

INTRODUCTION TO INFORMATION LITERACY 2ND ED.



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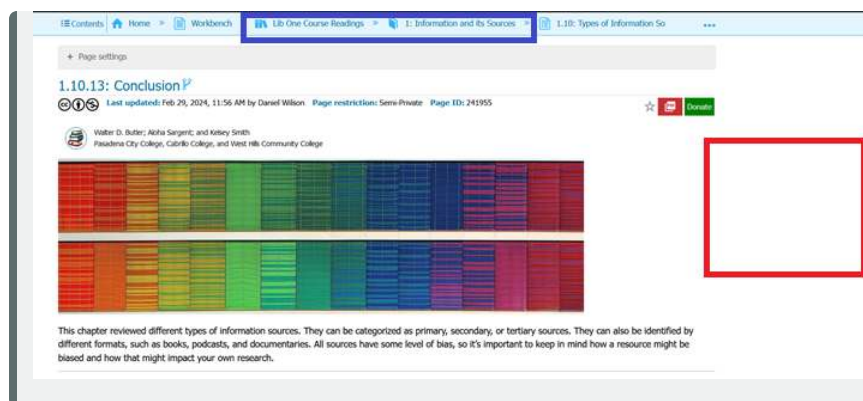
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Wilson, D. (2024). *Introduction to information literacy*. Retrieved from https://human.libretexts.org/Workben...iteracy_2nd_Ed.

Modern Language Association (MLA 9th edition)

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Wilson, D. "Introduction to Information Literacy." *LibreTexts*. https://human.libretexts.org/Workben...iteracy_2nd_Ed. Accessed October 30, 2024.

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✓ Example 1

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CHAPTER OVERVIEW

1: Sources of Information

- 1.1: Chapter Scenario - When Information is Created
- 1.2: The Many Forms of Information
- 1.3: Fake News and Misinformation
- 1.4: Information Cynicism and Hygiene
- 1.5: Primary, Secondary, and Tertiary Sources
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1.1: Chapter Scenario - When Information is Created

✓ Scenario ✓ 1.1.1

Delegates began to sign the United States Declaration of Independence on August 2, 1776. At least 50 state delegates signed it that day, with others signing over the next year and a half. The names of those who signed the document, however, were not made public until 1777! When people reported on these events, how might the information they shared have changed from August 1776, to later in 1777, or even later after the American Revolutionary War?

A Few Things to Consider

- People who witness an event may have first-hand knowledge of an event.
- People who simply live near to the place and time of an event may have particular views or information about that event.
- People who study an event afterwards may have the benefit of other information that witnesses didn't have at the time.

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1.2: The Many Forms of Information

Information comes in many formats. Each format is created with a different audience and purpose in mind. Social media posts serve a different purpose from magazine articles. Information comes in many formats, each with unique characteristics and purposes. Let's break down some common types of information sources you'll encounter:

Print Sources

- **Books:** Books are traditional print sources that cover a wide range of topics in depth. They are often well-researched and take time to publish, which means they provide reliable, more permanent information. Textbooks, novels, and reference books like encyclopedias fall into this category. Books are often useful for research and particularly for gathering background information to learn more about a topic.
- **Magazines and Newspapers:** These are periodicals, meaning they're published regularly (daily, weekly, or monthly). They provide current information on a variety of topics. Newspapers focus on daily events and news, while magazines often cover specific interests, such as fashion, sports, or science, sometimes with a lighter tone than books. Newspapers can be useful for researching events and news, but magazines aren't often considered useful research sources.

Definition: Reference Books

A book designed to provide specific information or facts on a topic, organized to make that information easy to look up. This includes dictionaries and encyclopedias.

