goal is to figure out where this quote came from, and searching on this small but unique piece of it should bring it close to the top of the *Google* results list.

A tweet from Chronister's account on Monday reads, "Since @netflix and #Covid19 #Quarantine has made #TigerKing all the rage, I figured it was a good time to ask for new leads.

"Only you can help solve the Jack "Don" Lewis cold case"



Copy

Search Google for "Only you can help solve the Jack "Don" Lewis cold..."

Print...

When we search this snippet of the quote, we see that there are dozens of articles covering this story, using the same quote and sometimes even the same headline. But one of these results

is the actual tweet from the sheriff with contact information for anyone with a new lead on the case.



Chad Chronister
@ChadChronister



Since @netflix and #Covid19 #Quarantine has made #TigerKing all the rage, I figured it was a good time to ask for new leads.
#CaroleBaskin #DonLewis #Netflix #Tiger
#BigCatRescue #JoeExotic
#TigerKingNetflix #HCSO

SHERIFF CHAD CHRONISTER

Only YOU can help solve the
JACK “DON” LEWIS
COLD CASE

Jack Donald Lewis

LAST SEEN:
8/18/1997

DOB:
4/30/1938
(81 years old)

White Male, 5'10, 170 lbs.




Call the Hillsborough County Sheriff's Office with any leads at
813-247-8200

8:01 AM · Mar 30, 2020



As we begin to develop fact-checking habits, we should remember to not only scan the titles in a result list but also the URLs within the sources themselves. These are clues as to which sources are best.

It appears that this claim is only partially true – the Hillsborough County Sheriff's Office is looking for new leads, but there has been no indication that Carole Baskin is their primary focus of the investigation. We only learned this by finding the source of the content.

Concept Review Exercise: Fact Check #1



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=463#h5p-18>

Sources

This section includes material from the source chapter, “[Tracking the Source of Viral Content](#)” by NSCC and Michael A. Caulfield, found in [NEW Web Literacy for College Students \(2nd Ed\)](#), licensed as [CC BY 4.0](#), as well as the following:

Photo by [Cullen Jones](#) on [Unsplash](#).

“[Since @netflix and #COVID19 #Quarantine...](#)” *Twitter*, uploaded by Chad Chronister, 30 March 2020.

Original material by book author Calantha Tillotson.

15.

FACT-CHECKING IMAGES AND MEMES

Find Trusted Coverage

Often, claims or stories will come to you in the form of images and memes. How do you know if images have been digitally altered (Photoshopped) or if they are being shared out of context (misrepresented)?

If you want to find trusted coverage of the issue, claim, or photo, you have two options:

1. You can search the relevant text from the image.
2. You can use “reverse image search.”

Reverse Image Search Using Google

On your Computer

Using Chrome as your browser, right-click the image and

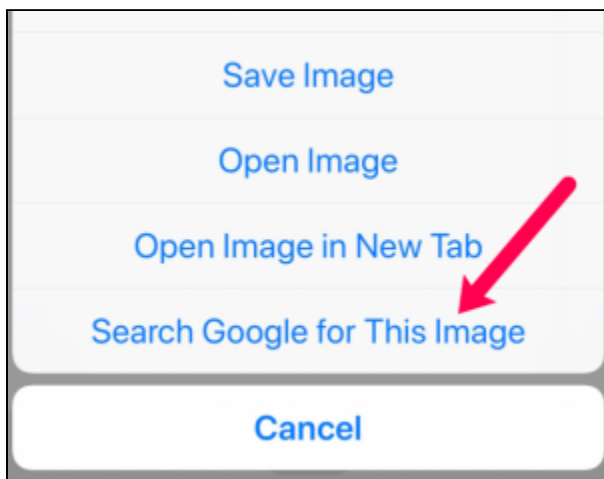
select “Search Google for image.” Note: On a Mac, use Control-click. On a Chromebook, use Alt-click.

In the example below, we can do a reverse image search on this tweet that uses a picture from the Tulsa Race Massacre.



On your Phone

Using Chrome (app), touch and hold the image, then select “Search Google for This Image.” Note: You may first have to click a menu option to “Open in Chrome.”



Although it is a bit more difficult, you can also conduct a reverse image search on your phone.

The Results

You will get a list of any other websites where the image has been used, including previous fact-checks of the image, and perhaps even a link to the real version of the photo.

In our example, we see that this image has appeared in many other places, and that it has already been shown to be true by a reputable historical organization.

Pages that include matching images

<https://www.thenation.com> › Article

A Historian of the Tulsa Race Massacre Confronts the Myth of ...



640 × 398 · May 28, 2021 — Karlos Hill argues that a scholar's power lies in "being a catalyst for change."

<https://danieldisgrigg.com> › 2020/05/03 › bishop-travis...

Bishop Travis B. Sipuel: A Pentecostal Survivor of the 1921 ...



458 × 262 · May 3, 2020 — During my research on the history of the Pentecostal movement in Tulsa, I discovered the story of a Church of God in Christ pastor, Bishop ...

<https://chicagocrusader.com> › Chicago

New Zealand hit 'The Bad Seed' comes to Sundance Now with ...



218 × 150 · Apr 26, 2021 — By Elaine Hegwood Bowen, M.S.J. Simon Lampton (Matt Minto), a respected obstetrician, has a lovely home in Herne Bay with two daughters ...

<https://www.clickondetroit.com> › national › 2021/05/29

Black fear of Tulsa police lingers 100 years after massacre



300 × 200 · May 29, 2021 — There's been some progress in the relationship between the Tulsa police and the city's Black community in the 100 years since the Tulsa Race ...

<https://www.pressdemocrat.com> › News › Nation

100 years after Tulsa Race Massacre, the damage remains



1199 × 758 · May 25, 2021 — 2nd man arrested in attack on Jewish men in LA. Los Angeles police on Tuesday arrested a second suspect in an alleged assault by a ...

The results of this fact-checking led to some of the actual images, in context. In the screenshot below from the archive of the Tulsa Historical Society and Museum, we see that the image from the tweet was actually a postcard of a picture taken during the Tulsa Race Massacre in 1921.



HOME » EXHIBITS » ARCHIVE

Search Photos..

12 Images found for searchstring convention hall.



Concept Review Exercise: Image Fact-Checking



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=103#h5p-19>

Sources

This section includes material from the source book, [*Introduction to College Research*](#), as well as the following:

“[99 years today since Tulsa white rioters...](#)” *Twitter*, posted by edithmayhall, 31 May 2020.

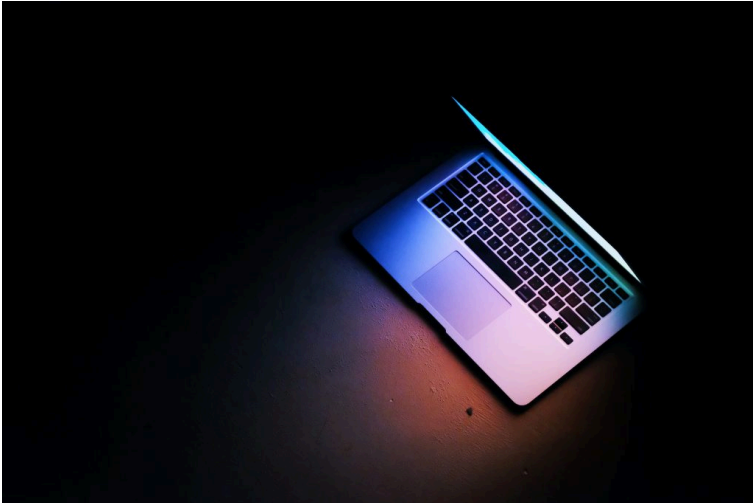
Find Trusted Coverage section adapted from “[Check, Please! Starter Course](#),” licensed under [CC BY 4.0](#).

Reverse Image Search section adapted from “Library 10” by [Cabrillo College Library](#), licensed under [CC BY 4.0](#).

Original material by book author Calantha Tillotson.

16.

FACT-CHECKING SITES



Some Reputable Fact-Checking Organizations

The following organizations are generally regarded as reputable fact-checking organizations focused on U.S. national news:

- [*PolitiFact*](#)

- Factcheck.org
- [Washington Post Fact Checker](http://WashingtonPostFactChecker.com)
- [Snopes](http://Snopes.com)
- [Truth be Told](http://TruthBeTold.com)
- [NPR Fact-Check](http://NPRFactCheck.com)

Respected specialty sites cover niche areas such as climate or celebrities. Here are a few examples:

- [Climate Feedback](http://ClimateFeedback.com)
- [SciCheck](http://SciCheck.com)
- [Quote Investigator](http://QuoteInvestigator.com)

There are many fact-checking sites outside the U.S. Here is a small sample:

- [FactsCan](http://FactsCan.ca) (Canada)
- [El Sabueso/The Hound](http://ElSabueso.com) (Mexico)
- [BBC Reality Check](http://BBCRealityCheck.com) (UK)
- [Full Fact](http://FullFact.org) (UK)

Concept Reflection: Fact-Checking Sites



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<https://open.ocolearnok.org/okinfolit/?p=445#h5p-21>

Sources

This section includes material from the source chapter, “[Fact-Checking Sites](#)” by [Mike Caulfield](#), found in [Web Literacy for Student Fact-Checkers](#), licensed as [CC BY 4.0](#), as well as the following:

Photo by [Josh Anderson](#) on [Unsplash](#).

Original material by book author Calantha Tillotson.

17.

HAS IT ALREADY BEEN FACT-CHECKED?

When fact-checking a particular claim, quote, or article, check to see if someone has already done the verification work for you. A reputable fact-checking site or subject wiki may have already successfully traced claims to their source, identified the owners of various sites, and linked to reputable sources for counterclaims. If the fact checking site is reputable and trustworthy, then you can be confident in using the source or not.

— Has it Already Been Fact-Checked?, [Michael Caulfield](#)

Constructing a Query to Find Previous Fact-Checking

Check for previous fact-checking by searching known and trusted fact-checking sites for a phrase or keyword from the story. Use the “site” function in search engines such as *Google* and *DuckDuckGo*.

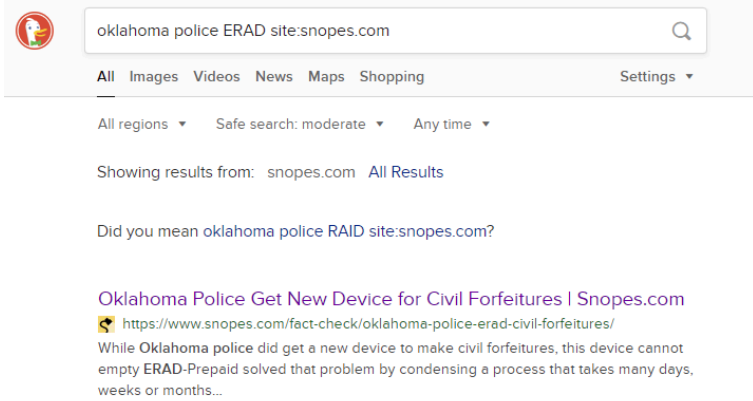
Site Search. The Site Search function allows you to search a specific domain(s) for a search term instead of the entire internet.



In this example, we used the *DuckDuckGo* search engine. For our query, we use Snopes (a well-known fact-checking site) as well as keywords from the story in the following syntax:

oklahoma police ERAD site:snopes.com

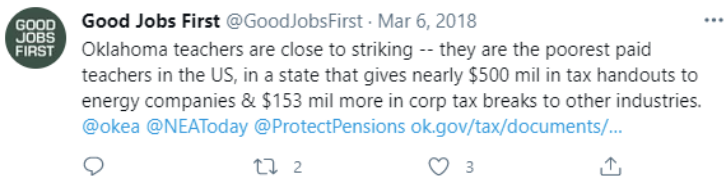
Here are the results of our search:



The screenshot shows a search engine interface. At the top, the search bar contains the text "oklahoma police ERAD site:snopes.com". Below the search bar, there are tabs for "All", "Images", "Videos", "News", "Maps", and "Shopping", with "All" selected. To the right of these tabs is a "Settings" dropdown menu. Below the tabs, there are filters for "All regions", "Safe search: moderate", and "Any time". The results section shows "Showing results from: snopes.com" and "All Results". A suggestion below the results says "Did you mean oklahoma police RAID site:snopes.com?". The first result is titled "Oklahoma Police Get New Device for Civil Forfeitures | Snopes.com" and includes a URL: "https://www.snopes.com/fact-check/oklahoma-police-erad-civil-forfeitures/". The snippet below the URL reads: "While Oklahoma police did get a new device to make civil forfeitures, this device cannot empty ERAD-Prepaid solved that problem by condensing a process that takes many days, weeks or months..."

The results show that work has already been done in this area. In fact, the first result from *Snopes* answers our question almost fully. Remember to follow search engine best practice – scan the results and click on the best result in the result list. There are similar syntaxes you can use in *Google*, but for various reasons this particular search is easier in *DuckDuckGo*.

Let's look at another claim, this time from Good Jobs First. This claim is that Oklahoma teachers are the worst paid in the country. Here it is in context:

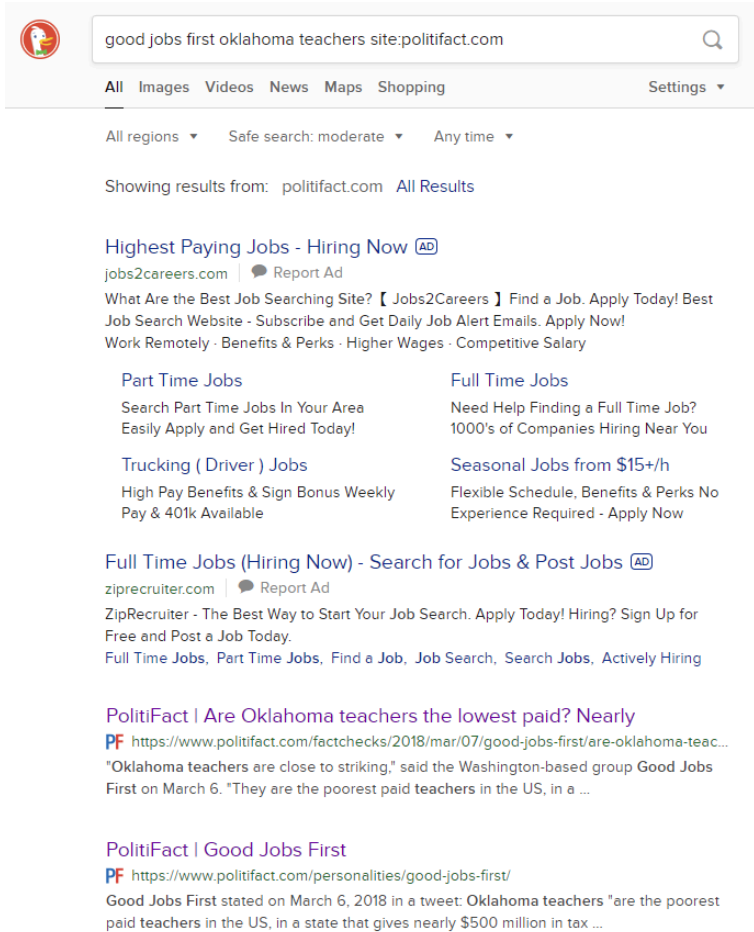


The screenshot shows a tweet from the account "Good Jobs First" (@GoodJobsFirst), dated March 6, 2018. The tweet text reads: "Oklahoma teachers are close to striking -- they are the poorest paid teachers in the US, in a state that gives nearly \$500 mil in tax handouts to energy companies & \$153 mil more in corp tax breaks to other industries. @okea @NEAToday @ProtectPensions ok.gov/tax/documents/...". Below the text are icons for replies, retweets (2), likes (3), and a share icon.

Let's check this out using another well known fact-checking site (politifact.com):

good jobs first oklahoma teachers site:politifact.com

This gives us back a helpful array of results. The first article (the first two results are advertisements only) actually answers our question, but some of the others provide some helpful context as well.



The screenshot shows a Google search interface. The search bar contains the text "good jobs first oklahoma teachers site:politifact.com". Below the search bar are navigation links: All, Images, Videos, News, Maps, Shopping, and a Settings dropdown. Below these are filters: All regions, Safe search: moderate, and Any time. The search results show "Showing results from: politifact.com All Results".

The first result is an advertisement titled "Highest Paying Jobs - Hiring Now" from jobs2careers.com. The ad text includes: "What Are the Best Job Searching Site? [Jobs2Careers] Find a Job. Apply Today! Best Job Search Website - Subscribe and Get Daily Job Alert Emails. Apply Now! Work Remotely · Benefits & Perks · Higher Wages · Competitive Salary". It lists two categories: "Part Time Jobs" (Search Part Time Jobs In Your Area, Easily Apply and Get Hired Today!) and "Full Time Jobs" (Need Help Finding a Full Time Job? 1000's of Companies Hiring Near You). It also lists "Trucking (Driver) Jobs" (High Pay Benefits & Sign Bonus Weekly Pay & 401k Available) and "Seasonal Jobs from \$15+/h" (Flexible Schedule, Benefits & Perks No Experience Required - Apply Now).

The second result is titled "Full Time Jobs (Hiring Now) - Search for Jobs & Post Jobs" from ziprecruiter.com. The text includes: "ZipRecruiter - The Best Way to Start Your Job Search. Apply Today! Hiring? Sign Up for Free and Post a Job Today. Full Time Jobs, Part Time Jobs, Find a Job, Job Search, Search Jobs, Actively Hiring".

The third result is titled "PolitiFact | Are Oklahoma teachers the lowest paid? Nearly". It includes a link: "https://www.politifact.com/factchecks/2018/mar/07/good-jobs-first/are-oklahoma-teac...". The text states: "Oklahoma teachers are close to striking," said the Washington-based group Good Jobs First on March 6. "They are the poorest paid teachers in the US, in a ...".

The fourth result is titled "PolitiFact | Good Jobs First". It includes a link: "https://www.politifact.com/personalities/good-jobs-first/". The text states: "Good Jobs First stated on March 6, 2018 in a tweet: Oklahoma teachers "are the poorest paid teachers in the US, in a state that gives nearly \$500 million in tax ...".

Politifact confirms that this claim is mostly true (completely true for the average salary of private school teachers and tax breaks for energy companies, but Oklahoma is third from the bottom in public school teacher pay). We do not need to search any further.

Concept Review Exercise: Fact Check #2



An interactive H5P element has been excluded from this version of the text. You can view it online here:

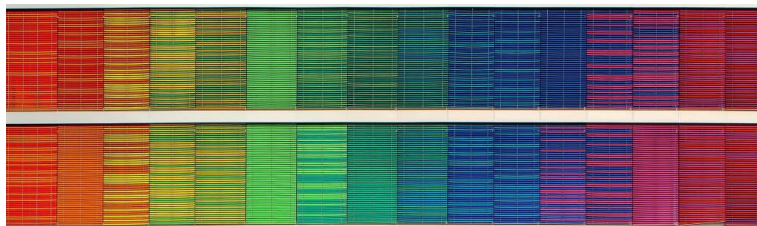
<https://open.ocolearnok.org/okinfolit/?p=454#h5p-20>

Sources

This section includes material from the source chapter, “[Has It Already Been Fact-Checked?](#)” by NSCC and [Mike Caulfield](#), found in [Web Literacy for College Students](#), licensed under [CC BY 4.0](#), as well as the following:

Original material by book author Calantha Tillotson.

CONCLUSION



There's a theme that runs through all of these fact-checking moves: They are about reconstructing the necessary context to verify, understand, and interpret sources of information that we may encounter in academic, professional, and personal research.

One piece of context is the author or publisher. What's their expertise? What's their agenda? This will require investigating the source.

When it comes to claims, a key piece of context includes whether they are accepted or contested. By scanning for other coverage, you can see what the consensus is on a claim and perhaps find a better source.

Finally, when evidence is presented through a certain lens—whether a quote or an image or a scientific

finding—sometimes it helps to reconstruct the original context in which the evidence was presented.

In some cases these techniques will show you that claims are false or that sources are misleading or even deceptive. But in the majority of cases, they do something just as important: They reestablish the context that the web so often strips away, allowing for more meaningful engagement with information.

Sources

Image: “[Rainbow Frequency](#)” by [Ricardo Gomez Angel](#) is in the [Public Domain, CC0](#).

Text adapted from “[SIFT \(The Four Moves\)](#)” by [Mike Caulfield](#), licensed under [CC BY 4.0](#).

PART IV

TYPES OF INFORMATION SOURCES

Learning Objectives

By the end of this chapter, you will be able to:

1. Identify and describe different types of information sources
2. Recognize when it is best to use specific types of sources

19.

CHAPTER SCENARIO

Scenario: Information Sources

It's your first essay assignment of the semester. Your professor says you not only have to find **reliable** sources, but that you have to use a **variety** of resources including books, magazines, newspapers, journal articles, and multimedia resources. There's no explanation as to why they are requiring this, and you're left scratching your head trying to figure out not just **where** to find these resources, but **why** using a variety of different sources matters.

20.

INFORMATION SOURCES: PRIMARY, SECONDARY, TERTIARY

Information Creation & Context

We can group information sources into three basic categories: primary, secondary, and tertiary. When we make distinctions between these three categories of sources, we are relating the information itself to the **context in which it was created**. Noting this relationship between creation and context helps us understand the big picture in which information operates and prompts us to consider whose **voices** we are including in our research, and whose voices may be left out. It also helps us understand what sources will provide the information needed.