Digital Sources

- **Websites:** Websites can be formal or informal sources of information. Some websites, like those ending in .gov or .edu, are often considered trustworthy because they're run by governments or educational institutions. Others may vary in reliability, so it's important to check who runs the site and what their goals are.
- **E-books:** Electronic books are digital versions of printed books. They're accessible online or through apps, offering the same in-depth information but in a format you can read on screens. eBooks often also include other features allowing highlighting or note taking.
- **Social Media and Blogs:** Social media platforms (like Twitter or Instagram) and blogs allow people to share information quickly. They can offer up-to-the-minute details, opinions, or perspectives on current events or trends. These sources are often informal and can vary widely in reliability. Sometimes they can be useful for particular types of research, but are not often used. However, social media posts are often the subject of research!

Formal Sources

- **Academic Journals:** Academic journals publish research studies and articles written by experts in specific fields, such as medicine, engineering, or history. They're typically "peer-reviewed," meaning other experts have reviewed the work before it's published, ensuring accuracy and reliability.
- **Trade Journals:** These are publications aimed at professionals in specific industries like healthcare, technology, or marketing. Unlike academic journals, which publish original research, trade journals focus on practical information and updates within a field, such as industry trends, best practices, and new products. Articles are usually written by experts in the industry, and while they may not be peer-reviewed, they're valuable for staying up-to-date with current developments and understanding real-world applications within a profession.
- **Reports and White Papers:** These documents are often published by organizations, governments, or think tanks to provide detailed research on a specific topic. They are useful for in-depth analysis of complex subjects, especially in fields like economics, science, or public policy. These can often be useful for research.
- **Encyclopedias and Dictionaries:** These reference sources provide reliable, factual information on a wide range of topics, making them useful for quick, accurate details.

Definition: Peer Review

A process where experts in a field evaluate a researcher's work before it is published. This is intended to ensure the accuracy and credibility of published work.

Informal Sources

- **Blogs, Forums, and Personal Websites:** While these sources can be valuable for learning about personal experiences or opinions, they lack the rigorous editing and fact-checking that formal sources have. They're good for understanding trends, opinions, or personal stories, but less reliable for factual information.
- **Social Media Posts and Comments:** Social media provides a constant flow of informal information. While it's a great way to see what people are talking about in real time, the information is often brief and may not be accurate. Always check these details with more reliable sources.

Each of these formats has a place in research and learning. By understanding the strengths and weaknesses of each type, you can make informed decisions about where to look for trustworthy information based on your needs.

Information Creation Cycle

The **information creation cycle** is the process by which information is produced, shared, and evolves over time. It begins when an event or idea sparks the creation of new information and follows a general pattern:

1. **Immediate Sharing (Minutes to Hours):** Right after an event occurs, information is often shared informally through social media, blogs, or news websites. This information is quick and current but may lack depth and accuracy.
2. **News Reports (Hours to Days):** Professional journalists gather and verify information to create news articles or broadcast reports. These provide more reliable, organized information than social media but are still focused on timely updates. They are often written by journalists who are not usually experts in the topics they're writing about.
3. **Magazines and Periodicals (Weeks to Months):** Over the next few weeks or months, magazines or industry publications analyze the event or topic, often providing more detailed and reflective information, along with expert opinions.
4. **Academic and Peer-Reviewed Publications (Months to Years):** Researchers and scholars conduct in-depth studies, which are published in academic journals. These sources offer highly reliable, detailed insights, but they take longer to produce and publish. This begins a scholarly conversation that continually develops new perspectives and information.
5. **Books and Encyclopedias (Months to Years):** Books and reference materials provide comprehensive coverage and analysis. They are thoroughly reviewed and edited, making them some of the most in-depth and reliable sources available, but they are often the last to be published in the cycle.

Understanding this cycle helps in choosing the right type of source based on how current, reliable, or in-depth the information needs to be. When information is published in this cycle impacts the information that the author has available to them, affecting their perspective when passing on the information.



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What is the Scholarly Conversation?

The **scholarly conversation** is an ongoing, collaborative exchange of ideas, research, and perspectives among scholars, researchers, and students. According to the Association of College & Research Libraries Framework for Information Literacy, this conversation involves people sharing their work, debating findings, and building on each other's ideas to create new knowledge in a given field (ACRL Board). It's like a discussion that happens over time through published articles, books, conference presentations, and other forms of scholarly communication.

Students play an important role in the scholarly conversation. Here's how they can factor into it:

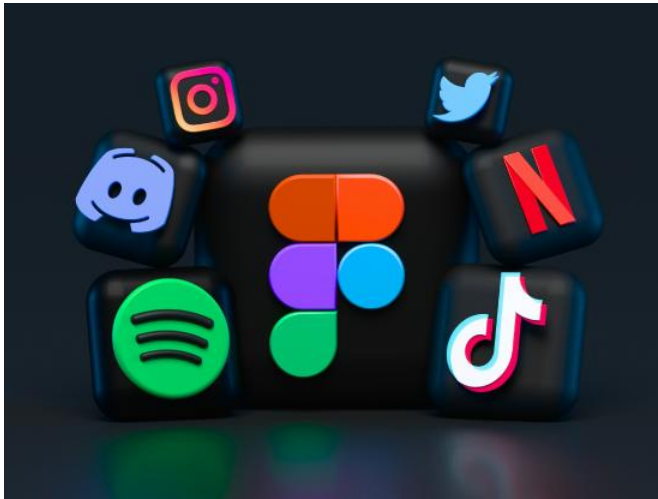
1. **Engaging with Sources:** By reading and analyzing research in their field, students join the conversation as listeners and learners. They gain an understanding of key questions, common methodologies, and ongoing debates.
2. **Asking Questions and Doing Research:** When students start asking their own questions and conducting research, they begin to add their unique perspectives to the conversation. Even if their work is informal or just for class, they're practicing the skills needed to contribute knowledge.
3. **Writing and Sharing Ideas:** Through essays, research papers, and presentations, students communicate their interpretations and insights. This sharing, even at the classroom level, is an early step in contributing to the broader conversation.
4. **Developing Critical Thinking:** By evaluating sources and understanding different viewpoints, students learn to think critically and engage in scholarly debates thoughtfully and respectfully. This skill is crucial for contributing responsibly and ethically to the conversation.

Sources

- ACRL Board. "Framework for Information Literacy for Higher Education." *Association of College & Research Libraries*. February 2, 2015. <https://www.ala.org/acrl/standards/ilframework>. Accessed October 30, 2024.

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1.3: Fake News and Misinformation



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Let's talk about some terms that come up frequently with online information. Fake news, misinformation, disinformation, and malinformation are different terms related to deceptive and unreliable information sources. While these are more common online, there are also sources of fake news in popular media, news stations, and print sources.

Fake news is a broad term that refers to completely false information presented as if it's true. These stories are often designed to look like real news, with catchy headlines and images, but they're deceptive in some fashion. Fake News is a popular catch-all term that includes different types of misinformation, disinformation, and malinformation.

Definition: Misinformation

Information that is incorrect but not meant to deceive.

Most people have accidentally shared misinformation at some point. Misinformation is incorrect but not shared with the intent to cause harm. This happens when someone believes something that is incorrect and shares it with other people.

- Example 1: Something you've believed for ages, but later found out was incorrect. Did you ever share this inaccurate info with someone?
- Example 2: Accidentally misquoting a source of information.

Definition: Disinformation

Information that is purposefully inaccurate.

Disinformation includes any information that is intentionally inaccurate. This occurs when anyone knowingly shares information that is not correct.

- Example 1: Misleading news articles trying to make you take a side on an issue.
- Example 2: A statistical chart that has rising data lines that don't match the values provided below it.