Primary Sources

Primary sources are **first-hand** observations or experiences of an event. They can also be the **original** sources of

information before they have been analyzed, such as statistical data sets or observation notes. Examples of primary sources include:

- Eyewitness reports (interviews, photographs, video footage)
- Speeches, diaries, memoirs
- **Empirical** research
- Original documents, historical newspaper articles
- Literary works (novels, plays, poems), artworks
- Tweets

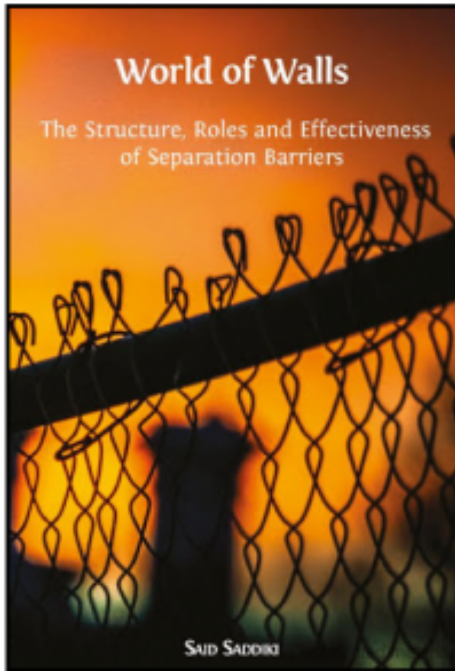


Eyewitness photograph: Protesters speak on the steps of San Francisco City Hall for a “Families Belong Together” rally.

Secondary Sources

Secondary sources are created after an event occurred and offer a **review or an analysis** of the event; they provide an **interpretation** of the primary source or data without offering new data. Examples of secondary sources would be:

- Biographies, nonfiction books
- Editorials
- Literary criticism and reviews
- Periodicals (such as scholarly journals, magazines, or newspapers)
- Retweets



Nonfiction book analyzing the consequences of the construction of physical and virtual walls.

Tertiary Sources

Tertiary sources are **compilations** of information coming from secondary and primary sources; these can include lists or collections, and are generally reference material that can help you find, or direct you to, secondary and primary sources. Examples of tertiary sources include:

- Encyclopedias, dictionaries
- Indexes
- Databases, catalogs

- Most textbooks



Wikipedia, an online encyclopedia, is an example of a reference source (tertiary)

Note: These categories may differ between subject areas. For more details, see section on [Information Sources: Traditional Formats](#).

Concept Review Exercise: Primary, Secondary, and Tertiary Sources



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=113#h5p-22>

Sources

Creation & Context section adapted from “[Primary, Secondary & Tertiary Sources](#)” by Teaching & Learning, [Ohio State University Libraries](#), licensed under [CC BY 4.0](#)

Examples adapted from “Library 10” by [Cabrillo College Library](#), licensed under [CC BY 4.0](#)

Image: “[Families Belong Together SF march](#)” by [Pax Ahimsa Gethen](#) is licensed under [CC BY-SA 4.0](#)

Image: “[World of Walls: The Structure, Roles and Effectiveness of Separation Barriers](#)” by [Said Saddiki](#) is licensed under [CC BY 4.0](#)

21.

HOW THEY FIT TOGETHER: THE INFORMATION CYCLE

How Sources Work Together

Each type of information source serves a specific purpose (or set of purposes). Even within a particular container, they may exist to do different things. For example, a newspaper is a container that holds newspaper articles. Many of those articles are intended to inform people of what's going on...local newspapers will often let members of the community know what's happening locally, statewide, nationally, and even internationally; those articles will often appear in different sections of the newspaper, but their purpose is to describe events that have happened, are happening, or will happen. Newspapers also contain editorials, articles that serve a very different purpose, which is to inform and then persuade readers in some way. Both types of articles appear in the same container, an issue of the newspaper.

Likewise, different publications of the same type, such as

magazines, can serve completely different purposes. For example, some magazines exist to simply provide information on a topic that may be of general interest to its readers, such as music, gardening, or popular science; others, however, are clear in their efforts to inform a slightly more specific set of readers about scholarly and professional research findings in a discipline area. (You'll read more about this in "[Information Sources: Traditional Formats](#).")

When you add in the fact that the same type of source can exist in two different mediums, for example, both in print and online, it can be a bit overwhelming to sort it all out. Understanding a little more about where information comes from can help, though, and all of this becomes a bit more clear when you look at sources in terms of the information life cycle.

Why is the Life Cycle of Information Important?

Information is like water, vital to life and flowing from place to place, making an impression on everyone it touches. It's alive, dynamic, moving, and changing. Some of it is high quality, and some is not. We know more about our world than we ever have, and yet somehow, we are less informed about certain critical issues. The better you understand how it all connects, the more informed you can be as a consumer of information. Click through the following images to learn more about how this flow of information works.



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=560#h5p-23>

Find your library's contact information below, organized alphabetically by institution.



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=560#h5p-48>

Concept Review Exercise: The Information Cycle



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<https://open.ocolearnok.org/okinfolit/?p=560#h5p-24>

Sources

This section, authored by Jamie Holmes, incorporates the following material:

“[Information Life Cycle](#)” by Jennifer Hulsey Campbell for Tulsa Community College is licensed under a [CC-BY 4.0](#)

22.

CRITICAL THINKING: SOURCE TYPES

Critical Thinking: Source Types

Let's think about these categories a little more. When conducting research, it is often suggested that we begin looking at tertiary sources, then secondary, and finally primary. Why is it helpful for students researching to start with tertiary sources, such as reference materials, textbooks, and articles from established, reliable magazines?

When resources are created, it starts with primary, then secondary, and finally tertiary. Why do you

think this opposite relationship exists between those doing research and those creating resources?

INFORMATION SOURCES: TRADITIONAL FORMATS

As we saw in the [chapter scenario](#), information sources are often identified by traditional formats: is the information found in a book, a scholarly journal article, or a magazine or newspaper article? Outside of these typically being classified as secondary sources (particularly in the humanities), these traditional formats have a few other commonalities: they all tend to be trustworthy; they go through some sort of publication and review process; and they all are fixed formats—that is, they can’t be updated without creating a whole new version or edition of the resource. They can also be available as print (physical) or digital (online). **So, what makes them different or unique?**

Books



You are probably familiar with this type of information source, and it might just be the first kind of resource you think of when you think of libraries. Books are different from the other resources in a few ways: They can explore and present a topic in breadth and depth much more easily than a magazine or newspaper can. You may find some special magazine issues or journal issues that are devoted to a theme, but the coverage will still be limited compared to a book's possibility. Books can be written by a single author or multiple authors; they can be compiled by an editor to represent different viewpoints or writings from various authors all exploring the same topic from different angles. The information found in books may not be the most current information available – as it takes time to research, review, and edit so thoroughly.

Periodicals

Unlike books, which are often a one-and-done production, periodicals include materials that are published *periodically*, at regular intervals. Specific titles publish at their own set intervals, but a common pattern is:

- Academic/Scholarly Journal Articles – monthly or quarterly
- Magazines – weekly or monthly
- Newspapers – daily or weekly

Academic/Scholarly Journal Articles



Sometimes also called “peer-reviewed” articles, these go through a rigorous review process before they are published. They reflect research that is considered primary or secondary depending on how the research is conducted:

In the humanities (such as English or History), these are considered secondary sources, but in the sciences (such as Biology) and social sciences (such as Anthropology), original research articles are considered primary sources. Unlike books, these journal articles tend to focus on specific questions about a topic; they don’t explore or present a topic as broadly or deeply as a book, but the information they present can be much more current than a book. Also, because they are so focused, they might be seen as more specialized than a book’s coverage, and they will generally be written to an expert audience. This means that they are not written for the average person to read, but for those who are already familiar with the concepts surrounding the topic. Their target audience are

peers in the field, others who have some expertise in that specific subject area—even though undergraduates are often required to use them, too, as scholars *becoming* experts in the discipline. Another thing to consider is that access to journal articles can be tricky. If your library doesn't have access to a particular journal, either through a database or direct subscription, getting access on your own could be expensive and complicated; however, as a college student, you will likely have access to resources beyond your college library through interlibrary loan (ILL). ILL is a system where libraries borrow from other libraries on behalf of their patrons and within the permissions afforded by copyright law. ILL is a great way to expand your access to resources beyond your college library, but it's important to note that this normally takes at least two days (for items that can be sent electronically), and it can take up to two weeks for physical items to be sent. This is one of many reasons to start your research project early, as soon as it's assigned!

Magazine Articles



These are a bit different than your academic/scholarly journal articles. Magazines tend to use a lot of colorful images designed to grab a reader's attention, while scholarly journals feature graphs, charts, and tables with very little color, designed to convey information. Magazine articles will be written so that the average person can understand what is being discussed in the article. The articles tend to be much shorter than a scholarly journal article. Magazine articles can feature interviews and will look at current events or trends, but they won't be seeking answers to research-based questions. Instead, their focus is on what might hold popular interest. There are magazines that are designed specifically to inform the general public about issues that are shared in scholarly journals; intended to provide a bridge connecting non-experts to new knowledge the experts are sharing from their studies, they distill the information in a way that reduces the "cherry-picking" and other simplification that can taint information in the backward flow as described previously in the information cycle section. Generally considered more reliable and credible than their more flashy counterparts, these publications aren't counting on sensational headlines to sell issues; instead, they rely on their reputation and trustworthiness to keep their

readers' attention. Examples of such magazines include *National Geographic*, *Scientific American* and *Psychology Today*, but there are others. Professors, subject librarians, and others within your major of study can help you identify those in your discipline.

Newspaper Articles



Newspaper articles typically describe current events. In contrast to magazine and scholarly journal articles, newspaper articles tend to be very short. Newspapers are typically published daily, and therefore provide the most up-to-date information about an event. Their authors are journalists who may engage in investigative reporting, but they do not conduct original scholarly research. While these articles are often proofread and reviewed for accuracy before publication, they do not go through an extensive peer review process.



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=121#h5p-25>



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=121#h5p-26>

Sources

This section includes material from the source book, *[Introduction to College Research](#)*, as well as the following:

Image: “[Articles](#)” by [Freepik](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#)

Image: “[Book](#)” by [mavadee](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#)

Image: “[Magazine](#)” by [Freepik](#), adapted by [Aloha Sargent](#),
from [Flaticon.com](#)

Image: “[Newspaper](#)” by [Freepik](#), adapted by [Aloha Sargent](#),
from [Flaticon.com](#)

Original material by book author Jamie Holmes.

24.

INFORMATION SOURCES: MEDIA

Media can refer to many things, but here it describes information sources that do not align to our traditional formats (books, magazines, scholarly journals). These are usually visual in nature (such as film), or perhaps audio (such as music). Sometimes, we don't realize media resources are an option when doing research, but they can be very helpful, and for some situations can be even stronger resources than our traditional formats. Here are a few examples of media resources you might encounter as you conduct your own research projects.

Documentaries



Documentaries are films that provide us with a deep look at a specific topic. Non-fiction in nature, documentaries can advocate for a cause—which means we must be careful to notice any possible

bias. They can be journalistic in nature where they report on an event, happening, people, and/or other subjects in detail. They can share an experience someone went through. Documentaries may also be entertaining, so that they are interesting to watch.

Radio Programs (Broadcasts and Interviews)



Radio programs can be a strong information source, especially if you're looking for interviews with specific people. They also report on current events, but unlike our traditional formats where the information is printed and can be referenced later easily, radio broadcasts are usually one-time events. Fortunately, some of the programs are captured in library databases through transcripts, and other times, you might be able to find recordings of them online.

Television Programs (News and Educational Programming)



News and educational programming can be useful sources when doing research. News programs provide details about current events, and may also broadcast interviews. Educational programming might include documentary-style delivery of information, but it can also be instructive. In some cases, there may be dedicated channels that provide specialized content such as Discovery, The History Channel, and C-SPAN.

Sources

This section includes material from the source book, *[Introduction to College Research](#)*, as well as the following:

Image: “[Microphone](#)” by [Freepik](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#)

Image: “[Movie](#)” by [Freepik](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#)

Image: “[Television](#)” by [Smashicons](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#)

Original material by book author Jamie Holmes.

25.

INFORMATION SOURCES: ONLINE

The traditional and media formats may also exist online or in digital formats; these can be found through websites or in library databases. But there are other types of sources unique to the online environment that you might want to consider—or not consider—using. Below are just a few of them.

Wikis



Wikis are a type of website that typically allow a community of users to create pages about different topics. The most popular one, and one that you are probably familiar with, is *Wikipedia*.

These websites are usually very simple in appearance, and they are unique because they tend to support the idea of a community contributing to sharing information. With this idea, though, is the possibility for information to be

shared without review or checked for reliability. Review the Fact-Checking chapter for further information about [how to use *Wikipedia* effectively](#).

Blogs



Blogs can house primary source material as they are often like online diaries for individuals. In contrast to wikis, blogs are typically written by a single person, and that individual is typically sharing their perspectives or experiences about a specific topic. These can be insightful, but they are usually very opinion driven. And just because someone has a blog about a topic does not make them an expert about that topic. It's a good idea to do some research on the person, such as verifying what credentials they hold, where they got their education or training, where they work, etc., prior to determining whether this would be a wise choice to use in your research.

Podcasts



Podcasts continue to grow in popularity, and over half of Americans have listened to at least one podcast (Winn). If you have not experienced a podcast, they are similar to radio programs, except that you don't have to listen to them live to enjoy them—they can be downloaded or streamed at a time convenient to the listener. You can listen to them in your car or from a capable device, like a smartphone. They can be focused on a specific subject area, contain interviews, or be a fictional series show. But just like blogs, podcasts can be hosted by anyone—and can be driven by opinions and biases; therefore, doing a little background research to determine their credentials is always wise.

Concept Review Exercise: Online Sources



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=131#h5p-27>

Sources

This section includes material from the source book, *[Introduction to College Research](#)*, as well as the following:

Image: “[Blog](#)” by [Freepik](#), adapted by Aloha Sargent, from [Flaticon.com](#)

Image: “[Microphone](#)” by [Smashicons](#), adapted by Aloha Sargent, from [Flaticon.com](#)

Image: “[Wikipedia](#)” by [xnimrodX](#), adapted by Aloha Sargent, from [Flaticon.com](#)

Winn, Ross. “[2021 Podcast Stats & Facts \(New Research From April 2021\)](#).” *Podcast Insights*, Quandary Media, 10 April 2021.

Original material by book author Jamie Holmes.

26.

CRITICAL THINKING: CHOOSING RESOURCES

Critical Thinking: Which Resources?

If you have an assignment that requires you to write an essay about the effects of climate change on polar bear populations, what types of resources would you expect to be helpful to use and why? Which resources may not be as helpful?

If you have an assignment that requires you to write an essay about the top 10 music singles in 2019, what types of resources would you expect to be helpful

to use and why? Which resources may not be as helpful?

INFORMATION SOURCES: BIAS

Some sources may seem more susceptible to bias than others, but all of them carry some level of bias. So what is bias? According to the Oxford English Dictionary, bias is:

An inclination, leaning, tendency, bent; a preponderating disposition or propensity; predisposition *towards*; predilection; prejudice.

In other words, bias is a point of view that may influence how information is conveyed. This does not necessarily mean that the information in and of itself is incorrect, but the information may be presented in such a manner that it be interpreted to mean something else or be aligned to specific values. Bias is not always intentional—it can creep into resources without the creators realizing it. So, sometimes, we have to be extra careful when choosing resources and determine if there is a bias that is strongly influencing the trustworthiness of the resource that we use.

The image below comes from an organization that evaluates various media organizations or news-based organizations and places them on a scale of how they lean in social affairs: either

to the “Right” or “Left,” where “Right-leaning” media organizations will have more conservative views about societal topics, and “Left-leaning” media organizations will have more liberal views about societal topics. You can read more about bias in the media here: [Media Bias](#).



This image shows media outlets with bias leanings. On the left are resources such as CNN and MSNBC. On the right, examples include Fox News and the Daily Wire. In center, examples include the Associated Press and BBC.

[Text description of this infographic](#)

It is important to note that even media bias graphs and charts can themselves be biased. Read more about that at [The Poynter Institute](#), or at [The League of Women Voters](#), or at [MarketWatch](#).

Concept Review Exercise: Bias in Information Sources

In progress – Jamie

Sources

[“bias, adj., n., and adv.”](#) *OED Online*, Oxford University Press, Sept. 2020.

Image: “[AllSides Media Bias Ratings](#)” by [AllSides](#) is licensed under [CC BY-NC 4.0](#)

28.

CRITICAL THINKING: BIAS

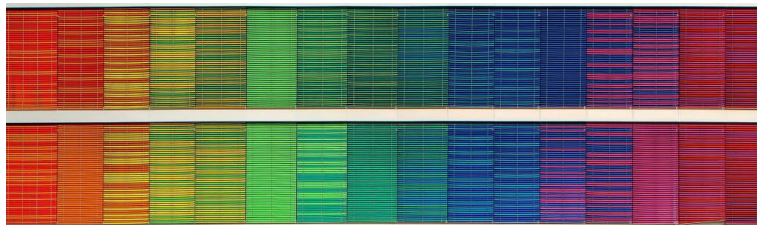
Critical Thinking: Bias

How does bias impact the presentation and interpretation of information? What can you do to mitigate that?

How do you recognize when a resource has bias?

29.

CONCLUSION



This chapter reviewed different types of information sources. They can be categorized as primary, secondary, or tertiary sources. They can also be identified by different formats, such as books, podcasts, and documentaries. All sources have some level of bias, so it's important to keep in mind how a resource might be biased and how that might impact your own research.

Sources

Image: “[Rainbow Frequency](#)” by [Ricardo Gomez Angel](#) is in the [Public Domain, CC0](#)

PART V

GETTING YOUR RESEARCH STARTED

Learning Objectives

By the end of this chapter, you will be able to:

1. Develop meaningful research topics
2. Explain why gathering background information is important to the research process
3. Navigate to the appropriate information sources for background information

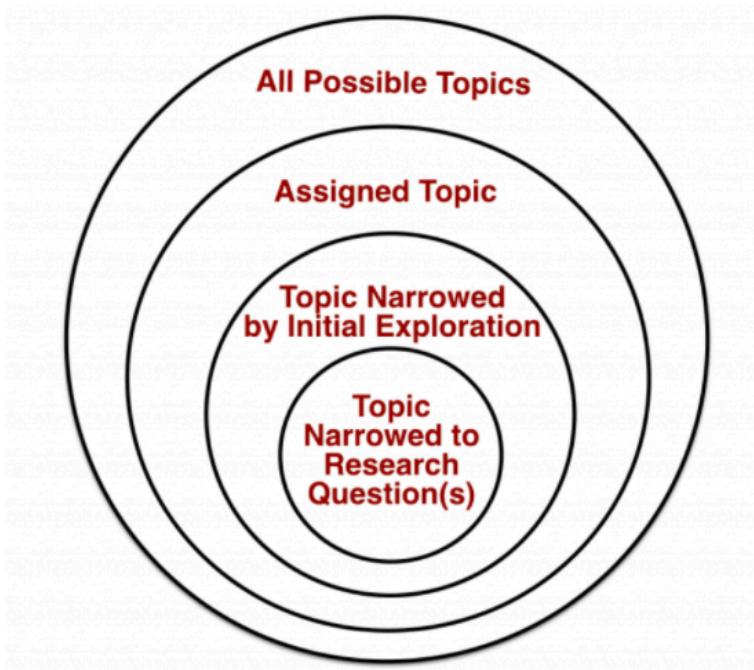
30.

CHOOSING A TOPIC

Questions to Consider

When it comes to academic research, choosing a topic can often be an especially challenging part of the process! In many instances, college instructors will provide guidelines or a broad topic for the assignment, but it's your job to choose a narrower topic within those guidelines. Here are some questions to ask yourself before you decide on a topic to research:

- Have I been assigned a specific topic or can I choose my own?
- Is there a particular current event that interests me or an issue I feel strongly about? Can I select a topic that is closely related to my college major?
- Did the instructor specify what types of information sources I need to use?



Visualize narrowing a topic as starting with all possible topics and choosing narrower and narrower subsets until you have a specific enough topic to form a research question.

Narrowing Your Topic

It is important to select a topic that not only interests you or sparks your curiosity, but also one that is neither too broad nor too narrow in scope. For example, if you are interested in climate change and wanted to choose that as a topic for your research paper, you would quickly find yourself overwhelmed with search results and information. You may find millions of search results about all different aspects of climate change, like

policy, history, and the environment, and feel lost about where to begin.

Remember when we read about the different types of sources? In this beginning stage of research, **tertiary sources** can be very useful! Reading general information that is written for readers who may not know a lot about the general topic can be incredibly useful in many ways, including:

- giving you a better feel for and overall understanding of the topic
- helping you know enough to start asking questions about the topic
- providing you with keywords you can use further along in the process
- seeing ways the topic can be narrowed

An important step in the research process is narrowing down your larger topic into a smaller, more researchable topic. What is it about climate change that is most interesting to you? If you don't know very much about it, that question will be harder to answer. Is there something in particular that you've learned in class that relates to this topic that you could explore with your research? Doing more reading can help get you started with that.