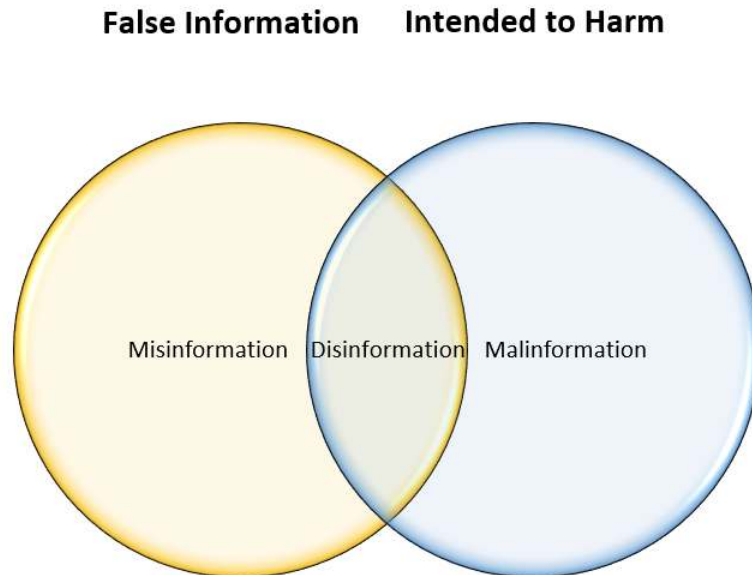
Definition: Malinformation

Information that is accurate, but used in a way to manipulate someone or cause harm.

Malinformation is correct information shared with harmful intentions. It might be based on fact but it's shared with the intent to cause damage, invade someone's privacy, or manipulate people's emotions. For example, sharing someone's personal information online could cause them embarrassment.

- Example 1: Providing crime statistics in an exaggerated way that make them seem high, without adding the context that they've actually gone down compared to prior years or other locations.
- Example 2: Leaking someone's medical information to embarrass them.

Diagram: Venn Diagram on Falseness and Intent to Harm



[Misinformation Venn Diagram by Daniel Wilson, [CC BY-NC 4.0](#)]

Professor Claire Wardle of Brown University has identified seven types of mis- and disinformation (Wardle).

1. Satire or Parody. No intention to cause harm but has potential to fool. (The Onion)
2. False Connection. When headlines, visuals, or captions don't support the content.
3. Misleading Content. Misleading use of information to imply or suggest something the content doesn't say.
4. False Context. When genuine content is shared with false contextual information.
5. Imposter Content. When content pretends to come from a legitimate source, but does not. Such as quoting something that someone else never said.
6. Manipulated Content. When genuine information or imagery is manipulated to deceive. Presenting images or data in a misleading way.
7. Fabricated Content. New content is 100 percent false, designed to deceive and do harm.

Sources

- Wardle, Claire. "Understanding Information Disorder." *web.archive.org*. October 9, 2024.
<https://web.archive.org/web/20241009...tion-disorder/>. Accessed October 30, 2024.

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1.4: Information Cynicism and Hygiene

Information Cynicism

Information Cynicism is when people stop trusting the information they come across, believing that everything they see or hear might be misleading or false. This can happen when people are exposed to too much fake news, misinformation, or biased content. They begin to feel like it's impossible to know what's true or whom to trust.

While being cautious is good, extreme information cynicism can be harmful. If someone doubts every source, they may dismiss reliable information alongside unreliable sources, which can lead to confusion or a refusal to act on important issues. The key is to avoid slipping into full cynicism by learning how to identify reliable sources and evaluate information thoughtfully. Using critical thinking skills can help to identify reliable information.

Information Hygiene

Definition: Information Hygiene

The practice of carefully managing the information you consume, share, and believe.

Practicing good information hygiene is important for combating fake news. By using good information hygiene practices, you can do your part to reduce the amount of misinformation that people receive. Information hygiene habits include:

1. **Checking the Source:** Look at where information is coming from. Is it a well-known, reliable source with a good reputation for accuracy? Do they use trustworthy information and offer balanced perspectives?
2. **Fact-Checking:** Verify information, especially if it sounds surprising or sensational. Cross-check with other credible sources or use fact-checking websites to see if the story holds up.
3. **Avoiding Echo Chambers:** Try to get information from a variety of sources, including those with different perspectives. This helps avoid “echo chambers” where you only hear views you already agree with.
4. **Being Mindful Before Sharing:** Consider whether the information is accurate and valuable before sharing it with others. Avoid spreading information that isn't verified, as this can contribute to misinformation.
5. **Recognizing Biases:** Be aware of your own biases and how they may affect the way you interpret information. Look for sources that strive for objectivity and transparency.

SIFT through Information

SIFT is an acronym that can help you remember four actions to find better information.

1. **Stop:** Take a moment to consider the information source's quality. Is it a good source?
2. **Investigate the source:** Look up information about the author, publisher, and/or website online. Can you find out anything that helps you decide if it's a good source?
3. **Find better coverage:** Look up other sources of information to compare with this one. If this source isn't good, find a better source elsewhere.
4. **Trace claims:** Search online for more information about any claims that they make. Can you find other sources that agree or confirm them?

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1.5: Primary, Secondary, and Tertiary Sources



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When you're researching a topic, it's essential to understand the different types of sources. Information sources can be primary, secondary, or tertiary sources. Each serves a unique purpose in research, and using a mix of these can give you a well-rounded understanding of your topic.

Primary Sources

Primary sources are original materials or firsthand accounts created during the time an event occurred or by people directly involved in it. They offer raw, unfiltered information, so they're valuable for getting direct evidence of a subject.

Examples of primary sources include:

- Diaries, letters, and interviews (personal/eyewitness accounts)
- Official documents, like laws, court cases, or birth certificates
- Data from experiments or scientific studies
- Original works of art, music, or literature
- Photographs or videos from a specific event
- Newspaper articles written at the time of an event
- Recordings of speeches or other live events

Primary sources are especially useful for understanding the *authentic* perspectives of people who experienced something firsthand, but they often need interpretation, which is where secondary sources come in. It's also important to know that primary sources may include a degree of bias.

Secondary Sources

Secondary sources analyze, interpret, or summarize information from primary sources. They're usually created after an event has already happened, often by people who didn't experience it firsthand. Secondary sources are helpful for understanding the context or meaning of a primary source, as they often provide analysis or draw conclusions based on multiple primary sources.

Examples of secondary sources include:

- Textbooks and encyclopedias
- Articles or books analyzing historical events, literature, or scientific findings
- Biographies
- Documentaries that analyze past events

Secondary sources are valuable for giving a broader view of a topic and for helping you understand different interpretations and analyses. They're often easier to read than primary sources since they put information in context and explain its significance.

Tertiary Sources

Tertiary sources compile and summarize information from primary and secondary sources. They're often used for quick reference or an overview of a topic. Tertiary sources don't usually provide deep analysis or original research but instead offer a convenient summary of key points.

Examples of tertiary sources include:

- Encyclopedias and dictionaries
- Factbooks and almanacs
- Indexes and databases
- Study guides and abstracts

Tertiary sources are helpful when you need a quick overview of a topic or when you're trying to find background information before diving into more detailed sources.

In Summary

- **Primary sources** are original, firsthand accounts or data.
- **Secondary sources** interpret or analyze primary sources.
- **Tertiary sources** summarize and compile information from primary and secondary sources.

Understanding the differences helps you use each type effectively.

Consider!

Are there reasons you would choose to use secondary sources rather than just primary sources?

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1.6: Popular, Professional, and Scholarly Sources



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When researching, it's helpful to know the differences between popular, professional, and scholarly sources of information. Each type is created for a different audience and purpose, so understanding these differences can help you choose the right sources for your needs.

Popular Sources

Popular sources are designed for the general public and are often meant to entertain, inform, or give a broad overview of a topic. They're written in everyday language, are easy to read, and typically don't go in-depth with research or analysis. Popular sources aim to be accessible and engaging, often with lots of images and a clear, straightforward style; but they aren't intended for research.

Examples of popular sources include:

- Magazines like *Time*, *National Geographic*, and *People*
- News websites and newspapers like *The New York Times* or *BBC News*
- Blogs, social media posts, and general-interest websites

Popular sources are great for getting a quick overview or understanding current events and trends, but they often lack detailed analysis and don't usually cite sources in a rigorous way.