Watch the following video from NCSU Libraries [3:10] to see how to recognize if your topic is too broad or too specific, and to learn some tips on what to do:



A YouTube element has been excluded from this version of the text. You can view it online here:

<https://open.oclearnok.org/okinfolit/?p=146>

Note: Turn on closed captions with the “CC” button or use the [text transcript](#) if you prefer to read.

More Strategies

If you are having trouble selecting a topic or narrowing down your topic, here are some strategies that can help:

- Scan your course textbook for ideas;
- Browse some magazines or newspapers for current

events;

- Dive into *Wikipedia* or another encyclopedia to see what sparks your interest;
- Talk to your instructor, a librarian, or classmates for ideas and guidance;
- Browse the “issues” and “topic” pages in library databases that include reference sources, like *CQ Researcher* or *Opposing Viewpoints*. These topic pages are similar to *Wikipedia* and give general background information on a topic and link to more specific information, which is helpful when narrowing down your topic. Some library databases have great features for getting your research started, like pro/con viewpoints, background information, timelines, and bibliographies for further reading. If you are unfamiliar with what library databases your college has a subscription to, ask a librarian for help!

GALE IN CONTEXT

Opposing Viewpoints

Search...

Advanced Search

Browse Issues

Search

Browse Issues

Choose a category and browse the list below to find information about people, places, and subjects.


Topics: Science, Technology and Ethics

2016-2017 National Debate Topic (Engagement with China)	Facial Recognition Technology	Nuclear Energy
2019-2020 National Debate Topic (Arms Sales)	Factory Farming	Nuclear Safety
Abortion	Fake News on Social Media UPDATED	Nuclear Weapons
Abortion: Late-Term	Flint Water Crisis	Offshore Drilling
Abortion: Parental Consent	Food Safety	Oil Pipelines
Activism	Fossil Fuels	Online Dating
	Gender Identity	Online Education

The Opposing Viewpoints database has a “Browse Issues” page you can use to help choose a research topic.

Food Insecurity

OVERVIEW



Native Americans of the Navajo Nation Pick up Supplies at a Food Bank

Food insecurity refers to situations in which individuals or families have unreliable or limited access to safe and nutritious food supplies. The term is used to address the social and economic components inherent to the study of hunger, which is otherwise difficult to quantify empirically. According to a 2018 report published by the Brookings Institution, 12.3 percent of all American households and 16.5 percent of American households with children suffered from food insecurity in 2016. These rates mark improvements from the recent peaks seen during the 2008–2009 financial recession but still eclipse pre-recession rates dating to 2007 and earlier. The recession triggered a sharp rise in national food insecurity levels, though rates have followed a consistent downward trend ever...

Read more

A topic page provides background information on “Food Insecurity” in the Opposing Viewpoints database.

Sources

Image: “[Narrowing a Topic](#)” by Teaching & Learning, [Ohio State University Libraries](#) is licensed under [CC BY 4.0](#)

“[Picking Your Topic IS Research](#)” by [NC State University Libraries](#) is licensed under [CC BY-NC-SA 3.0 US](#)

31.

BACKGROUND READING

“It’s kind of crazy how you can actually learn about your topic if you just sit there and read about it.”

– Tulsa Community College Student in
Comp 2, Spring 2021

Gathering some general information on your research topic by doing background reading is always a great way to begin the research process. Background reading involves reading works related to your topic in order to get a bigger picture before diving into the deeper research. Similar to how you may consult Google Maps for a general idea of the streets and stores in a new city you plan to visit, background reading can help you feel more informed about where you are going with your research topic.

The Case for *Wikipedia*



Many people start their research these days with a preliminary Google search, which usually leads them to *Wikipedia*. Why? *Wikipedia* and reference sources in general (e.g., encyclopedias, atlases, handbooks) are excellent sources of background information. This is especially helpful if you are assigned or select a topic you are not yet very familiar with. Though *Wikipedia* is not considered a scholarly or academic source, it can be a great starting point for your research, allowing you to gather general information on your area of interest and giving you ideas for narrow areas of focus. The “content” box on the left-hand side of *Wikipedia* pages can help you quickly scan for potentially relevant and interesting subtopics.

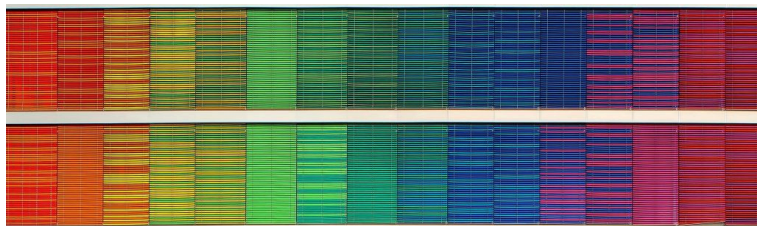
Wikipedia use is often discouraged by college professors because anybody can edit information on almost any *Wikipedia* page (though some pages that are more prone to vandalism have restrictions on who can and cannot edit them). Though the fear of inaccurate information being portrayed on *Wikipedia* is a legitimate concern, it is also true that *Wikipedia* is used by millions of people daily and errors are often corrected as soon as they are found. This is especially true on the pages that are used by many, such as entry pages

on famous people, landmarks, or current events. While many professors will not accept *Wikipedia* as a source cited in the research assignment you ultimately turn in, it can be a useful tool in the early stages of research when you are seeking background information. **In other words, *Wikipedia* isn't a terrible place to start if you have no other options; however, you never want to end there.**

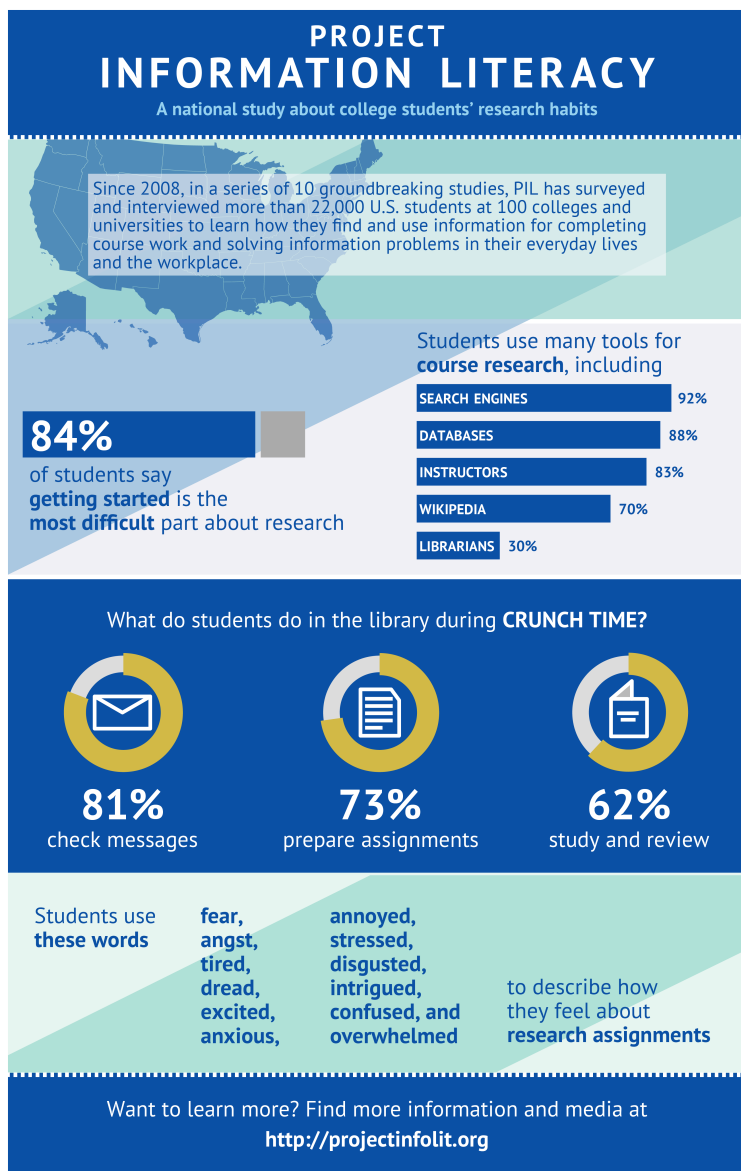
Sources

Image: “[Wikipedia Logotype of Earth Puzzle](#)” by [Freepik](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#)

CONCLUSION



The very first steps in the research process are often times the most important because they set the groundwork for the rest of your research. This chapter covered the importance of narrowing your broader topic down into a more manageable topic that interests you and the importance of performing some general background reading. Background reading can be done using library databases, Wikipedia, or quick online searches on your topic, which can help you find narrower sub-topics to focus on. Background reading at the beginning of your research helps familiarize you with your topic and with the specific vocabulary and keywords which can be used in your searches later in the research process.



Zoom in or read the text version of this infographic

Sources

Image: Head, Alison J., John Wihbey, P. Takis Metaxas, Margy MacMillan, and Dan Cohen. “[How Students Engage with the News: Five Takeaways for Educators, Journalists, and Librarians.](#)” *Project Information Literacy*, 16 Oct. 2018. Licensed under [CC BY-NC-SA 4.0](#)

Image: “[Rainbow Frequency](#)” by [Ricardo Gomez Angel](#) is in the [Public Domain, CC0](#)

PART VI

SEARCH STRATEGIES

Learning Objectives

By the end of this chapter, you will be able to:

1. Describe research questions and the process of creating one from a research topic
2. Identify the main concepts in your research question
3. Describe confirmation bias and how it can affect your research
4. Create a search statement and use various search tools to refine your results

RESEARCH QUESTIONS

Identifying What You Know & Don't Know

Once you have narrowed down your research topic and done some preliminary background reading on your topic, it's time to start thinking about—and writing down—what you already know about your topic and what you are interested in finding out. Identifying the gaps in your knowledge will help you to create **research questions** that will guide your research. For instance, if you have decided to research the effects of divorce on children, you'd want to first think about what knowledge you already have on that topic. Next, write down what you do not know but are curious to find out.

What I know:

- Divorce is common in the United States
- Sometimes children are negatively affected by their parents getting divorced

What I don't know:

- Is there a certain age that children are more prone to the negative effects of divorce?
- Can children carry negative effects of divorce with them into adulthood?
- How can divorce impact academic performance?
- How can the effects of divorce be mitigated?

Though you may not be aware of it, you are mentally engaging in this process many times throughout the day. The process of seeking information for everyday questions is a bit different than for research questions, however. Take a look at the examples of regular questions and research questions below. While regular questions are easily answered by a quick online search (e.g., Google), research questions will take more exploration.

Examples: Regular vs. Research Questions

Regular Question: Where is the tribal headquarters for the Muskogee Creek Nation?

Research Question: How does tribal

sovereignty effect judicial jurisdiction in Oklahoma?

Regular Question: What can I do about my insomnia?

Research Question: How do flights more than 16 hours long affect the reflexes of commercial jet pilots?

Regular Question: How many children in the U.S. have allergies?

Research Question: How does his or her country of birth affect a child's chances of developing asthma?

Regular Question: What year was metformin approved by the U.S. Food and Drug administration?

Research Question: Why are nanomedicines, such as doxorubicin, worth developing?

Regular Question: Could citizens register to vote at branches of the Metropolitan Library System in 2020?

Research Question: How do public libraries in the United States support democracy?

Choosing the Right Question

Once you have a list of several aspects of your topic that you are curious about, choose one that interests you most and create a research question from it. Be sure to choose something that aligns with the parameters of your assignment and that you believe is feasible to research given the amount of time and resources you have access to. Research questions that are too vague will leave you swimming in a sea of irrelevant information, while a research question that is too specific will make it very difficult to find enough information sources to support your research.

Too broad: What is the impact of divorce on academic performance?

Too narrow: What is the impact of divorce on female student's grades during fifth grade in the United States?

Just right: How can divorce affect a student's GPA in high school?

Sources

Examples adapted from “[Regular vs. Research Questions](#)” by Teaching & Learning, [Ohio State University Libraries](#), licensed under [CC BY 4.0](#)

IDENTIFYING THE MAIN CONCEPTS

Keywords

Your research question will be the foundation for your research process. The next step is to identify the main concepts within the research question that you created. Though many people type full questions word-for-word into online search engines, the algorithms of the search engines are programmed to pull out the most important keywords in what is typed into the search bar—some of the words in your research question are irrelevant when it comes to finding information sources. Main concepts, also sometimes called **keywords**, key terms, and/or key phrases, are almost always nouns. Words in your research question that are not likely to relate to the main concept are words like: the, is, affect, what, why, when, how, and are. When trying to identify the main concepts, think about what ideas and topics would need to be present in an information source for it to be relevant to you and your research.

How can divorce affect a student's GPA in high school?

How can **divorce** affect a **student's GPA** in **high school**?

In the example above, the main concepts, or keywords, in the research question are: divorce, student, GPA, and high school. These are the main concepts that will be the focus of your research; if an information source includes **all** of these concepts, then it is very likely to be relevant and useful to you. It is your job as a researcher to determine what is relevant to your research. Be aware that the main concepts from your research question serve as a base to launch your search for information and the keywords selected to describe your main concepts are likely to evolve during the process.

Searching is an iterative process: We try keywords, take a look at what we found and, if the results weren't good enough, edit our keywords and search again – often multiple times. Most of the time, the first keywords we try are not the best, even though Google may give us many results. It pays to search further for the sources that will help you the most. Be picky.

Sources

Textbox adapted from “[Why Precision Searching?](#)” by Teaching & Learning, [Ohio State University Libraries](#), licensed under [CC BY 4.0](#)

AVOIDING CONFIRMATION BIAS

What is confirmation bias? Here is a quick definition from the *Encyclopaedia Britannica*: “The tendency to process information by looking for, or interpreting, information that is consistent with one’s existing beliefs.” Although confirmation bias is typically unintentional, it is strong and widespread, with many [significant effects](#) and [real-world implications](#).

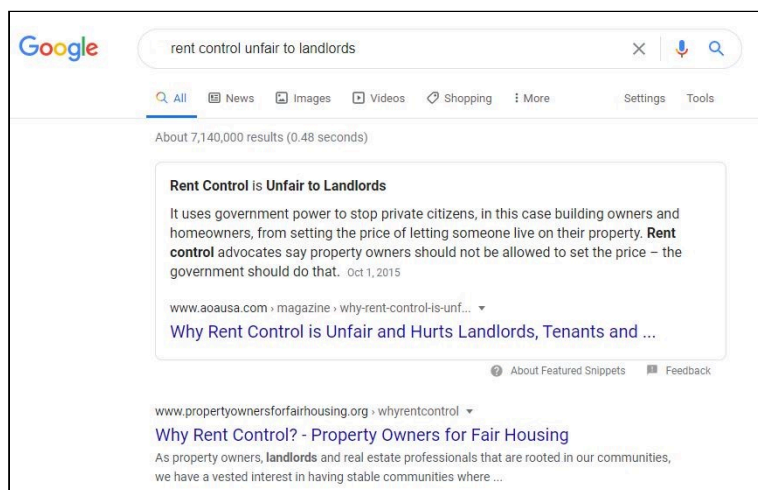
Impact on Searching

Some psychologists describe **confirmation bias** as the selective collection of evidence that supports what one already believes, while ignoring or rejecting evidence that supports a different conclusion. Experiments have found repeatedly that people tend to test hypotheses in a one-sided way, by searching for evidence consistent with their current beliefs. Rather than searching through all the relevant evidence, they phrase questions to receive an answer that supports their theory.

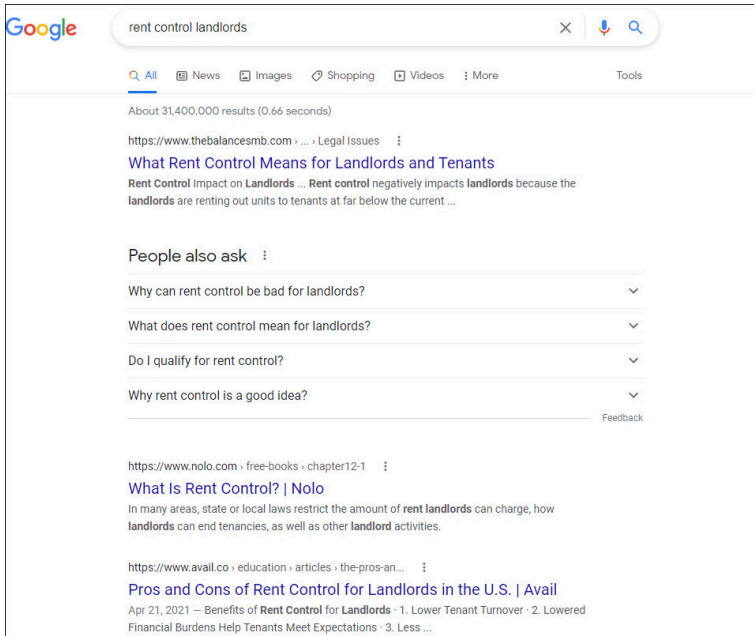
One of the primary types of confirmation bias is the [biased search for information](#). When you type a search or a question into Google, you will want to be careful that your choice of keywords does not unintentionally reflect a bias towards preexisting beliefs, or towards a particular preconceived answer.

Examples

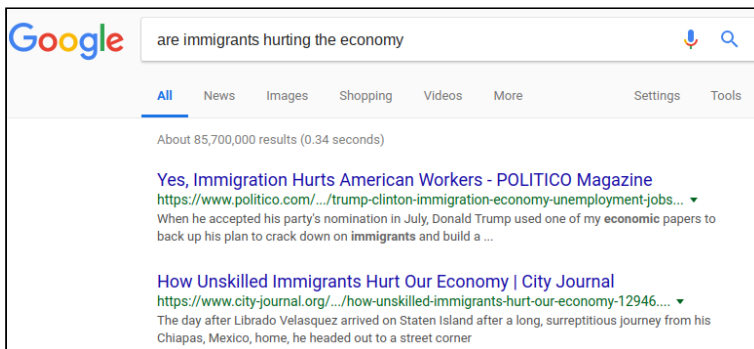
A search for “is rent control unfair to landlords” is likely to get results that describe rent control as unfair to landlords.



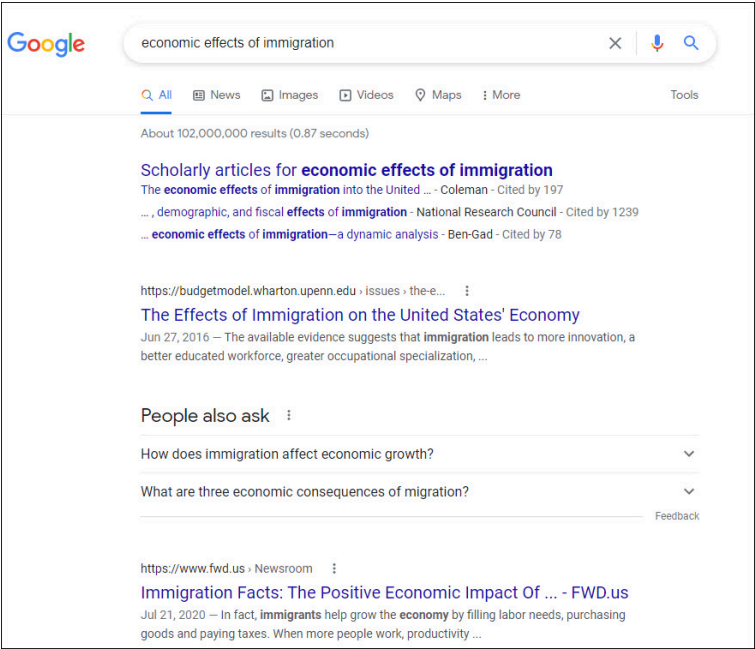
A better search might be something like “rent control landlords.”



A search for “are immigrants hurting the economy” is likely to get results that argue that immigrants hurt the economy.



A better search might be something like “economic effects of immigration.”



Concept Review Exercise: Avoid Confirmation Bias



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=161#h5p-46>

Sources

Casad, Bettina J. “[Confirmation Bias](#).” *Encyclopaedia Britannica*, 1 Aug. 2016.

Impact on Searching adapted from “[Confirmation bias](#)” by [Wikipedia](#), licensed under [CC BY-SA 3.0](#)

Page adapted from “Library 10” by [Cabrillo College Library](#), licensed under [CC BY 4.0](#)

BRAINSTORMING RELATED TERMS

Describing Main Concepts

In many instances, there are various ways that a main concept can be described. Not every information source will use the same term to describe the same thing! Take the topic of genetically modified food, for example. Though “genetically modified food” is commonly used, terms like “GMO,” “genetically modified organism,” “genetic engineering,” and “genetic modification” are often used by scientists to describe the same thing.

This is also a good time to look at your main concepts and decide if the keywords you’ve selected to describe them are too broad or too narrow. In the previous example, using the key phrase genetic engineering when looking for information about specific types of organisms that have been genetically modified, may be too broad of a term that yields irrelevant results. Also keep in mind the type of information you are searching for: If you need scholarly research articles, scientific

terminology is more likely to be used in those resources; if you are searching for information that may appear in popular periodicals (like magazines and newspapers), more general, everyday language is likely to be used (e.g., myocardial infarction versus heart attack).