Professional (or Trade) Sources

Professional sources, also called trade sources, are created for people working in specific fields or industries. These sources provide practical information, updates, and industry trends to professionals but don't typically include original research or detailed citations. Professional sources are usually written by experts or experienced practitioners who have deep knowledge of the field. The language used may be more technical but it's usually accessible to people within the industry.

Examples of professional sources include:

- Trade magazines like *Advertising Age* (marketing), *Nursing Times* (healthcare), or *Architectural Digest* (architecture)
- Industry newsletters and reports
- Websites that cater to specific professions, like *Engineering News-Record* (construction) or *Law360* (legal industry)

Professional sources are useful for keeping up with the latest practices, tools, and news in a specific field; but they aren't as rigorously researched as scholarly sources when it comes to research methods and citations.

Scholarly Sources

Scholarly sources, also called academic sources, are written by experts or researchers for an audience of other experts, researchers, or students. These sources are detailed, thoroughly researched, and carefully reviewed (often through a process called *peer review*) to ensure accuracy and credibility. Scholarly sources aim to expand knowledge in a particular field, often using original research, detailed data analysis, and comprehensive citations.

 Definition: Peer Reviewed Journal

An academic periodical in which articles are written by experts, then reviewed by other experts in that subject area through a formal peer review process.

Examples of scholarly sources include:

- Academic journals like *Journal of Psychology*, *American Historical Review*, and *New England Journal of Medicine*
- University press books and research-based books
- Professional written and research-based web content
- Theses and dissertations

Scholarly sources are highly credible and in-depth, making them excellent for advanced research or when you need reliable, well-supported information. However, they're often more challenging to read due to technical language and a focus on detailed analysis.

Accessing Scholarly Sources

In the age of the internet, there are many new ways to find scholarly, academic sources of information. College libraries are often one of the best places to find academic journals and books. Libraries include databases, electronic collections of resources, that can be focused into specific academic subjects. These databases usually include filter tools that can be used to limit your results to specific types of scholarly sources like peer-reviewed journals.

However, there are other places to look for scholarly sources. While Google is not terribly useful at finding especially scholarly sources, scholar.google.com is a search intended to search for more scholarly information.

In Summary

- **Popular sources** are written for a general audience and aim to entertain or inform broadly (e.g., magazines, newspapers).
- **Professional (or trade) sources** are targeted at people in specific professions and cover industry-specific news or trends (e.g., trade magazines, industry reports).
- **Scholarly sources** are research-based, peer-reviewed, and intended for academic or expert audiences, often with rigorous evidence and analysis (e.g., academic journals, theses).

Choosing the right type of source depends on your research needs: popular sources are good for entertainment, professional sources are useful for industry insights and practices, and scholarly sources are essential for academic or detailed research.

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1.7: People as Sources

When researching, you'll often want to focus on books and articles, but people can be valuable sources of information as well. Speaking to someone with expertise, experience, or unique insight can provide in-depth knowledge, fresh perspectives, or up-to-date information that might not be available elsewhere. In fact, interviews with people is an important avenue for creating primary sources! However, using people as sources requires some special considerations.

Ways to Use People as Sources of Information

1. Interviews

- **Purpose:** Interviews allow students to gather firsthand information from experts, eyewitnesses, or individuals with specific knowledge.
- **Example:** Interviewing a local historian for a project on community history or speaking to a scientist for insights on a recent scientific development.
- **Value:** Interviews provide direct quotes, personal anecdotes, and in-depth answers tailored to the student's questions. They can reveal details that might not appear in written sources.
- **Challenges:** People have their own biases. They also may have an incomplete memory of events or a limited perspective.

2. Surveys and Questionnaires

- **Purpose:** Surveys allow students to collect opinions, experiences, or demographic information from a larger group.
- **Example:** Surveying classmates or community members about attitudes toward a social issue.
- **Value:** Surveys can offer statistical data and help students understand public opinion on specific topics. They're particularly useful for identifying trends and patterns.
- **Challenges:** It can be difficult to get a sufficient number of survey participants. It often requires an expert to write good survey questions. Collecting this type of original research data can involve ethical concerns.