Brainstorming Alternatives

It can be helpful to list your keywords and any alternative or **related keywords** or phrases that may be helpful to your search. You may want to return to those reference sources you used for finding background information on your topic to see what terms and phrases were used. You may also try searching in a thesaurus for some synonyms, and you may even come back to this step later in the research process once you have completed some initial searches and discovered some helpful new alternative terms. Some databases will also list “related terms,” which can be helpful for modifying your search. On the other hand, some keywords are unique, and have no other terms that could be used in their place.

Main Concept/ Keyword	Alternative/ Related	Alternative/ Related	Alternative/ Related
divorce	separation	split up	parental conflict
student’s GPA	grade point average	academic performance	academic achievement
high school	school	secondary school	—
fossil fuels	coal energy	unrenewable energy	—

37.

CREATING A SEARCH STATEMENT

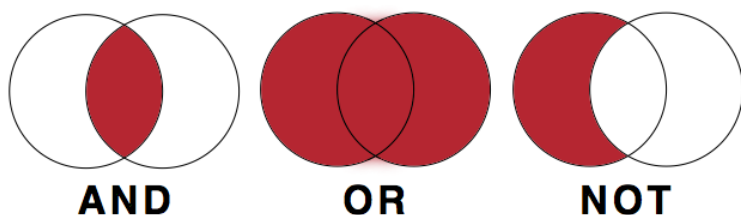
Combining Your Keywords

Once you have dissected your research question, found the main concepts, and listed several keywords to describe these concepts (e.g., synonyms, narrower terms, broader terms), it is time to combine those keywords in meaningful ways in order to perform a search for information resources. The combination of terms using various search strategies, called a **search statement**, will help you get more precise results than typing in a whole research question or just a few words into a search bar. Search statements are almost like a set of instructions given to whatever search option you are using (e.g., library catalog, library database) that describe what you want to find.

Boolean Operators

Named after the mathematician, George Boole, **Boolean**

operators are used as conjunctions that combine or exclude certain keywords in your search. Though Boolean operators are used in logic, mathematics, and computer science, there are three common Boolean operators used by search engines (e.g., library catalogs, academic databases, and some online search engines). Think of Boolean operators as instructions that tell a search engine what to do with your keywords. Some search tools need Boolean operators to be typed in all capital letters in order for them to work, so it is a good idea to always type them in all caps whenever you are using them.

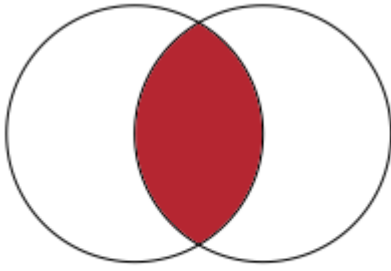


AND

The Boolean operator **AND** is used between all the keywords and phrases that you want to include in your search. When creating a search statement to find information on the effects of divorce on high school students' GPA, the Boolean **AND** operator would go between our three keywords/phrases:

Divorce AND grade point average AND high school

By doing this, the information sources that will be returned in the results will all contain all three of these keywords/phrases somewhere within them.

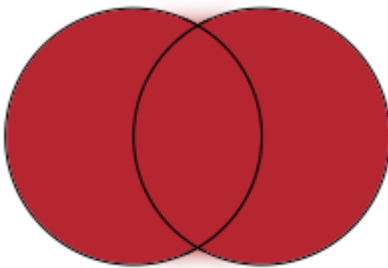


AND

OR

The Boolean operator OR is used to search for alternative keywords. Remember, there are many words that one could use to describe the same concept and OR gives you the option to search for multiple, synonymous terms at once. Instead of searching for various alternative keywords in different searches, OR allows you to search for multiple alternative keywords in the same search.

grade point average OR academic achievement



OR

NOT

The Boolean NOT excludes certain keywords from your search. This Boolean operator is not a commonly used one, but can be very helpful if you are getting many irrelevant results. Boolean NOT is best used when using keywords that have associations with multiple things. For instance, if you were trying to search for information on the animal Jaguar and kept getting too many results about the car brand Jaguar, you could use the NOT operator to exclude the word “car” from your search. Jaguar NOT car would exclude any information sources that contained the word car. Be aware that using NOT can exclude relevant results, as well. If an article or website that had some great information on the animal Jaguar, but just so happened to mention the word “car” in the text somewhere, it would be excluded from your results.

Washington NOT George

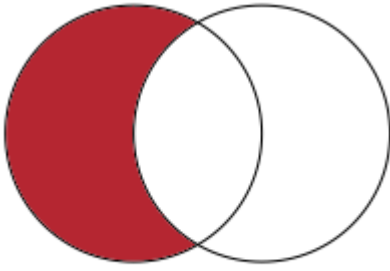
(when trying to find information on Washington the state, not George Washington)

Oklahoma NOT city

(when trying to find information on the entire state of Oklahoma not Oklahoma City)

Apple NOT fruit

(when trying to find information on Apple the computer company and not apples the fruit)



NOT

Phrase Searching

Phrase searching allows you to narrow down your search by specifying the exact order you want certain keywords to appear. Quotation marks around two or more keywords (also known as a “phrase”) will keep those words in that exact order during your search. For example, searching for the two keywords computer monitor without the quotation marks may find information sources that have nothing to do with computer monitors, but still contain the two words “computer” and “monitor” (e.g., an article about monitoring computer usage). Searching for “computer monitor” instead locks those keywords together as a unit and will only return results with that phrase “computer monitor.” Unless you are searching for a single keyword on its own, it’s a good idea to use phrase searching to make sure you are getting the most relevant results.

“Grade point average” OR “academic achievement”

Nesting

Just like Boolean, nesting is another concept taken from mathematics that is useful during information searches. When you are using more than one type of Boolean operator in your search statement, **nesting**—using parentheses around portions of your search statement—will help to organize what Boolean operators go with what keywords. Without nesting, most search engines and library databases will read your search statement from left to right, applying the Boolean operators in that sequence.

Let's look at two examples:

Divorce AND (“grade point average” OR “academic achievement”) AND “high school”

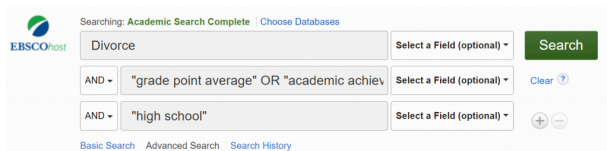
Divorce AND “grade point average” OR “academic achievement” AND “high school”

In the first example, the search will yield results that contain either key phrase “grade point average” or “academic achievement,” but in the second example without the parentheses, the search will either look for information sources with both the keyword “divorce” and the key phrase “grade point average” or it will find information sources with the key word “high school” and the key phrase “academic achievement.” The use of parentheses in this search statement would ensure that the Boolean OR is applied to the two alternative keywords.

Library databases will have the option of either a basic or advanced search. A basic search will require that you type out Boolean operators (in all capital letters) and the parentheses used for nesting. The advanced search will offer you drop-down menus for Boolean operators. If your search statement requires nesting, type the portion of the search statement that *would have* gone in parenthesis all on one line. See the screenshots below to view the differences between a basic and advanced search.

The screenshot shows the EBSCOhost search interface. At the top, it says "Searching: Academic Search Complete" with a link to "Choose Databases". Below this is a search input field containing the text "Divorce AND ("grade point average" OR "academic performance") AND". To the right of the input field is a green "Search" button with a help icon. Below the input field, there are links for "Search Options", "Basic Search", "Advanced Search", and "Search History".

EBSCOhost's basic search with the Boolean operators written out in all caps, phrase searching used, and parentheses used to nest the portion of the search statement that uses Boolean OR.



The screenshot shows the EBSCOhost Advanced Search interface. At the top, it says "Searching: Academic Search Complete" with a link to "Choose Databases". Below this, there are three search boxes. The first box contains the word "Divorce". To its right is a dropdown menu labeled "Select a Field (optional)". To the right of the second and third boxes is a green "Search" button. The second box contains the text "AND - 'grade point average' OR 'academic achiev". To its right is another dropdown menu labeled "Select a Field (optional)". The third box contains the text "AND - 'high school'". To its right is a third dropdown menu labeled "Select a Field (optional)". Below the search boxes, there are links for "Basic Search", "Advanced Search", and "Search History".

EBSCOhost's advanced search option where Boolean AND is selected from the drop-down boxes between the search boxes and the portion of the search statement that uses Boolean OR is written all on one line instead of typing parentheses.

Truncation

There may be times that you want to include all the different word forms of a certain keyword in your search without having to use the Boolean OR and type in each of the different word forms. To use truncation, type in the root word followed by a symbol. In most cases the symbol used for truncating words is the asterisk (*), but this may vary depending on the search engine or library database you are using. For example, searching for child* would return results containing the words child, children, childhood, childish, etc. Watch the following video [3:34] for an explanation of truncation, as well as phrase searching and nesting:



A YouTube element has been excluded from this version of the text. You can view it online here:

<https://open.ocollearnok.org/okinfolit/?p=171>

Note: Turn on closed captions with the “CC” button or use the [text transcript](#) if you prefer to read.

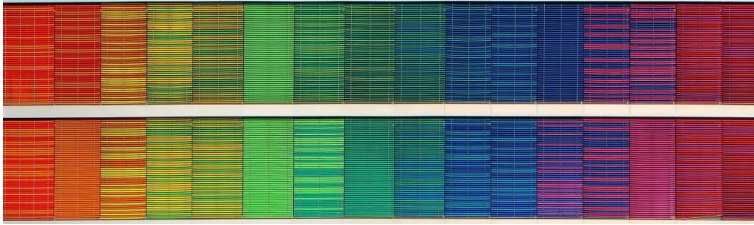
Sources

[“How Library Stuff Works: Boolean Modifiers “”, *, \(\)”](#) by [McMaster Libraries](#) is licensed under [CC BY 4.0](#)

Images from [“Search Statements”](#) by Teaching & Learning, [Ohio State University Libraries](#), licensed under [CC BY 4.0](#)

38.

CONCLUSION



This chapter covered what research questions are, why they are important, and how to create one from your research topic. The research question is the main question you will be trying to answer and will guide your research. You may find that you will change your research question, keywords, and search statement as you go about your research and learn more about your topic.

Sources

Image: “[Rainbow Frequency](#)” by [Ricardo Gomez Angel](#) is in the [Public Domain, CC0](#)

PART VII

FINDING MATERIALS IN THE LIBRARY

Learning Objectives

By the end of this chapter, you will be able to:

1. Search for physical materials using your online library catalog
2. Describe how libraries organize physical materials on the shelves

39.

CHAPTER SCENARIO

Scenario

Your US History professor has just assigned you a descriptive essay that is due in two weeks. For this essay, you will need to outline and describe the events that led up to the American Revolution. You are required to use at least two books and one documentary DVD; nothing can be from an **online source**. You determine that you need to visit the college library to find these resources, but you aren't sure how to find these resources in the library. You know you can ask for help from the reference librarian, but you want to find the resources yourself. Where do you start?

40.

USING YOUR COLLEGE LIBRARY'S SEARCH TOOL FOR BOOKS AND EBOOKS

How do you find books and eBooks at your college?

Your college or university library's webpage will have a search tool to help you find books and eBooks. While search tools differ slightly from institution to institution, they all have very common features.

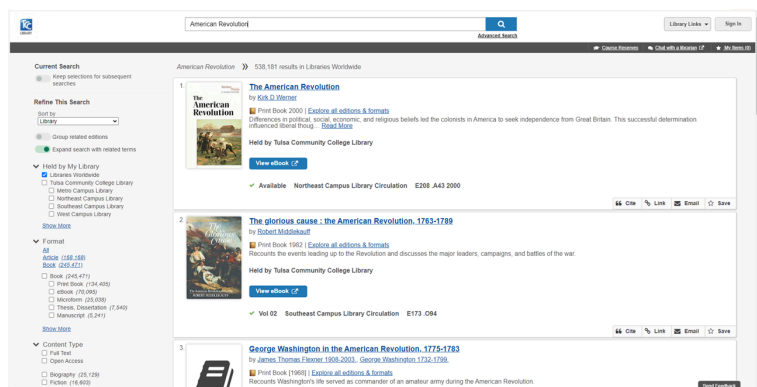
College and university libraries hold – *either own or subscribe to* – a wide range of materials: books, DVDs, academic

(scholarly) journals, magazines, newspapers, and more. When you search a library's holdings, you will not only find what your library physically owns, but it will also search for materials that the library has access to digitally or online. This can sometimes be confusing and can lead to a lot of search results. Fortunately, library searching tools like Discovery and others can provide you with ways to limit your search results so that you can identify and locate the specific kinds of resources you need.

Example Search

Let's consider the scenario presented at the beginning of this chapter. You need to find resources related to the American Revolution—specifically you need to find two books and one documentary film. Let's look at how you can do this in a couple of different Oklahoma college or university library search tools.

If you search for American Revolution at Tulsa Community college using their Discovery searching tool on their home page, you will see a search result that looks very similar to the one below:



A screenshot of Discovery Search at Tulsa Community College (click on the image to see text more clearly; use your browser's back button to return to the book)

Filtering Results: Availability & Resource Type

In your search results, you should notice some key details. Pay attention to the area to the left of your search results, where you can use filters that control your search results. There are filters that let you search for materials in a certain date range, look for particular formats like ebooks, books, journals or even an option to look at only peer reviewed materials! This is a great filter to use to limit your search results that you can access at your library. While search tools differ slightly from library to library, in Oklahoma they all look like this: search results on the right, filters on the left.

Notice other tools at your disposal: you can see if the

resource you want is available for checkout, and the location where that resource can be found.

41.

CRITICAL THINKING

Critical Thinking: Which Book?

In our example search, we found over 433,000 results including 150,000 books. This seems like a great thing because in the scenario, we only need two books. But in reflection, that's a lot of books to consider!

How will you determine which two will be the best ones for your research needs? What will you be looking for, and what strategies will you use to assist you to focus your search results?

The screenshot shows a library search interface. At the top, the search bar contains 'American Revolution'. Below the search bar, a red circle highlights the text '433,591 results in Libraries Worldwide'. On the left sidebar, under 'Filter by Format', a red circle highlights the options 'Article (1693)' and 'Book (1690)'. The main results area shows the first result, 'The American Revolution', with a book cover image. Below the title, it lists the author 'Kirk D. Werner (Editor)', the print book year '2000', and the electronic version year '[2000]'. A summary snippet is visible: 'Differences in political, social, economic, and religious beliefs led the colonists in America to seek... One and encouraged other revolutionaries to break out.' The result is marked as 'Available' and lists 'Tulsa Community College Library, Northwest Campus Library Display' with the call number 'E208 .A43 2000'. Below this, there is a section for 'Worldwide Editions and Formats' with a link to 'View All (3)'. The second result is partially visible, titled 'The glorious cause - the American Revolution, 1763-1782' by Robert M. Middlekauff.

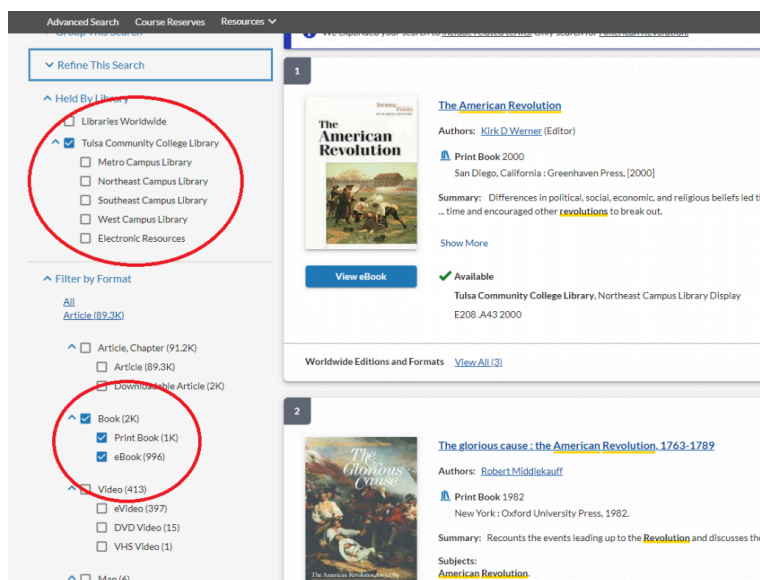
You can click on the image to more clearly see text; use your browser's back button to return to this page.

42.

FINDING YOUR BOOKS

Interpreting Your Search Results

After you identify two books that you think you could use, you will need to find those books in the library. Let's take a closer look at the search results:

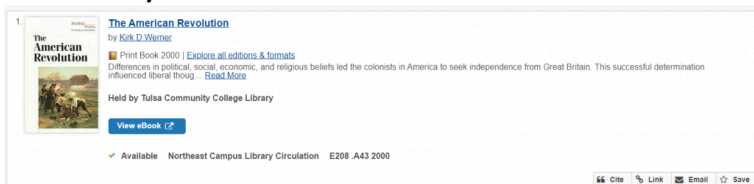


In the above image, we have limited our search results to “Tulsa Community College Library” and to “Books and eBooks” as our resource type. These active filters are on the left

side of the above image. The top two results in the example are books that are available in the library. We can confirm that these are books by the “Book” label next to the image of the item in the search result. Below the book’s cover, there is another label indicating the book’s availability. You will also notice that while these are books, we have them available to read online as eBooks through the “View eBook” button. Both of these books are “Available,” meaning they should be in the library. You can tell in this search tool that the books are available because of the green checkmark. In some library search tools, there will be an “available” label. If the book is checked out, missing, or simply unavailable, you would see a red “X” or the label “unavailable.”

Call Numbers

The first book is called *The American Revolution*. According to the search tool at Tulsa Community College, it is available at their Northeast campus. At Oklahoma universities with big libraries such as the University of Oklahoma’s Bizzel Library, we would likely see on which floor this book is located.



After the location (Northeast Campus Library Circulation), you should see a set of numbers. These numbers

are known as call numbers. Call numbers allow libraries to organize their resources on their shelves in a logical manner; that is, they will be shelved either numerically or alphanumerically (using letters and numbers) according to these call numbers. In the example above, the book's call number is E208 .A43 2000. This means the library has the book shelved with other books where the call numbers begin with the letter "E".

But why do some call numbers begin with letters while others start with numbers? It all depends on the system your library decides to use to organize their materials. For further explanation, see [How Libraries Organize Materials](#).

43.

FILTERS AND ADVANCED SEARCH OPTIONS

Filters

Search tools provide you with many options to filter your results. We have already discussed “Availability” and “Format.” Other filters that you might see at your library include Publication Date, Subject, Author, and Language.

Advanced Search

You can also click on an option called “Advanced Search” next to the search box at the top of your results (you might have to do a search first to see this depending on how your library has it set up). This option will allow you to be much more specific with your search. For example, let’s say you wanted to find books that have “American Revolution” in the title because you feel that those books will be most relevant to your

topic. You also want to find books that address *the causes* of the American Revolution. This is hard to do in a simple search box. But in the Advanced Search option, you have much more control.

Below is an image of the Advanced Search. You should be able to see that in the first line, the search is set up so that the Title contains “American Revolution.” Then in the second line, there is the option that any field should contain the word “causes.” The search is also limited to a Material Type of “Books.” This Advanced Search has additional menus with other options we could use, such as language and date. You can even add additional keywords by choosing “Add a New Line.”

Search for:
☒ Books, Articles, and More
☐ Books & Videos at PCC Library
☐ Articles
☐ EBSCO

Search filters

Title
contains
american revolution

AND
Any field
contains
causes

+ ADD A NEW LINE
CLEAR

Material Type
Books
Language
Any language
Start Date:
Day Month Year
End Date:
Day Month Year

→ Title contains american revolution AND Any field contains causes
SEARCH

44.

PRACTICE

Chapter Scenario & Practice: Finding Other Resources

In the scenario, in addition to finding two books, your history professor also wanted you to find a documentary DVD. How would you find this in the library? What filters might you use? And where do you think it would be located?

TASK: Use your library's search to see if you can find one.

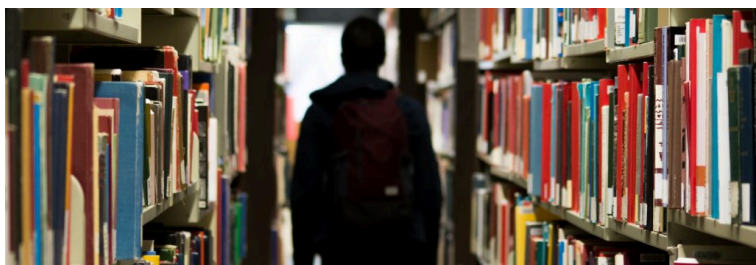
If your college library doesn't have DVDs, are there other options for you through the library? If not, where else could you look?

HOW LIBRARIES ORGANIZE MATERIALS

Two Systems

There are two main systems that Oklahoma college libraries use to organize materials on the shelves: the Dewey Decimal Classification (DDC) and the Library of Congress Classification (LCC, sometimes also informally called LC or LOC). Both classification systems provide a systematic way for the libraries to keep their materials organized.

Which classification system a library uses depends on local preferences and practices, but in general, academic and research libraries typically use the Library of Congress Classification, while public libraries tend to use the Dewey Decimal Classification. While we will introduce you to both systems, please note that your college library probably only uses one of these.



Sources

Image: “[Man, Backpack, Books](#)” by bantersnaps is in the [Public Domain, CC0](#)

46.

DEWEY DECIMAL CLASSIFICATION (DDC)

The **Dewey Decimal Classification (DDC)** was created by Melvil Dewey in 1873 and is still used by libraries today to organize their collections. The DDC strives to assign all the knowledge in the world to 10 different topical areas organized by number so that each range of numbers (starting with 000–099) is assigned a broad topic area. Below is an outline of these topics.

Dewey Decimal Classification System: Topics

000–099: Computer Science, Information and General Works

100–199: Philosophy and Psychology

200–299: Religion

300–399: Social Sciences

400–499: Languages

500–599: Science

600–699: Technology

700–799: Arts & Recreation

800–899: Literature

900–999: History & Geography

These 10 broad topics are then subdivided into 10 more specific topics. As an example, the 900s–History & Geography is divided below.

900s: History & Geography

900–909: History

910–919: Geography & Travel

920–929: Biography & Genealogy

930–939: History of the Ancient World (to ca. 499)

940–949: History of Europe

950–959: History of Asia

960–969: History of Africa

970–979: History of North America

980–989: History of South America

990–999: History of Other Areas

And then these get broken down even further! Let's look at the 970s.

970s: History of North America

970: History of North America

971: Canada

972: Mexico, Central America, West Indies

973: United States

974: Northeastern United States

975: Southeastern United States

976: South Central United States

977: North Central United States

978: Western United States

979: Great Basin & Pacific Slope region

When we look at this book, we can see that its Dewey number is in the 900s. That means it is part of History & Geography. Specifically, it is a 973, which means it is about History of North America–United States. The .3 refers to the time period between 1775 – 1789.

1



BOOK

The American Revolution

Werner, Kirk D., editor.

2000



Available at [Shatford Library Third Floor \(973.3 A 11\)](#) >

47.

CRITICAL THINKING

Critical Thinking: The DDC

Reflect on the 970s – History of North America, and the topics that are presented. Do you see anything surprising? If so, what? And what implications do you think this might have for libraries?

970: History of North America

971: Canada

972: Mexico, Central America, West Indies

973: United States

974: Northeastern United States

975: Southeastern United States

976: South Central United States

977: North Central United States

978: Western United States

979: Great Basin & Pacific Slope region

48.

LIBRARY OF CONGRESS CLASSIFICATION (LCC)

How It Works

In contrast to the DDC, the **Library of Congress Classification system (LCC)** strives to divide all the world's knowledge into 21 topical areas and groups them alphanumerically. That is, they first assign a topic area to a letter, and then divide that topic by numbers. Created by the U.S. Library of Congress to meet the needs of its collection, the first outline of the LCC was released in 1904 ("Library of Congress Classification").

Library of Congress Classification

A: General Works

B: Philosophy, Psychology, Religion

C: Auxiliary Sciences of History

D: World History

E: History of the Americas

F: History of the Americas

G: Geography, Anthropology, Recreation

H: Social Sciences

J: Political Science

K: Law

L: Education

M: Music

N: Fine Arts

P: Language and Literature

Q: Science

R: Medicine

S: Agriculture

T: Technology


U: Military Science

V: Naval Science

Z: Bibliography, Library Science, Information Resources

The LCC then adds numbers after each letter to get more specific within each topic area. Our example from before has the call number E203.A5725. This call number falls within the range E201–298, which is reserved for works about the American Revolution.

2




BOOK

The American Revolution

Carey, Charles W.

©2004

 Available at Shatford Library Second Floor (E203 .A5725 2004) >

How to Find a Book on the Shelf

Please watch this video explanation [1:49], which demonstrates the different elements of LCC call numbers and how they are ordered on a library shelf:



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=200#h5p-49>

Note: This video has open captions. You may also use the [text transcript](#) if you prefer to read.

Find your institution's contact information and options for assistance here:



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=200#h5p-48>

Sources

“[Library of Congress Classification](#).” *Librarianship Studies & Information Technology*, 23 June 2020.

“[Understanding Call Numbers \(Research Minutes\)](#).” *YouTube*, uploaded by Ryerson University Library & Archives, 14 Jan. 2011.

Concept Review Exercise: Understanding LCC



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=200#h5p-44>

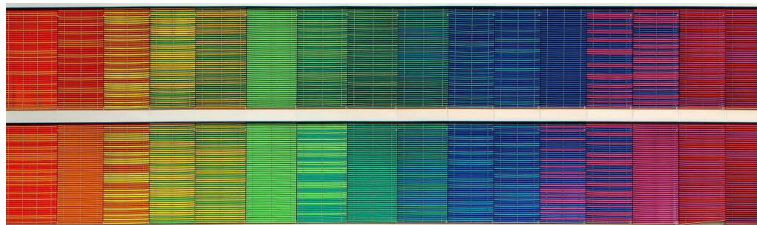
CRITICAL THINKING

Critical Thinking: Other Considerations

Libraries use classification systems such as the DDC or LCC to assist with keeping their materials organized on their shelves, but that's not the only thing that they might use. They might have separate sections to group similar items together. For example, they might have a DVD collection. These may or may not use DDC or LCC, but they will be organized separately from the books. Likewise, there may be a Reserves section, which you may not be able to browse yourself, but you might be able to search for through the library search tool.

What other collections does your library have that might be separated within the library? How will you be able to search for items in those collections? What do you need to know in order to find those items in the library?

CONCLUSION



This chapter outlined how your library organizes materials and provided guidance on how you can search for resources that the library physically owns. Even though there are standards such as the Dewey Decimal System that libraries use to organize their materials, you may find that your college library has some unique and different ways of providing access to their physical collection. So, explore your library shelves and ask a librarian if you're unsure how to find an item. After familiarizing yourself with the library, it will become much easier to access those resources that you will need to complete your course assignments successfully.

Sources

Image: “[Rainbow Frequency](#)” by [Ricardo Gomez Angel](#) is in the [Public Domain, CC0](#)

PART VIII

USING LIBRARY DATABASES

Learning Objectives

By the end of this chapter, you will be able to:

1. Differentiate between resources found in library databases and websites
2. Identify key differences between resources such as scholarly journals, magazines, and newspapers
3. Identify different types of library databases based on resource types
4. Use library databases and their embedded tools to support your research assignment

51.

CHAPTER SCENARIO

Scenario

Your English professor has assigned the class an argumentative essay. Your assigned topic for the essay is artificial intelligence. You are required to find evidence to support your argument from scholarly journals, magazines, newspapers, and books. You have to cite at least seven sources, at least one of each type, and you also have the option to use a video for one of your sources. Your professor states that she doesn't want you to use websites for your essay; you must use library databases and format your citations according to MLA. You are familiar with

searching for books in the library, but unsure how to find the other resources.

LIBRARY DATABASES: WHAT'S INSIDE THEM?

Why Library Databases?

Although the internet houses great resources, some websites are not appropriate for college-level research, and sometimes professors have concerns over the information that students might encounter online. In a previous chapter we explored [fact-checking](#), and in a later chapter, we will discuss [web search strategies](#) to find relevant and reliable resources. Unfortunately, you can't find everything through a Google search, which is one reason why you'd want to use a library database.

Most library databases provide access to resources that you would normally subscribe to or pay for, such as a newspaper. You can access some newspaper articles for free online, but websites often limit the amount of articles you can view freely. For example, if you visit the *Tulsa World* or *Daily Oklahoman* online you might be able to view one or two articles. After that point, you will need to purchase a subscription to read more.

But a library database will provide free access for students and professors at your college.

Another advantage of using a library database is that the resources are secured and safe to access. Some websites require you to accept additional considerations and agreements before accessing materials. But what are you agreeing to? Websites, by their nature, are dynamic resources; their content can change without warning. A resource in a database typically will not change and will often come with a permanent link (sometimes called a “permalink”) so that you can find and share the resource in the future.

Please watch the following video [2:34] for a concise summary of the key differences between using library databases and the Web for your research:



A YouTube element has been excluded from this version of the text. You can view it online here:
<https://open.ocolearnok.org/okinfolit/?p=211>

Note: Turn on closed captions with the “CC” button or use the [text transcript](#) if you prefer to read.

Additional Database Features

Library databases tend to come with additional tools to support your research. These tools can include help with writing citations, easy-to-use filters to limit your search results, and options to save the article for later use. Whenever you use a library database, you will want to become acquainted with these additional features that will streamline and support your research process.

Takeaways: Library Databases vs. Websites

Library Databases		Websites
Cost	Always free for students to access.	Varies. Sometimes you can access resources freely, other times you can't.
Privacy & Security	Exposure of students' information is limited through the databases.	You often must "agree to terms" before accessing content on a website.
Reliability	Information in a library database will not change unless the subscription changes.	Websites are dynamic, and content can change daily.
Features	Databases typically come with a range of tools to help you find relevant resources. You have more control over the results you want to see.	Search engines online have limited features to narrow down results. You have less control over the results you want to see.

Sources

“[What Are Databases and Why You Need Them.](#)” *You Tube*, uploaded by Yavapai College Library, 29 Sept. 2011.

53.

CRITICAL THINKING

Critical Thinking: Databases or Websites?

Sometimes instructors will say: “Don’t use **online sources**—use library sources only!”

“But library databases *are* online,” you say to yourself. But, of course, you also understand that when your instructor says “online sources,” they are actually referring to public websites or sources you can easily find using Google.

So, without your instructor’s requirements, how would you decide when to use a library database versus a public website? What are a few of the advantages and disadvantages of each?

CHOOSING A LIBRARY DATABASE

Many Options

If you look at your library's database list, you might feel overwhelmed and confused. Why are there so many databases to choose from, and which one should you use? The first thing to realize is that library databases are each unique and specialized. Because of this, libraries tend to subscribe to multiple library databases to provide access to a range of materials that support the curriculum of the college. To make a good database choice, you need to know the content access provided by library databases.

EBSCO, ProQuest, Gale

There are three big companies in the world of library databases: EBSCO, ProQuest, and Gale. Most likely, your library will have access to library databases that are owned by at least one of these, if not all three. Their library databases will

generally provide you access to digital versions of resources: ebooks, newspaper articles, magazine articles, and scholarly journal articles. These companies also provide access to multimedia resources, such as streaming video and audio files. Some of the most common library databases from these companies are EBSCO's Academic Search Premier, ProQuest Central, and Gale's Academic OneFile. Any of these three library databases will connect you to the full range of resource types.

These three companies (EBSCO, ProQuest, and Gale) own so many library databases that they each also offer an aggregator search tool, which your library might or might not have access to depending on what they subscribe to. An aggregator search tool allows you to search across all of the library databases that your library subscribes to, owned by a single company. So, instead of searching in each of EBSCO's library databases individually, you can do a single search using EBSCOhost. Likewise, you can use the ProQuest Platform to search across most ProQuest resources, and Gale's PowerSearch to search across most Gale library databases. These aggregators also allow you to customize which library databases you want to search within. Note, however, that additional features are often available when library databases are searched one at a time.

Beyond these three companies are many others that your library might subscribe to that can be just as, or maybe even more, resourceful than the databases already discussed.

Speaking to one of your librarians to understand which databases are the most appropriate for your research topic is always strongly recommended.

CRITICAL THINKING

Critical Thinking: Choosing a Database

Take a minute to review the databases available through your institution's library; then, thinking back to the scenario for this chapter that asks you to find resources about artificial intelligence, answer the following questions:

- Which library databases would you use?
- Why would you use those specific library databases?
- Are there any library databases that you would avoid? Why?

56.

SPECIALIZED LIBRARY DATABASES: VIDEOS, EBOOKS, AND MORE!

Your go-to databases for finding scholarly journal articles, newspaper articles, and magazine articles will probably come from EBSCO, ProQuest, and Gale. But what about videos, ebooks, and other special resources? Finding these types of resources will require you to become familiar with specialized databases that your library might subscribe to. Below are charts categorized by resource type listing some of the more popular databases. Your library may subscribe to only a few of these databases or even other databases not listed here, so make sure to always check with a librarian about what resources are available to you.

LIBRARY DATABASES WITH VIDEOS	TYPES OF VIDEOS
Films on Demand	Mostly documentary and instructional
Academic Video Online	Mostly documentary and instructional
Swank	Popular movies
Kanopy	Mostly documentary, with some popular arthouse films
Intelecom	Mostly instructional

LIBRARY DATABASES WITH EBOOKS	TYPES OF EBOOKS
Gale Ebooks	Reference (such as subject-specific encyclopedias and dictionaries) and other non-fiction
EBSCO Ebooks	Non-fiction and fiction
Ebook Central (ProQuest)	Non-fiction and fiction
Salem Ebooks	Reference

SPECIALIZED LIBRARY DATABASES	TYPES OF RESOURCES
Artstor	Images
JSTOR	Scholarly Journals and ebooks
Project Muse	Scholarly Journals and ebooks
Statistical Abstract of the United States	Statistics, Demographics
OverDrive	Audio books, ebooks, magazines
Mango Languages	Language instruction
CQ Researcher	Reports on social issues
Opposing Viewpoints	Articles and resources focused on social issues
SIRS	Articles and resources focused on social issues
Facts on File	Articles and resources focused on social issues

Concept Review Exercise: Specialized Databases



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<https://open.ocolearnok.org/okinfolit/?p=219#h5p-47>

57.

SCHOLARLY ARTICLES, MAGAZINE ARTICLES, AND NEWSPAPER ARTICLES

Identifying Different Types of Articles

In our scenario, you have to identify and find different types of articles. As pointed out already, the library databases often come with filters that allow you to separate out these different types of resources. There are even some library databases, such as JSTOR, that specialize in scholarly journal articles, or ProQuest's US Major Dailies, which specializes in newspapers. But what if you're using an aggregator, such as EBSCOhost, and you aren't using a filter to limit your search? How will you be able to differentiate a newspaper article from a magazine article or from a scholarly journal article? And why does it matter? There is a [separate chapter](#) that goes into the differences between information resources in more depth, but

for quick reference consider the following characteristics of these resource types.

Scholarly Articles



Scholarly journal articles are usually long. They are also written with academic language that can sometimes be very technical. Especially in the sciences and social sciences, you will notice predictable sections within them, with subheadings like introduction, literature review, methodology, results/findings, and discussion/conclusion. They'll have a list of references or works cited, and are often authored by more than one person (especially in the sciences and social sciences). Scholarly journal articles focus on research topics and questions, which means that they may not be reflecting on specific events happening at the moment of publication; rather, they tend to reflect on trends and larger issues.

Magazine Articles



Magazine articles will generally be shorter than scholarly journal articles, written so that they can be understood easily by non-experts, and may or may not have different sections within the article. If they do, the subheadings will not be as predictable as they are in a scholarly journal article from the sciences or social sciences, and the section headings will probably relate back to the topic of the article. A magazine article in PDF format will probably be colorful and have images. You probably won't find a list of references or works cited at the end of a magazine article. In contrast to scholarly journal articles, magazine articles tend to look at specific events occurring at or around the time of publication, and the authors try to analyze that event to explain why it's important.

Newspaper Articles



Newspaper articles are usually the shortest of all three article types. Like magazine articles, they are written in simple language to be understood easily by the general public, but because they are shorter, they don't usually have different subsections within the article. While a printed newspaper article may have some images, there will be fewer than in magazines; newspaper articles in library databases are typically only available as HTML (i.e., no images). They also tend to describe events that are occurring at the moment the article was published, with very little analysis of importance other than the fact that the event happened. First-hand accounts from people who experienced an event are often reported in newspaper articles. Exceptions to this would be editorials and “op-ed” pieces, which are opinion-based articles about an issue.

Sources

Image: “[Articles](#)” by [Freepik](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#)

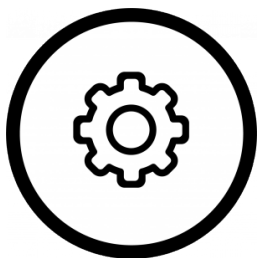
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Image: “[Newspaper](#)” by [Freepik](#), adapted by [Aloha Sargent](#),
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58.

YOU FOUND SOME RESOURCES! NOW WHAT?

Options



Most library databases give you the option to save, download, or email the resources that you find. You will want to get familiar with how the library databases present these options to you.

For example, some library databases allow you to create your own free account within them. The advantage of creating an account (for example, with EBSCO, or ProQuest) is that you may be able to create folders to store links to resources you can easily find again later. You might also be able to save searches so that you do not have to remember which keywords you entered. You can sometimes set up alerts attached to those searches, so if new resources are added to the library database (which can happen daily), you will be notified about those new relevant resources.

Emailing Sources



But maybe you do not want to set up an account. Not a problem! Many library databases allow you to send an email to yourself with the article or a link back to the article, without ever creating an account for the company that makes that database (You will, however, have to log in to your college library's website to access library databases from off campus, so the database knows you are a student there. If you're unsure how to do this, ask a librarian at your college.) This is where you will need to explore what options the library database offers. Sometimes, the email option is simple; sometimes you will have to fill out a form. If you see a form that needs to be filled out, review it carefully. The library database might be offering some great ways to save you time later, such as an option to include the citation of the article in the email. You can also send the article to other people: If you're working on a group project and everyone needs to look at the same resources, you might want to include your group members on the email form.

Downloading Sources



Some people prefer not to email the resource and they just want to download it. This is sometimes an option, depending on the library database and the resource. If it's available as a download, you might want to keep notes about the resource, so that you remember in which library database it was located, and any publication details you might need to build a proper citation for the resource.

Sources

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Image: “[Mail](#)” by [Tomas Knop](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#)

Image: “[Settings](#)” by [Freepik](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#)

PREPARING TO USE A DATABASE: WHAT DO YOU NEED TO FIND?

One of the main tasks that you will do within library databases is find articles, often scholarly journal articles. Fortunately, many library databases include filters that limit your results to just scholarly journal articles. This is especially helpful when using the big aggregator search tools from EBSCO, ProQuest, and Gale. But there are often other considerations to take into account when finding resources. As a reminder, always check your assignment requirements and ask yourself these questions:

Assignment Guiding Questions

1. How many resources am I required to find?
2. What types of resources am I required to find?
3. Are there any types of resources that I am not allowed to use?
4. Is there a requirement related to the publication date of the resources?
5. Are there any other requirements that might be helpful to remember (due dates, citation styles, etc.)?

Let's look at our scenario for this chapter to answer these questions:

Chapter Scenario

Your English professor has assigned the class an argumentative essay. Your assigned topic for the essay is artificial intelligence. You are required to find evidence to support your argument from scholarly journals, magazines, newspapers, and books. You have to cite at least seven sources, at least one of each type, and you also have the option to use a video for one of your sources. Your professor states that she doesn't want you to use websites for your essay; you must use library databases and format your citations according to MLA. You are familiar with searching for books in the library, but unsure how to find the other resources.

Using information in the Scenario, we can answer the guiding questions as follows:

Answers to Assignment Guiding Questions

1. Seven resources.
2. At least one scholarly journal article, one magazine article, one newspaper article, and one book. That's only four out of the seven. You must find more of those resources to equal seven, and you can also use videos. All resources must come from library databases.
3. You can't use websites.
4. No publication date restrictions were provided.
5. MLA citation style must be used.

Having this information outlined for yourself will help you stay focused as you search through the library databases. After identifying some keywords to seek resources related to your topic, you can then use filters to limit your results to specific resource types (depending on the library database you are

using). You should also be able to limit to a publication date when necessary.

FULL TEXT? HTML, PDF, AND EPUB

Full Text Options

You might also see an option to limit your results to full text. Full text means that you will have full access to the resource. If you want to be able to read the article or view the resource, make sure that the full text option is selected. If you see search results that only bring back a summary, an abstract, or a citation for an article, it's most likely because you didn't select the "full text" option in your search filters.

Sometimes, there may be different ways to read the full text of an article or ebook. You might see HTML, PDF, or ePUB presented as options, and each format has strengths and weaknesses. In the end, it's up to you to decide which one to use. But you will want to be familiar with each type, because sometimes the resource you want to use will only be available in one of them.

HTML



HTML stands for Hypertext Markup Language. This is the basis for all text online. When you see HTML as an option to access the full text of an article or an ebook, it means the article will be presented as text only—much like text on a website, but without any flashy graphics or images. Just the text. What's great about this is that the text can be manipulated by the library database—manipulated in a good way. It can be converted into other languages, or the library database can read the text aloud or generate a file for you to download an audio version of the resource. HTML full text also tends to load rather quickly, and you can easily copy, highlight, and search through the text using keyboard shortcuts such as CTRL+F or Command+F. There are also disadvantages: Because there are no graphics or images (or when they are available, they are often separate from the text), you can lose context and vital information. Page numbers may be missing, and the text itself may have been loaded with errors from the original source. These can all be very problematic if you will be citing the resource.

PDF



PDF stands for “portable document format” and describes a document that retains or reflects the formatting of a formally published, printed document, with all the images and charts, page numbers, and publication

information. In some PDFs, it is possible to select and copy the text, and the text can be recognized by screen readers and other accessibility software. Other PDFs are a scanned image of an original printed document, and the file may not be readable as text by your computer—it might just see an image. This makes it hard to copy and highlight text, and nearly impossible for the computer to translate it into a different language. Depending on the file size and the speed of your internet connection, some PDFs might take longer to load. But you can download them and save the file to read offline later, which is not always possible or easily done with HTML-based resources. Overall, though, PDFs are preferable when doing academic research, and are highly recommended to use because they preserve the look of the original source.

EPUB



EPUB can be described as a cross between PDF and HTML. This is a file type that you can download and access offline, that will have images embedded within it. But like HTML, the text can be manipulated by the computer or device. EPUBs are adaptable to screen size; text can be reformatted to be easily read on various devices, such as a smartphone or tablet. A PDF doesn't have that flexibility. The text in EPUBs can be recognized by screen readers and other accessibility software more easily than in PDFs. Disadvantages are that you will find EPUBs almost exclusively with ebooks, and you will need a separate EPUB reader software to read the resource offline; whereas most devices come equipped with PDF readers, not all devices have an EPUB reader installed.

Sources

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Image: “[PDF](#)” by [Freepik](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#)

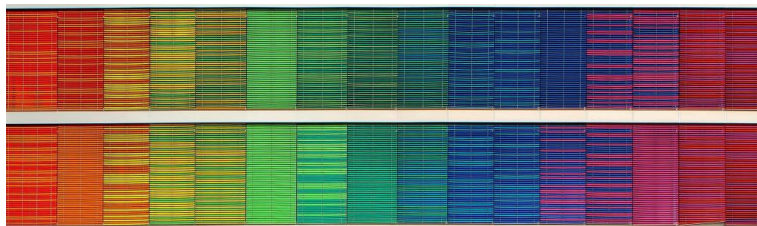
61.

CRITICAL THINKING

Critical Thinking: What Type of Resource is it?

You come across an article that is available in both PDF and HTML format. You're unsure if it's a magazine or scholarly article. What are some key indicators you will look for to assist you in determining which one it is? And then will you download it, email it, or save it for later? Why would you choose one of these ways over the other?

CONCLUSION



In this chapter you were introduced to library databases. Library databases are collections of resources that are selected by your college library to support your academic endeavors. Sometimes the databases specialize in a specific type of resource like streaming videos—other times, they provide you with a wide range of resources such as scholarly journal articles, magazine articles, and newspapers. Library databases can assist you in making your research efforts much more efficient, effective, and organized; and as a student at your college, you will have free access to use your library databases that connect you to content that is not typically free on the Web.

Sources

Image: “[Rainbow Frequency](#)” by [Ricardo Gomez Angel](#) is in the [Public Domain, CC0](#)

PART IX

SEARCHING THE WEB: STRATEGIES AND CONSIDERATIONS

Learning Objectives

By the end of this chapter, you will be able to:

1. Describe advantages and disadvantages of doing research on the Web
2. Identify tools that support online research
3. Use search strategies to find resources that are relevant and credible

63.

CHAPTER SCENARIO

Scenario

Your professor wants you to research the topic of antiracism. Specifically, you are to search for information regarding the 1921 Tulsa Race Massacre. Your professor explicitly states that the library databases cannot be used for this assignment, and you will need to find credible primary and secondary sources online. She wants you to submit an annotated bibliography using MLA style, that includes 10 websites and/or online documents.

64.

A VERY BRIEF HISTORY OF THE INTERNET

Meanings

We use the internet every day. Before we dive into conversations about navigating the rich resources you can find online, it's helpful to understand what these terms mean and where this all came from.

If a 5-year old child asked you: "What is the internet?" how would you describe it?

This can be challenging, because we may not think about how the internet works, and many of us take the internet for granted. To keep it simple, the internet can be described as a very large network of computers that communicate with each other in standardized ways, so information can be shared efficiently and effectively.

History

In 1969, the first version of the internet was created and set up as a network (called ARPANET) between four “nodes”: UCLA, the Stanford Research Institute, UC Santa Barbara, and the University of Utah (Mack). A student programmer named Charley Kline sent the first message over ARPANET on October 29, 1969. The simple message “LO” was supposed to be “LOGIN”, but the system crashed after the “O” (Norman).

To learn more about these early days of the internet, watch this short video [4:56] featuring Leonard Kleinrock who led the effort:



A YouTube element has been excluded from this

version of the text. You can view it online here:

<https://open.ocollearnok.org/okinfolit/?p=242>

Note: This video is auto-captioned. Accurate captions are available at the [Amara version](#). Use the [text transcript](#) if you prefer to read.

What is ARPANET? ARPA stands for Advanced Research Projects Agency. NET is short for network. ARPA was part of the U.S. Department of Defense.

From these humble beginnings came new ways to share information and communicate. In 1971, we had the first email message and saw the creation and international expansion of more networks, which prompted a standard for the networks that was released in 1983 (McDowall). This eventually led to the establishment of the Web, which was released by CERN (the European Council for Nuclear Research) in 1993 and led by Tim Berners-Lee (Greenemeier). Therefore, while the terms are often used interchangeably, the internet is separate from the Web: the Web can be simply described as an application

that runs on the internet, facilitating a way to standardize and share information from the internet.

A need emerged for platforms to display information on the Web known as browsers; today, Google Chrome, Mozilla's Firefox, and Microsoft's Edge are three popular browsers. A need also emerged for tools that could index and search information within the Web, or search engines; today, these include Google, Yahoo!, and Bing.

Concept Review Exercise: The Internet



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<https://open.ocolearnok.org/okinfolit/?p=242#h5p-35>

Sources

This section includes material from the source book, *Introduction to College Research*, as well as the following:

Greenemeier, Larry. “[Remembering the Day the World Wide Web was Born.](#)” *Scientific American*, 12 Mar. 2009.

Mack, Eric. “[The Internet Was Born 50 Years Ago with a Nonsense Message.](#)” *CNET*, 29 Oct. 2019.

McDowall, Mike. “[How a Simple ‘Hello’ Became the First Message Sent Via the Internet.](#)” *PBS News Hour*, 9 Feb. 2015.

Norman, Jeremy. “[Charley Kline Sends the First Message Over the ARPANET.](#)” *History of Information*, 2020.

Original material by book author Sarah Burkhead Whittle.

65.

CRITICAL THINKING

Critical Thinking: Internet Ownership?

The internet is not really owned by anyone, and yet, it is owned by everyone! So if the internet is owned by everyone, why do Oklahomans have to pay certain companies (like Sparklight or AT&T) for internet access across the state?

Do you think there are other issues to consider when thinking about internet management and use? What issues would those be?

SEARCH ENGINES AND TOOLS

As you probably already know, there are many different search engines and tools available for you to use, and many of them are now easily accessible and embedded in the devices we use every day. Long gone are the days when you go to a search engine's website to begin searching online. As an example, if you need to search for information about indigenous tribal lands, you can simply type in your browser's address bar or ask your phone: "Norman, Oklahoma, exists on the traditional land of which indigenous tribe(s)?" and you will be supplied with an answer. Search technology continues to advance as it becomes further integrated into our daily routines.

This can be very convenient, but can also lead to more questions. What search tools are the best to use? Are there disadvantages or risks associated with how search tools are used? Let's start by discussing the different search tools available.

67.

COMPARING SEARCH TOOLS

Common Search Tools & Search Engines

There are many different search tools, and you probably use quite a few without thinking about them, such as artificial intelligence (AI) assistants. Examples include Siri, Alexa, Google Assistant, Cortana, and Bixby. AI assistants are usually voice activated and will search the internet for answers to your questions, suggest resources for you to look at for information related to your question, and perform tasks such as turning on lights or creating a shopping list.

Another type of search tool that you probably use is a search engine. Search engines are online tools that search for web pages based on keywords. Many of these are now embedded in your browsers to make searching online easier, but each have their own websites as well that you can search from. The big names in this area are Google, Yahoo!, and Bing. Though they may bring back different search results, they function overall

using the same main principle: to bring back as many relevant results as possible. How each one defines and determines what is “relevant” may differ, and their criteria and methods are typically not transparent to the user.

Other Tools

Besides search engines, there are other online search tools that you might be familiar with but didn’t know what to call them, such as Yelp. There, you can search for businesses and learn information about those businesses, often including links to their websites. Yelp doesn’t search the Web; rather, it maintains its own records and links for those businesses. Because Yelp controls what it searches and what it lists, it is called a directory. Web directories are search tools that link out to hand-selected websites usually organized by categories or topics.

Determining which search tool is the best to use depends on what you are trying to accomplish. If you’re trying to find the nearest pizza restaurant, using an AI assistant is probably really great; using a directory like Yelp might also be helpful. But what about for our [scenario](#)? What type of search do you think would be best to use?

Concept Review Exercise: Search Tools



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Sources

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Original material by book author Sarah Burkhead Whittle.

68.

PRACTICE

Practice: Comparing Search Engines

Let's think about the scenario for this chapter and the example assignment. Knowing that search engines rely on your keywords to find relevant results, think of some keywords related to your research, or use the example searches supplied in this chapter in a search engine of your choice.

After you think of a few, test them out!

Try them with an online search engine of your choice and note the top five results. Now try a different search engine. Did you notice any major differences or similarities between the two? Were the results

what you were hoping for, or expecting to see? Any surprises?

Just for Fun Exercise!

Please click on the logo of the search engine that can be defined as “a rude, noisy, or violent person” or “an exclamation of joy or excitement.”



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Sources

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69.

ACADEMIC SEARCH TOOLS

Scholarly Content Online

There are some specialized search tools on the internet that target academic audiences. Perhaps the most popular one is [Google Scholar](#), which looks for academic, scholarly content. Another tool is [Microsoft Academic Search](#). There are also a few subject-specific search tools that you might want to become familiar with, such as [PubMed](#) (for the biomedical field) or [ERIC](#) (for the education field).

Paywalls



Typically, you would find scholarly content using a library database, but the tools described above can also help connect you to scholarly content through which your college subscribes. The problem—especially for community college students—is that these tools also find a lot of resources to which your college might **not** have a subscription.

For this reason, a lot of the content these search tools will find is behind something called a paywall. A paywall is a barrier you may encounter online, when you have to pay before you can access a resource. Scholarly journal articles you find online come with a price, which can range anywhere from \$25 per article up to well over \$100 per article!

In our scenario, you have to find 10 resources. That means, for this class assignment, it might cost you anywhere from \$250 to over \$1000 to complete. At this point, you might be thinking that these academic search tools are not worth using, and we wouldn't blame you. But these tools don't always lead you to a paywall, and a paywall is not always a dead end. These tools can help you identify resources that might also be available for free in a database from your college's library, and these tools will often connect you to open access resources.

Concept Review Exercise: Academic or Scholarly Content



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OPEN ACCESS



“Open access” refers to resources online—usually academic resources—that are freely available. When trying to find scholarly articles online, you will want to find open access journals or open access articles within more-traditional scholarly journals. Google Scholar and Microsoft Academic Search don’t do a great job of helping you limit your search results to those resources to which you might need, but for which you might have to pay, so it can be frustrating at times when using them to conduct research. On the other hand, PubMed and ERIC provide ways for you to limit your search results to those resources that are freely available. A nationwide resource to check out is [The Digital Commons Network](#), which is a directory of open access articles and resources from universities and publications that you can access freely. More locally in Oklahoma, the [Oklahoma OER Commons](#) and the Oklahoma Department

of Libraries' [Open Access Online Resources](#) are ever expanding to reflect these initiatives around our state.

Remember, for any resource that you find online that you cannot access, or that has a paywall, consult with a librarian to see if there's another way for you to access the resource freely. It might be possible for the library to get you access through interlibrary loan, which is a free service libraries provide to access resources one library may not have, but another library does.

OER: A Special Kind of Open Access Resource

OER stands for Open Educational Resources. OER are materials that can be used and adopted in place of traditional course materials in order to promote equitable access to education as there is no cost for the student or faculty to use OER. That means if your professor uses an OER textbook, you can access that textbook for free online. This is an OER textbook, as an example.

OERs are not limited to textbooks. They could be articles, documents, movies, images, and more.

What defines them are the permissions or license that comes with them. Though we won't dive into all the aspects of licensing and copyright permissions, basically, if the material is licensed so that you can share, revise, and keep a copy of the resource freely, then you have an OER. OER is different than open access in this regard, because open access only allows you to access the resource.

Concept Review Exercise: Open Access



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Sources

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71.

CRITICAL THINKING

Critical Thinking: Open Access

Open access as a concept sounds great! These are resources you can access freely online. The internet was created to support sharing information freely. But just because you can access a resource freely doesn't mean you can do whatever you want with that resource, right? There is copyright to consider. What can't you do with a resource that you can access freely? It may help to think about YouTube videos. You can access those freely. Can you download them freely? Can you edit them? Should you be able to?

SEARCHING AND PRIVACY



Accept?

Have you ever visited a website and seen a pop-up that says “Accept Cookies” or “Accept Privacy Terms”? These pop-up messages are everywhere! Because we want to see the information on the website, we often click “yes” and move on without giving it another thought. But what information are you relinquishing? Does it really matter? There are arguments on both sides of the fence. Some people feel that websites and companies are tracking individuals too much, to the point where targeted ads are infiltrating what people see and experience. Others claim these ads are not as targeted as they

seem, and that people aren't really being tracked—rather, activity is being tracked.

Impact

We do know, however, that your online activity can impact your search results. This phenomenon is called a “filter bubble,” and this occurs most often and strongly within social media, but also within search engines. On social media, you are fed stories based on people or organizations you follow and posts that you liked. This means that, before long, you see only those things that you “liked” or similar items that you have followed. This greatly limits what you see, and a filter bubble is created. Same with search results. Basically, the search tool you use learns about your preferences. It knows your location, for example; therefore, it will provide results relevant to your geography. Search tools can also track the things you click on and will provide similar results in the future. If you start clicking on *The New York Times* articles frequently, you might see more results coming back from *The New York Times* in your searches. For more on the problematic “personalization” of information we see online, please read the definition of filter bubbles in the [glossary](#).

Protecting Privacy

There are steps you can take to combat these behaviors of online tools. One thing you can do is use a search tool that does not track your browsing history. [DuckDuckGo](#) is a popular search engine that protects your privacy as you search online. Another step you can take is to use your browser’s “incognito” or “inPrivate” mode. This will also limit what is saved on your computer and prevent or limit tracking behavior as you search.

You should always be vigilant about that to which you agree online, so don’t dismiss those pop-ups as quickly. If you’re on a website with which you are unfamiliar, take the time to read through the prompted agreement. You might be surprised, and you will have to decide for yourself if your agreement is worth what you want to access. Some of these agreements may be harmless, but in the end, it’s your information and your privacy that might be at risk. Only you can determine if and when those values should be waived.

Concept Review Exercise: Searching & Privacy



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CONTROLLING YOUR SEARCH

Now that you have learned about tools and some of the issues surrounding searching online, you need to be able to control your search. Just like with library databases, there are strategies you can employ with online searches. Recall that in our [chapter scenario](#), you needed to find information about the 1921 Tulsa Race Massacre. When forming your search for this scenario, you might use the following keywords: Tulsa, race, massacre, riot, and/or 1921. But you might want to take advantage of some more **advanced search** commands.

Limiting by Domain

One search command to make note of is **site:**. This command allows you to search for, or within, specific websites based on domain name. For our scenario, we need government and organizations, so it would be helpful to limit our search to those types of websites. You can set up your search to look something like this:

Tulsa race massacre site:gov

This search example will look for the keywords antiracism and policies within government websites only. The `site:` command will limit results to those with `.gov` in the website address (also known as the URL). The domain `.gov` is reserved for U.S. government websites.

Other common domains that you could use include `.com`, `.org`, and `.edu`. The domain `.org` stands for “organization,” however; **anyone** can use the `.org` domain, not just non-profit organizations. It is **very important** to use these domain reservations as guidelines rather than definitive markers of credibility. For example, an `.edu` website (reserved for educational institutions) could host papers written by students, which might not be appropriate sources for a college-level research paper. Likewise, an `.org` website could be hosted by a commercial enterprise or even a hate group.

Limiting by File Type

The scenario also asks for online documents. The meaning of this word, “documents,” can be vague and unclear, but its use in the scenario indicates that we’re looking for something you can download, such as a PDF or maybe a Word document. You can also limit your results to file types when searching by using the **filetype:** command. Your search would look something like this:

Tulsa race massacre site:gov filetype:pdf

With the search example above, you will be limiting your search results to government websites that have PDFs related to antiracism policies.

Other Filters

In addition to those commands, there are easy-to-find tools built into search engines. You can search for images, news, maps and more when you search online. You can limit your results to the past year, the past hour, or other time periods. All of these additional limiters can be very powerful and helpful when conducting research, depending on your topic. Explore your search engine to see how much control you can have over your online searching.

- [Google Search Help](#)
- [Bing Help](#)

Concept Review Exercise: Refining Your Search



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<https://open.ocolearnok.org/okinfolit/?p=263#h5p-41>

Sources

This section includes material from the source book, [*Introduction to College Research*](#), as well as the following:

Original material by book author Sarah Burkhead Whittle.

PRACTICE

Practice: Advanced Search Commands

Think of keywords related to your research, or use the example searches supplied in this section in a search engine of your choice. Try limiting by .edu domain and for documents such as PDFs.

What did you find?

Review Key Concepts



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.oclearnok.org/okinfolit/?p=265#h5p-42>

Sources

This section includes material from the source book, [*Introduction to College Research*](#), as well as the following:

Original material by book author Sarah Burkhead Whittle.

CITING: WEBSITES, WEB PAGES, FILES, ARTICLES

Considerations

The final part of our [chapter scenario](#) asks you to create a bibliography of the websites and online documents that you have found. Citing (including the meaning of “annotated bibliography”) is covered more fully in a [later chapter](#), but for the purposes of this scenario, there are some things to consider:

1. Some online academic search tools (such as PubMed) will provide you with citation guidance for resources.
2. Websites and web pages are different. Unsure what you are citing? Ask a librarian, or a writing tutor!
3. Always check with your professor to confirm what they expect. Some may have customized requirements, and you will need to make sure you create citations that meet those expectations.
4. Use online citation generators (such as EasyBib or Citation Machine) cautiously. They can be great

timesavers, but they can also create headaches! Make sure you have an authoritative resource to double-check any citation that is created for you, such as [Excelsior Owl](#) or your library's own resources.

Example

Let's try to cite the following web page together:
<https://ceo.lacounty.gov/antiracism/>

The format for a web page in MLA:

Author's Last name, First name. "Name of Web Page." *Name of Website*, date of publication, website address.

MLA citation for our web page:

"Anti-Racism, Diversity, and Inclusion Initiative." *Chief Executive Office of Los Angeles County*, 2020, ceo.lacounty.gov/antiracism/.

Concept Review Exercise: Citing Sources



An interactive H5P element has been excluded from this version of the text. You can view it online here:

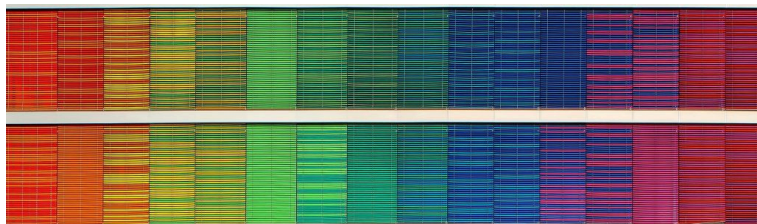
<https://open.ocolearnok.org/okinfolit/?p=267#h5p-43>

Sources

This section includes material from the source book, [*Introduction to College Research*](#), as well as the following:

Original material by book author Sarah Burkhead Whittle.

CONCLUSION



This chapter provided an overview of considerations and strategies to use when searching online. The Web is full of potentially strong resources, but you have to be able to find them. Knowing how to navigate the Web using search engines and other search tools effectively will assist you in connecting to relevant and reliable resources. Using search strategies and information concepts from other chapters, you will be better equipped to find resources online.

Sources

Image: “[Rainbow Frequency](#)” by [Ricardo Gomez Angel](#) is in the [Public Domain, CC0](#)

PART X

ETHICAL AND LEGAL USE OF INFORMATION

Learning Objectives

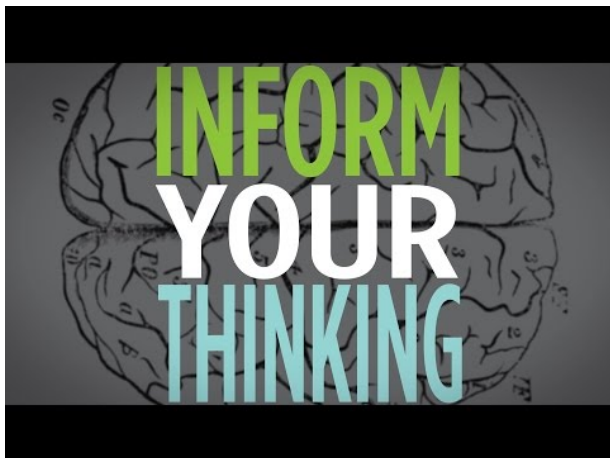
By the end of this chapter, you will be able to:

1. Describe the value in respecting the original ideas of others
2. Define plagiarism and how one can responsibly and ethically use information
3. Recognize that students are active participants and creators of scholarship, not just consumers of information

CONTRIBUTING TO THE CONVERSATION



As a college student, whenever you complete an academic assignment, be it a research paper, a speech, or any other assignment in which you gather and synthesize information on a topic, you are participating in what is called a scholarly conversation. The term **scholarly conversation** describes the existing body of knowledge about a topic. This body of knowledge may include published books, presentations, research articles, conferences, discussions, online resources, and more. Your assignments are a way to add your own voice to the scholarly conversation—by reviewing what research has been done, drawing connections and conclusions from published information, and adding your own experiences, opinions, and ideas about what previous research has shown.



A YouTube element has been excluded from this version of the text. You can view it online here:

<https://open.oclearnok.org/okinfolit/?p=273>

Note: Turn on closed captions with the “CC” button.

Concept Review Exercise: The Conversation



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<https://open.ocolearnok.org/okinfolit/?p=273#h5p-28>

Sources

This section includes material from the source book, *[Introduction to College Research](#)*, as well as the following:

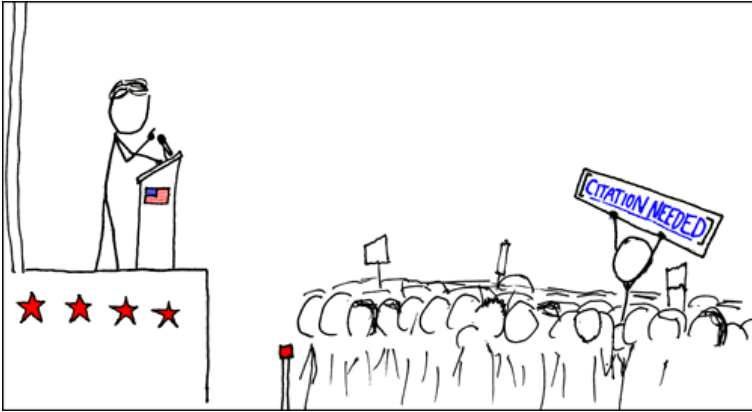
Image: “[Speech Bubble](#)” by [Freepik](#), adapted by [Aloha Sargent](#), from [Flaticon.com](#)

“[Inform Your Thinking: Episode 1 – Research is a Conversation](#)” by [Oklahoma State University Libraries](#) is licensed under [CC BY-NC 4.0](#)

Original material by book author Sarah Burkhead Whittle.

78.

WHY WE CITE SOURCES



“Academic research leads us to the insight that comes from gaining perspectives and understandings from other people through what we read, watch, and hear. In academic work we must tell our readers who and what led us to our conclusions” (“Ethical Use & Citing Sources”).

When we engage in conversations with other people, we often

say things like, “I heard on the news today that...” or “The cashier at the store said...” When we do this, we not only back up and further support the point we are trying to make, but we also give more credibility to what we are saying by letting others know the origin of the information. It is also a good idea to let others know where our information came from when engaging in a scholarly conversation. A **citation** is a mention to another source and the phrase “citing your sources” means you’ve communicated the sources of information that you’ve used in your own work.

It is unethical to use somebody else’s information in your own work and not cite where you got that information (see section on [Plagiarism and Academic Integrity](#), next). As long as you give credit where credit is due, using information from others to support your own thoughts, opinions, and research findings is good practice. Not only does it acknowledge the hard work of others, but it also shows that you did your research on the topic, you know what information exists about it, and you can integrate your knowledge into the existing research and contribute to the scholarly conversation.

The following video [2:47] by the Linscheid Library at East Central University has a great summary of what citations are and why we use them:



A YouTube element has been excluded from this version of the text. You can view it online here:

<https://open.oclearnok.org/okinfolit/?p=276>

Note: Turn on closed captions with the “CC” button.

Concept Review Exercise: Why Use Citation



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<https://open.ocolearnok.org/okinfolit/?p=276#h5p-29>

Sources

This section includes material from the source book, *Introduction to College Research*, as well as the following:

“[Citation: A \(Very\) Brief Introduction](#)” by [NCSU Libraries](#) is licensed under [CC BY-NC-SA 3.0](#)

“[Ethical Use and Citing Sources](#)” by Teaching & Learning, [Ohio State University Libraries](#) is licensed under [CC BY 4.0](#)

Image: “[Wikipedian Protester](#)” by [xkcd](#) is licensed under [CC BY-NC 2.5](#)

“[Why Cite?](#)” *You Tube*, uploaded by Linscheid Library, 8 December 2020. Licensed under [CC BY-NC 4.0](#).

Original material by book author Sarah Burkhead Whittle.

PLAGIARISM AND ACADEMIC INTEGRITY

Plagiarism



The [Merriam-Webster](#) dictionary defines the word plagiarize as “to steal and pass off (the ideas or words of another) as one’s own: use (another’s production) without crediting the source.” When you use the words and

ideas of others in your own work without citing where you got that information from, this is considered **plagiarism**. Whether a student purposely tries to pass off information as their own (i.e., copying and pasting text or paraphrasing another source without giving credit) or does so unintentionally (i.e., not knowing how to cite sources), plagiarism goes against the moral and ethical code for students called academic integrity. **Academic integrity** is the expectation that all students will be honest and responsible and will not plagiarize or cheat and that they will be motivated by more than just getting good grades.

Most colleges have consequences for violating academic integrity, which may include suspension or expulsion from the institution. For more information, please search your college's/university's website to learn more.

“As a student, you will be both using other’s knowledge as well as your own insights to create new scholarship. To do this in a way that meets academic integrity standards, you must acknowledge the part of your work that develops from others’ efforts. You do this by citing the work of others. You plagiarize when you fail to acknowledge the work of others and do not follow appropriate citation guidelines” (“Ethical Use & Citing Sources”).

Intellectual Property



When you avoid plagiarism by citing your sources, you are respecting the time and energy other people put into creating their intellectual property. Just like physical property that you can call your own, **intellectual property** describes an expression of the human mind that can be owned

and protected. Once somebody puts their creative ideas into a fixed and tangible format, like in the form of a book, movie, or song, that becomes intellectual property and can be protected. Intellectual property comes in [many forms](#), including literary works, artistic works, inventions, designs, symbols, names, images, and computer code, but the most popular are copyright, patents, and trademarks. Copyright is the most common form of intellectual property that has relevance for college-level research.

Copyright



Copyright is a type of protection for intellectual property that is automatically applied to any creative work that is placed in a fixed, tangible format. That means the email that you wrote to your instructor this morning or the doodle you drew in your notes during English are all protected by copyright because they are both in a tangible format and are creative and original (in other words, nothing exactly like them has ever existed until you created them). Though works can be registered through the U.S. Copyright Office, that is not mandatory and even things you see without the copyright symbol (©) or a copyright notice can be (and should be assumed to be) protected by copyright. Copyright gives you exclusive rights to whatever you created, meaning

others cannot legally copy, distribute, display, modify, or perform (e.g., a play or piece of music) without getting your permission to do so. Copyright in the United States lasts the life of the creator plus an additional 70 years.

Fair Use



Fair use is an exception to copyright in which you can use a copyright-protected work without getting permission from the creator. There is no hard and fast way to determine whether or not a use of a copyrighted work is a fair use, but there is a [four-factor test](#) that can help measure how “fair” the fair use is and whether or not the use is an infringement of copyright. These factors are:

1. The purpose and character of your use,
2. The nature of the copyrighted work,
3. The amount and substantiality of the portion taken, and
4. The effect of the use upon the potential market.

Fair use weighs heavily in favor of educational uses. So in most cases, using images and/or videos you’ve found online for your presentation for class is not going to land you in hot water. Why is this? Using an image or video that belongs to somebody else without permission for an educational use is

not likely to impact the potential market, it is only being shared with the people in your class, and it is being used to educate yourself and others. It is still always good practice to cite where the content came from and try to use openly licensed content that allows people to use it without seeking permission first (see “Creative Commons” section below) whenever possible.

To better help you understand and gauge Fair Use, please feel free to use this free [Fair Use Evaluator](#).

Creative Commons



The world’s first copyright law was enacted in the 1700s, way before the invention of the internet. The internet allows people to share information with the touch of a virtual button, yet our current copyright law restricts this type of sharing unless you get permission from the creator first. While copyright means that the picture of your cat that you took and uploaded online cannot be redistributed by anybody else without your permission, it also means that we can’t use copyrighted music in a slideshow of 50 cat pictures you want to put together and share with friends online.

In 2001, a non-profit organization called Creative Commons saw the need for an improvement upon copyright in the digital age. We needed something that enabled the

sharing and remixing of knowledge and creativity, which we are able to do so easily online. They developed tools called Creative Commons licenses that allow creators to define what they want others to be able to do and not do with their work. **Creative Commons** licenses free everyone from needing to track down creators and ask for permission before using their works, and encourage creativity by permitting adaptations and remixes of Creative Commons licensed works.

This textbook incorporates content that is Creative Commons licensed and the entire textbook is licensed with a Creative Commons license, as well, to encourage others to use and adapt the content in a way that works best for them. If you are interested in using images, video, music, and other creative content that has an open license, try [CC Search](#), or try looking for a Creative Commons filter when using Google, Flickr, and YouTube.

Concept Review Exercise: Plagiarism & Academic Integrity



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<https://open.ocolearnok.org/okinfolit/?p=283#h5p-4>



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<https://open.ocolearnok.org/okinfolit/?p=283#h5p-5>

Sources

This section includes material from the source book, *[Introduction to College Research](#)*, as well as the following:

“[Ethical Use and Citing Sources](#)” by Teaching & Learning, [Ohio State University Libraries](#) is licensed under [CC BY 4.0](#)

“Copyright and Intellectual Property Toolkit” by [University of Pittsburgh Library System](#).

Fair Use section adapted from “[2.4 Exceptions and Limitations to Copyright](#)” by [Creative Commons](#), licensed under [CC BY 4.0](#)

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Image: “[Fair Use Logo](#)” by Óðinn at [English Wikipedia](#) is in the Public Domain

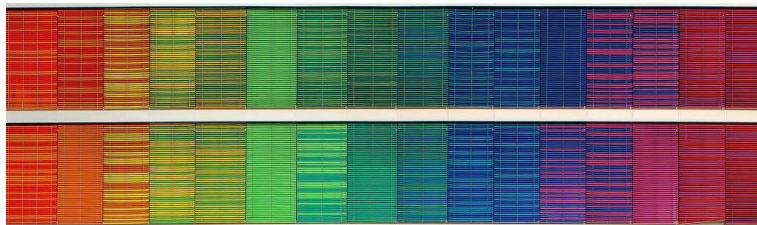
Image: “[Files](#)” by [Smashicons](#), adapted by Kelsey Smith, from [Flaticon.com](#)

Image: “[Gears In Bald Head Side View](#)” by [Freepik](#), adapted by Kelsey Smith, from [Flaticon.com](#)

“[Plagiarize](#).” *Merriam-Webster*, 1 Nov. 2020.

Original material by book author Sarah Burkhead Whittle.

CONCLUSION



This chapter covered the importance of student voices in the scholarly conversation, or the existing body of knowledge on a certain topic, and how students can support their ideas by referencing past research and published works in a legal and ethical manner. This chapter covered *why* citing sources is important and the [“Citing Sources” chapter](#) will cover *how* to cite sources.

Sources

Image: “[Rainbow Frequency](#)” by [Ricardo Gomez Angel](#) is in the [Public Domain, CC0](#)

PART XI

CITING SOURCES

Learning Objectives

By the end of this chapter, you will be able to:

1. Give credit to the original ideas of others
2. Distinguish between commonly-used citation styles

81.

CITATION STYLES

Background

The [Ethical and Legal Use of Information](#) chapter covered why you need to cite, and how citations allow you to use other people's ideas in an ethical way. As the [video in that chapter](#) discussed, there are many different citation styles, and the one you will use depends on your specific course, instructor, and assignment instructions.

Two Connected Parts

All citation styles include two parts that work together:

1. An **in-text citation**, which is a brief notation (usually within a paragraph, at the end of a sentence) acknowledging that information came from another source. In MLA and APA style, an in-text citation is contained inside parentheses (and sometimes called a “parenthetical citation”). Citation styles that use footnotes or endnotes (such as Chicago or Turabian)

may use a superscript in the same way.

2. **At the end of the paper** or assignment, there will be a list of more detailed bibliographic information that enables the reader to find the sources that were used. Every in-text citation must have a matching entry in this list. Depending on what citation style you are using, this list may be called “works cited,” “references,” or “bibliography.” Different citation styles will require you to format these citations in different ways, but they all include similar information, like the author’s name, title of the publication, date, URL, and/or page numbers.

The next section on [When to Cite Sources](#) addresses how to incorporate in-text citations, and the [MLA](#) and [APA](#) sections will focus on how to create the full citations for various information source types.

Concept Review Exercise: Citation Styles



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.ocolearnok.org/okinfolit/?p=288#h5p-31>

Sources

This section includes material from the source book, *[Introduction to College Research](#)*, as well as the following:

Original material by book author Sarah Burkhead Whittle.

82.

WHEN TO CITE SOURCES

Overview

As you learned in the chapter on [Ethical & Legal Use of Information](#), it is necessary to give credit to others when you use their information in your assignment. Using other people's information may come in the form of a direct quote, or summarizing or paraphrasing somebody else's words. Paraphrasing means you restate what an author said in your own words; summarizing is when you talk about the main concepts or points. When you include someone else's ideas whether that's word-for-word (a direct quote), or summarizing or paraphrasing the words of somebody else, you need to include an in-text citation to let others know that the information is not your own, and to allow your reader to go and find the same source you used. Since in-text citations are only brief notations, they will all need a full citation at the end of the assignment or paper. See each of the MLA and APA chapters for information on creating these full citations.

“Good writers understand why they create citations. The reasons include demonstrating the thoroughness of the writer’s research, giving credit to original sources, and ensuring that readers can find the sources consulted in order to draw their own conclusions about the writer’s argument. Writers achieve the goals of documentation by providing sufficient information in a comprehensible, consistent structure” (*MLA Handbook* 4).

MLA In-Text Examples:

- **Direct Quote:** According to Susan Cain, “excessive stimulation seems to impede learning: a recent study found that people learn better after a quiet stroll through the woods than after a noisy walk down a city street” (85).
Note: 85 is the page number.
- **Paraphrasing:** A recent study found that people tend to learn better after they took a quiet walk in the woods as opposed to a noisy walk down a city street (Cain 85).
Note: Cain is the author’s last name, and 85 is the page number.
- For a source with no author, cite the title, abbreviated:

“The Cooper-Molera garden represents the methods and plantings available in 1860’s California” (“Secret Gardens”).

Note: This direct quote comes from a publication called “The Secret Gardens of Old Monterey” that does not mention who the author is.

APA In-Text Examples:

- Direct quote: According to a study on social pain, “acetaminophen reduces behavioral and neural responses associated with the pain of social rejection, demonstrating substantial overlap between social and physical pain” (DeWall, et al., 2010, p. 14).

Note: DeWall is the author’s last name, and “et al.” means there are additional authors. 2010 is the year of publication, and 14 is the page number.

- Paraphrasing: In one study by DeWall, et al. (2010), it was discovered that over-the-counter painkillers, like Acetaminophen, reduced social pain.

Note: In APA format, the page number is not needed when you paraphrase a passage, only when you cite a direct quote.

- For a source with no author and/or no date, use the title and n.d. for “no date”: An online poll found that the more time students spent in the library, the higher their overall GPA (“Student Success Poll,” n.d.).

Concept Review Exercise: When to Cite

Alexander, P. A. (2018). Past as prologue: Educational psychology's legacy and progeny. *Journal of Educational Psychology*, 110(2), 147–162. <https://doi.org/10.1037/edu0000200>



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<https://open.ocolearnok.org/okinfolit/?p=290#h5p-30>

Sources

This section includes material from the source book, [*Introduction to College Research*](#), as well as the following:

American Psychological Association. “[Author-Date Citation System](#).” Sept. 2019

MLA Handbook. 8th ed., Modern Language Association of America, 2016.

Original material by book author Sarah Burkhead Whittle.

83.

MLA STYLE

Overview

The Modern Language Association (MLA) is a professional association for scholars of literature and language. Among other things, the MLA publishes a style manual (sometimes called a “style guide”) for writing and citing sources, used primarily in the humanities, including most English classes. MLA is one of several types of citation styles. As an undergraduate student, some professors or courses may require you to use APA (details below), Chicago, or Turabian style.

It’s not necessary (or advisable) to memorize formatting rules for any citation style. Getting used to checking formatting examples and published guidance (for example, in books or on websites) will help you proofread citations and move more easily between citation styles. There are helpful reference books you can keep on hand (such as the [MLA Style Center](#), which is the style manual mentioned above), and many great online tools through your college library or tutoring websites, or found with a quick online search. Every

so often, MLA style (or any citation style), will undergo some changes, and a new edition of the style manual will be released. All citation styles have different formats for citing various information types (e.g., websites, books, podcasts, emails), and as technology advances and information becomes available in new formats, citation styles need to be added and updated. To learn more about the evolution of the MLA style format, please visit this [interactive timeline](#).

Works Cited

In MLA style, the list of detailed bibliographic information at the end of the paper or assignment is called “Works Cited.” The core elements of an MLA citation are as follows (be sure to pay attention to the punctuation that follows each element):

MLA Core Elements

1. Author.
2. Title of source.
3. Title of container,
4. Other contributors,

5. Version,
6. Number,
7. Publisher,
8. Publication date,
9. Location.

Author

- A single author should be written: Last name, First name Middle name or Middle initial
- For two authors, only invert the first author's name. List the names in the order in which they appear on the source.
- For three or more authors, use et al. (which means, 'and others').
- When citing an edited book, add a descriptive label ("editor") after the name.
Example: Smith, John M., editor.
Example: Smith, John M., and Terence Duvall, editors.

Title of Source

- Include both the title and subtitle separated by a colon

- [:].
- Capitalize the first word of the title and subtitle, plus all other important words.
 - Enclose in “quotation marks:”
 - If the title is part of a larger work, such as a story in an anthology, an article in a journal, or a Web page from a Web site
 - Place in italics:
 - If the title is a for an entire book, journal, or Web site

Title of Container

- When a source is part of a larger work, the larger work is called the “container.”
- The container is italicized and followed by a comma.
- Containers can be:
 - Periodicals (magazines, journals, newspapers)
 - Anthologies (books which contain short stories, essays, poetry, etc.)
 - Entire Web sites (which contain individual web pages)
 - Library or other online databases (which contain articles, books, etc.)

Other Contributors

- Contributors other than the author are named in the entry if they are important to your research or the identification of the source (i.e. editors and translators).
- When citing a source with both an author and editor, list the author first and the editor after the title of the source.

Version

If a source carries a notation that it is a work in more than one form (i.e. book edition), identify the version.

- 7th ed.
- Expanded ed.

Number

- Journals are typically numbered with volume (vol.) and issue numbers (no.).
- If you are using a multi-volume set, include the volume (vol.) number.

Publisher

- Only include the first publisher listed, unless the source

was published by multiple independent organizations. Separate independent publishers with a forward slash [/].

- Abbreviate publisher names in the following cases:
 - Omit business words like Company, Corporation, Incorporated, and Limited
 - Replace University Press with UP (i.e. Oxford UP, U of California P, MIT P).
- A publisher's name may be completely omitted for the following types of sources:
 - Web page whose publisher is the same as the name of the overall website
 - Periodical (journal, magazine, newspaper)
 - Work published by the author

Publication Date

- Dates should be given as fully as they appear in your sources.
- If multiple dates are listed, cite the date most meaningful to your use of the source.
- Format as: Day Month Year. Abbreviate the names of months longer than 4 letters

Location

- In print sources, a page number (preceded by p.) or a

range of page numbers (preceded by pp.) specifies the location.

- In online sources, location is indicated by the URL, DOI, or Permalink.
 - URL: Copy in full from your Web browser, but omit `http://` or `https://`
 - DOI: Journal articles are often assigned “Digital Object Identifiers”. When possible, cite a DOI (preceded by `doi:`) instead of the URL.
 - Permalink: Web sources (especially Library databases) often provide stable URLs, called “permalinks”. When possible, use these instead of the URL.

Compiling & Formatting

Once you have constructed your citations according to MLA rules, there are a few more steps to complete the Works Cited list.

- Center the words “Works Cited” at the top of the page.
- Alphabetize the citations by author’s last name, or by the first main word of the title if there is no author. (When alphabetizing, ignore A, An, and The at the beginning of citations.)
- Make sure all lines are double-spaced.
- Apply “hanging” indents to all citations: The first line of

the citation is not indented. All subsequent lines are indented 0.5 inch.

Examples

Print Book:

Mancini, Candice. *Racism in Harper Lee's To Kill a Mockingbird*. Greenhaven Press, 2008.

Print Book with an Editor:

Bronte, Charlotte. *Jane Eyre*, edited by Margaret Smith, Oxford UP, 1998.

Electronic Book:

Schreiber, Brad. *Music Is Power: Popular Songs, Social Justice, and the Will to Change*. Rutgers UP, 2019. EBSCOhost, search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=2293722&site=ehost-live&scope=site.

Web page:

Hollmichel, Stephanie. "The Reading Brain: Differences between Digital and Print." *So*

Many Books, 25 Apr. 2013,
somanybooksblog.com/2013/04/25/the-
reading-brain-differences-between-digital-
and-print/.

Academic Journal Article:

Grauer, Jens, et al. "Strategic Spatiotemporal
Vaccine Distribution Increases the Survival
Rate in an Infectious Disease like
Covid-19." *Scientific Reports*, vol. 10, no. 1, Dec.
2020, pp. 1-10. *EBSCOhost*, doi:10.1038/
s41598-020-78447-3.

For more MLA style citation examples, visit this
[LibGuide from California State University,
Northridge](#).

Concept Review Exercise: MLA Style



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<https://open.ocolearnok.org/okinfolit/?p=292#h5p-3>

Sources

This section includes material from the source book, *Introduction to College Research*, as well as the following:

MLA Handbook. 9th ed., Modern Language Association of America, 2021.

Works Cited section adapted from “Library 10” by [Cabrillo College Library](#), licensed under [CC BY 4.0](#)

Original material by book author Sarah Burkhead Whittle.

84.

APA STYLE

The American Psychological Association (APA) is a professional association that represents those working in the field of psychology in the United States. Just like the Modern Language Association (MLA) is often used in the humanities subjects, the APA has their own citation guidelines that are often used to cite sources within the social sciences. [Publication Manual of the American Psychological Association](#) is the official reference book, or style guide, for all the details of APA style format, though you can find plenty of helpful guides for free online.

References

In APA style, the list of detailed bibliographic information at the end of the paper or assignment is called “References” and generally, your professors may use the word “references” instead of the word “citations”. The core elements of an APA style citation are as follows (be sure to pay attention to the punctuation used at the end of each element):

APA Core Elements

- Author.
- (Date).
- Title.
- Source.

Author

- List the last name first and the first and middle names as initials.
 - Example: Smith, J. M.
- If there are two authors, use the ampersand (&) instead of the word “and.”
- When there are three to 20 authors, list all of the authors by last name and initials and use an ampersand before listing the last author.
- If there are more than twenty authors, list the first 19 authors then use an ellipsis (...) before listing the last author’s name. Do not use an ampersand before the last author and do not list more than 20 authors’ names

total.

Date

- Use a complete date (YYYY, Month DD), if given, otherwise use what is given.
- Use “n.d.” if there is no date given.

Title

- Capitalize only the first letter of the first word of the title and subtitle, the first word after a colon or a dash in the title, and proper nouns (except for journal articles, in which you will capitalize all major words in the title).
- Italicize titles of longer works, like books, collections, websites, or journals. Do not put smaller titles in quotation marks or underline (e.g., chapters, articles, web pages).
- For more details and clarification, [read this page on the Excelsior OWL website](#).

Source

- This is where one can retrieve the cited information, like in a book, on a website, or in a journal article. The format of this section depends on the type of information resource it is. [Check out this helpful guide](#)

[for more information on formatting sources.](#)

Compiling & Formatting

The rules for formatting a list of APA references is similar to MLA format, with some small but important differences:

- Center and bold the word “References” at the top of a separate page
- Alphabetize the citations by author’s last name, or by the first main word of the title if there is no author. (When alphabetizing, ignore A, An, and The at the beginning of citations.).
- If you have multiple citations by the same author(s), list the citations in chronological order, from earliest to most recent.
- Make sure all lines are double-spaced.
- Apply “hanging” indents to all citations: The first line of the citation is not indented. All subsequent lines are indented 0.5 inch.

Examples

Print Book:

Mancini, C. (2008). *Racism in Harper Lee's To kill a mockingbird*. Greenhaven Press.

Electronic Book:

Schreiber, B. (2019). *Music is power: Popular songs, social justice, and the will to change*. Rutgers University Press.

Web page:

Hollmichel, S. (2013, April 25). *The reading brain: Differences between digital and print*. So Many Books. <https://somanymanybooksblog.com/2013/04/25/the-reading-brain-differences-between-digital-and-print/>

Academic Journal Article:

Grauer, J., Löwen, H., & Liebchen, B. (2020). Strategic spatiotemporal vaccine distribution increases the survival rate in an infectious disease like Covid-19. *Scientific Reports*, 10(1),

1-10. <https://doi-org.whccd.idm.oclc.org/10.1038/s41598-020-78447-3>

For more examples of APA style citations, visit [Excelsior OWL](#).

Concept Review Exercise: APA Style



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://open.oclearnok.org/okinfolit?p=294#h5p-1>

Sources

This section includes material from the source book, [*Introduction to College Research*](#), as well as the following:

Publication Manual of the American Psychological Association: The Official Guide to APA Style. 7th ed., American Psychological Association, 2021.

Original material by book author Sarah Burkhead Whittle.

CITATION STEPS FOR ANY STYLE

1. Determine the citation style required for your paper or project and refresh your memory on the formatting rules using that citation style's handbook (your college library should have a copy for you to use) or using an online guide, like [Excelsior OWL](#) or Citation Style Guides on the Web from [Oklahoma State University Edmon Low Library](#).
2. Remember to include your in-text citations as you are writing your paper or pulling your project together. If you don't include them as you go, it is easy to forget to go back and cite the source, which could lead to accidental plagiarism! See the section on [When to Cite Sources](#) near the beginning of this chapter to learn when you will and will not need to include an in-text citation.
3. Identify the information source type you are creating a full bibliographic citation for, since the citation format looks different for different types of information sources. Sometimes, especially online, it can be hard to tell! If you aren't sure what type of source something is or how to

- format your citation, ask a librarian or writing tutor.
4. Compile your cited sources at the end of your paper or project, being sure to follow the formatting rules of the citation style you are using throughout the assignment. See the section on [Citation Generators](#), next, for information about helpful tools for this task.
-

Concept Review Exercise: General Citation Steps



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<https://open.ocolearnok.org/okinfolit/?p=296#h5p-33>

Sources

This section includes material from the source book, [*Introduction to College Research*](#), as well as the following:

Original material by book author Sarah Burkhead Whittle.

CITATION GENERATORS

Unlike 10-15 years ago when college students had to try to memorize citation formats and create each citation by hand, there are now many online tools available that will automatically create citations for many different types of information sources. Citation generators are tools that allow users to type, paste, or import certain information (like a source's type, title, author, and date), and then create a citation in whatever format is needed (e.g., APA, MLA, Chicago).

Library Databases

Almost all of your college library's databases will have a convenient citation generator built right into them. In most cases, when you are reading an ebook, academic journal article, or another resource coming from a library database, there will be an icon somewhere on the page for a citation generator. These often offer a list of citation styles to choose from; they provide a citation for that particular source in whatever format is needed, so you can easily copy and paste the full citation into your assignment. The citation generator is not always located

in the same spot, and does not always appear the same way in all library databases, but will often say “cite” or have quotation mark icons to indicate that it is a citation tool.

While these citation generators are incredibly helpful and convenient, they do sometimes make mistakes! Always be sure to double-check the citation generated for you—do not assume that all citations generated by a citation tool will be 100% correct.

◀ Result List Refine Search ◀ 1 of 6 ▶

Decadal Variability in the North Pacific and North Atlantic under Global Warming: The Weakening Response and Its Mechanism.

Authors: [SHENG WU¹](#)
wishwishwish@pku.edu.cn
[ZHENG-YU LIU²](#)
liu.7022@osu.edu

Source: [Journal of Climate](#). Nov 2020, Vol. 33 Issue 21, p9181-9193. 13p.

Images

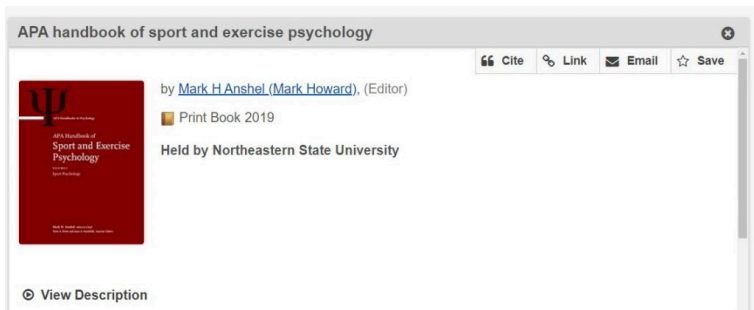
Tools

- Google Drive
- Add to folder
- Print
- E-mail
- Save
- Cite**

Library Catalog or Discovery Search

Your academic library likely also has its own convenient tool located within the record of every item. For the example below, the tool is found under the title along the right side of the page by clicking on “Cite.” The citation style can then be selected from the dropdown menu (but please note, some colleges may list these formats differently from what is shown in the image below). You can then highlight this citation and copy/paste it into your bibliography (in Microsoft Word, Google Docs, or

elsewhere). Besides checking the citation for accuracy, it is also important to check the formatting of your pasted text. Some formatting, like italics, may be lost when copying and pasting. Your college or university may also have a subscription to a reference resource like EndNote or RefWorks, which gives you the choice to export it from the catalog to your designated location for future access. Just remember, citation generators are fantastic tools that save a lot of time, but are not always 100% accurate!

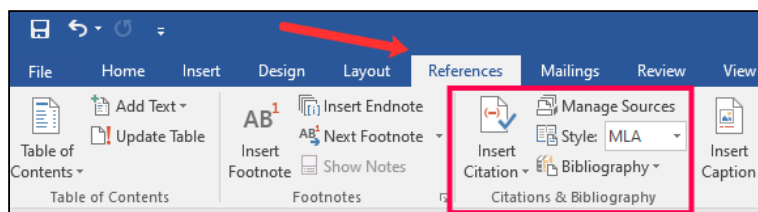


Word Processors

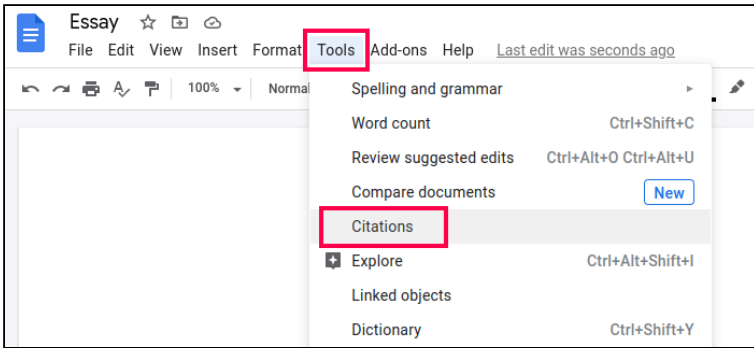
Two commonly used word processors—Microsoft Word and Google Docs—both have citation tools built into the software that make inserting in-text citations and compiling full citations quick and simple.

Microsoft Word’s citation generator is found under the toolbar section called “References,” and the “Insert Citation”

tool allows users to plug in bibliographic information about each source used in their paper. The software will keep a running list of the sources, and allows for easy insertion of an in-text citation and a quick combination of citations into a bibliography in the appropriate citation style. An important thing to note is that Microsoft Word may not have the latest citation style format edition; for instance, it may only have the option to create citations in MLA 7th edition, but (as of the time this book was published) MLA 8th edition is the most up-to-date style.



The citation generator in Google Docs is located under the “Tools” menu item on the toolbar. Though this citation tool is much less robust than Microsoft Word’s, only having three citation styles to choose from, it still allows for quick insertion of both in-text citations and a bibliography at the end of the paper. As mentioned previously, the citation styles may not be the latest edition, and it is important to always review any citation generated for you.



Concept Review Exercise: Built-in Citation Generators



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<https://open.ocolearnok.org/okinfolit/?p=302#h5p-32>

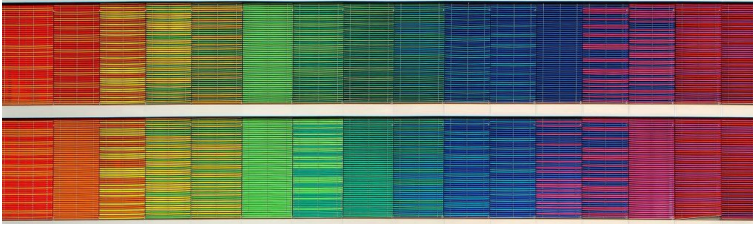
Sources

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Original material by book author Sarah Burkhead Whittle

87.

CONCLUSION



This chapter covered how to cite information sources in both MLA and APA style format in order to avoid plagiarism. Fortunately, there are many free, online tools, in addition to the style manuals for MLA and APA (and any other citation style) to help you create accurate citations from a variety of different types of information sources.

Sources

Image: “[Rainbow Frequency](#)” by [Ricardo Gomez Angel](#) is in the [Public Domain, CC0](#)

GLOSSARY

Academic Integrity

The expectation that all students will be honest in their academic work, will not plagiarize or cheat, and will be motivated by more than just getting good grades.

Affective Engagement

An emotional reaction to content based on flashes of positive or negative feeling.

Algorithm

"An algorithm is a fixed series of steps that a computer performs in order to solve a problem or complete a task. Social media platforms use algorithms to filter and prioritize content for each individual user based on various indicators, such as their viewing behavior and content preferences. Disinformation that is designed to provoke an emotional reaction can flourish in these spaces when algorithms detect that a user is more likely to engage with or react to similar content." *Definition from "[Information Disorder: The Essential Glossary](#)" by Claire Wardle.*

Algorithmic Bias

Occurs when algorithms reinforce or even amplify racist, sexist, or other social biases.

Algorithms

Step-by-step instructions that computers follow to complete tasks, solve problems, and make automated decisions. Algorithms use data to make predictions about people, including their preferences, attributes, and behaviors. They power nearly everything we see online and are used to shape and filter content on the platforms we interact with daily.

Boolean Operators

A set of terms (AND, OR, and NOT) that are used in between keywords and phrases to help create a more precise search.

Bots

"Social media accounts that are operated entirely by computer programs and are designed to generate posts and/or engage with content on a particular platform. In disinformation campaigns, bots can be used to draw attention to misleading narratives, to hijack platforms' trending lists, and to create the illusion of public

discussion and support." *Definition from "[Information Disorder: The Essential Glossary](#)" by Claire Wardle.*

Citation

A reference to another source of information.

Confirmation Bias

The collection of evidence that supports what one already believes, while ignoring or rejecting evidence that supports a different conclusion.

Copyright

A form of protection for intellectual property that is automatically applied to any creative work that is placed in a fixed, tangible format. Copyright in the United States lasts for the life of the creator plus an additional 70 years after their death.

Creative Commons

A non-profit organization that created open licenses that amend the copyright protections to allow for more freedom in the reuse, adaptation, and sharing of creative works.

Cynical

Believing that people are motivated purely by self-interest; distrustful of human sincerity or integrity.

Definition from Oxford English Dictionary.

Data Mining

"The process of monitoring large volumes of data by combining tools from statistics and artificial intelligence to recognize useful patterns. Through collecting information about an individual's activity, disinformation agents have a mechanism by which they can target users on the basis of their posts, likes and browsing history. A common fear among researchers is that, as psychological profiles fed by data mining become more sophisticated, users could be targeted based on how susceptible they are to believing certain false narratives."

Definition from "[Information Disorder: The Essential Glossary](#)" by Claire Wardle.

Deepfakes

"The term currently being used to describe fabricated media produced using artificial intelligence. By synthesizing different elements of existing video or audio files, AI enables relatively easy methods for creating 'new' content, in which individuals appear to speak words and perform actions, which are not based on reality."

Definition from "[Information Disorder: The Essential Glossary](#)" by Claire Wardle.

Dewey Decimal Classification (DDC)

A type of library classification system that organizes books using 10 main classes. Each of the 10 classes have a hierarchical system of subclasses that become increasingly more specific.

Disinformation

"False information that is deliberately created or disseminated with the express purpose to cause harm. Producers of disinformation typically have political, financial, psychological, or social motivations." *Definition from "[Information Disorder: The Essential Glossary](#)" by Claire Wardle.*

Doxing

"The act of publishing private or identifying information about an individual online, without his or her permission. This information can include full names, addresses, phone numbers, photos, and more. Doxing is an example of **malinformation**, which is accurate information shared publicly to cause harm." *Definition from "[Information Disorder: The Essential Glossary](#)" by Claire Wardle.*

Empirical

originating in or based on observation or experience

Engagement

The metric by which companies evaluate the number of clicks, likes, shares, and comments associated with their content.

Fair Use

An exception to copyright in which you can use a copyright-protected work without getting permission from the creator.

Filter Bubbles

This term refers to the intellectual isolation that can result from algorithms predicting what information you would want to see based on behavioral data like search history, clicks, views, likes, and location. This may limit our exposure to opposing viewpoints and confirm our existing beliefs.

Flattening the Curve

A term that came into prominence during COVID, this refers to the public health strategy to slow the spread of the virus.

Information Competency

Synonymous with "[information literacy](#)."

Information Cynicism

When skepticism turns to cynicism and deep distrust, research can become unproductive. Information cynics may feel powerless to identify reliable and useful sources. While learning to question **everything**, they may begin to believe **nothing**—even highly-credible sources of information.

Information Hygiene

The “metaphorical handwashing you engage in to prevent the spread of misinformation.” *Definition from “[It Can Take As Little as Thirty Seconds, Seriously](#)” by Mike Caulfield.*

Information Literacy

An integrated set of skills, practices, and dispositions that prepare students to discover, interpret, and create information ethically while gaining a critical understanding of how information systems interact to produce knowledge. Information literacy aims to help students navigate the information landscape not just for college courses but beyond—in the workplace, in their

personal lives, as lifelong learners, and as news consumers, creators, and voters. *Definition from “[Information Literacy in the Age of Algorithms](#)” by Head, Fister, and MacMillan.*

Intellectual Property

Describes an expression of the human mind that can be owned and protected once it is placed in a fixed, tangible format. Intellectual property can be protected by trademark, copyright, patent, etc.

Keywords

Words that describe the main concepts in a research question or search query. Searching for only the keywords, instead of a whole research question, will help to return more relevant search results.

Library of Congress Classification (LCC)

A type of library classification often used in large, academic libraries. This system uses 21 classes to organize books by subject.

Malinformation

"Genuine information that is shared to cause harm. This includes private or revealing information that is spread to harm a person or reputation." *Definition*

from "[*Information Disorder: The Essential Glossary*](#)" by Claire Wardle.

Meme

"The formal definition of the term meme, coined by biologist Richard Dawkins in 1976, is an idea or behavior that spreads person to person throughout a culture by propagating rapidly, and changing over time. The term is now used most frequently to describe captioned photos or GIFs that spread online, and the most effective are humorous or critical of society. They are increasingly being used as powerful vehicles of disinformation." *Definition from "[*Information Disorder: The Essential Glossary*](#)" by Claire Wardle.*

Misinformation

"Information that is false, but not intended to cause harm. For example, individuals who don't know a piece of information is false may spread it on social media in an attempt to be helpful." *Definition from "[*Information Disorder: The Essential Glossary*](#)" by Claire Wardle.*

Nesting

Helps organize what Boolean operators go with what keywords. Without nesting, most search engines and

library databases will read your search statement from left to right, applying the Boolean operators in that sequence

Online Source

A resource accessed electronically through an internet connection. Examples include databases accessed through a library website, *Wikipedia*, and webpages.

Open Access

Resources online—usually academic resources—that are freely available.

Paywall

A barrier you may encounter online, when you have to pay for a subscription before you can access an information resource.

Phrase Searching

Placing a phrase (two or more keywords) in between quotation marks will ensure that those words stay in that exact order during the search. The entire phrase will be searched for instead of the individual keywords. Phrase searching is important to use when searching for specific quotes or names.

Plagiarism

To pass off another person's work as one's own. Using another person's words, either word-for-word or paraphrased or summarized, and not referencing them.

Primary Sources

First-hand observations or experiences of an event. The original sources of information before they have been analyzed or summarized. Examples include: speeches, autobiographies, and empirical research.

Related Keywords

Terms that are synonymous, or similar in meaning, to keywords. Main concepts are not always described using the same term. For example, a more scientific information source, may use the term "feline" instead of the term "cat."

Research Questions

A question that research sets out to answer. Research questions should be not be able to be answered with a simple "yes" or "no" and should be clear, concise, and focused.

Scholarly Conversation

Describes the existing body of knowledge about a topic.

Search Statement

A combination of keywords, key phrases, and Boolean operators that are entered into a search box for conducting precise searches.

Secondary Sources

These are sources of information created after an event has occurred and offer a review or analysis of the event. They provide an interpretation of a primary source or data. Examples include: biographies, nonfiction books, and literary criticism.

SIFT Method

Fact-checking strategy based on four moves, or things to do to quickly make a decision about whether or not a source is worthy of your attention. **S**top. **I**nvestigate the source. **F**ind better coverage. **T**race claims, quotes and media to the original context.

Skeptical

Not easily convinced; having doubts or reservations.
Definition from Oxford English Dictionary.

Sock Puppet

"Online account that uses a false identity designed specifically to deceive. Sock puppets are used on social platforms to inflate another account's follower numbers and to spread or amplify false information to a mass audience." *Definition from "[Information Disorder: The Essential Glossary](#)" by Claire Wardle.*

Tertiary Sources

These are compilations of information coming from primary and secondary sources. Examples include: encyclopedias, indexes, and most textbooks.

Trolling

"The act of deliberately posting offensive or inflammatory content to an online community with the intent of provoking readers or disrupting conversation." *Definition from "[Information Disorder: The Essential Glossary](#)" by Claire Wardle.*

Vandalism

On Wikipedia, vandalism refers to editing an article in a malicious manner that is intentionally disruptive, whether the edits are humorous, nonsensical, a hoax, or degrading.

Wikipedia

An online, free, collaborative encyclopedia. Since its creation in 2001, *Wikipedia* has grown into the world's largest reference website (as of November 2020, it has 1.7 billion unique visitors monthly and more than 55 million articles in over 300 languages).