3. Focus Groups or Group Discussions

- **Purpose:** Group discussions allow students to explore how different people view the same topic, often in a setting that encourages conversation and sharing.
- **Example:** Organizing a discussion with peers on environmental concerns or setting up a focus group with family members on cultural traditions.
- **Value:** These discussions can uncover diverse viewpoints and give a fuller picture of how a topic is perceived by different people.
- **Challenges:** It can be difficult to get a sufficient number of participants. It often requires an expert to write good questions and administer an effective focus group. Collecting this type of original research data can involve ethical concerns.

In Summary

Using people as sources of information (through interviews, surveys, consultations, or focus groups) can add unique insights to research. While people can provide valuable perspectives, students should approach these sources thoughtfully by considering reliability and ensuring respectful, ethical practices. With careful planning, information from people can deepen a student's understanding and add a rich dimension to their work.

The Published Research Perspective

People are often used as sources of information for published research. This type of research often requires careful consideration in order to be done ethically. The researcher often needs people's permission and may even need their research to be approved by their own institution or school.

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1.8: Artificial Intelligence



[Cheerful Muslim Black Woman with a Laptop by Ono Kosuki, licensed CC0]

What is Generative AI (Artificial Intelligence)?

A Friend

AI is best treated like a friend. You can bounce ideas off of AI apps, but it's not okay to just copy content from them.

Artificial Intelligence can be defined as "technology that enables computers and machines to simulate human intelligence and problem-solving capabilities"¹. This does not mean that the AI tools we see being created today are truly thinking like people, but rather that they imitate some of the creative and problem-solving skills that humans have. Generative AI, is a special type of AI tool. Generative AI is used to create content such as text, images, audio, video, and more. Some people even use it to write letters or essays.

Can you spot the problem with using AI to write an essay? Using AI improperly can:

- Prevent you from learning skills and information you'll need later in the class
- Hurt your grade in your class
- Violate ethical standards and laws

That last one can have the quickest repercussions. Using AI to create an entire writing assignment is plagiarism, or theft of information. It violates ethical standards and can result in a zero for an assignment or worse. Many teachers have techniques and/or tools for identifying AI work.

Issues with Generative AI

Some AI writing tools such as ChatGPT have known issues where the written information can be completely incorrect, biased, or include totally fake citations². Many of these tools also have licenses that legally prohibit you from copying and using the content in different ways. These tools also copy other people's writing or art in order to "create" their content and many people view this as theft.

However, that doesn't necessarily mean you have to avoid all AI tools! AI can be used ethically to help you in your daily life and even sometimes with assignments. **So what can you do?**

1. Read your course Syllabus. A syllabus lays out the rules and expectations for a course. Many teachers are included AI statements that will provide information on what types of AI they will and will not allow in their class.
2. Read the instructions for each assignment. Assignment instructions may mention tools that are allowed or expected to be used.
3. Avoid using AI to complete an assignment (unless explicitly instructed to do so). Focus on using AI to help you. For example using:
 - Goblin.Tools to help you create to-do lists or judge the tone of your writing so that you can improve on it.

- ChatPDF to analyze a scholarly article and summarize information from it.
- Bing Chat to brainstorm ideas for an essay topic or get suggestions for related topics.
- Grammarly to get suggestions for correcting your grammar while writing.

Remember that AI can be a useful tool, but it is no substitute to learning how to do things yourself! Your course assignments are created to help you learn and you learn by doing.

The Environmental Perspective

It's important to consider the impact that A.I. use has on other areas. One such challenge is with the environment. Our society already has a powerfully negative impact on our environment, worsening extreme climate change. [A.I. uses a massive amount of electricity and creates a lot of waste](#), which only further worsens climate change.

Sources

1. "What is AI?" IBM.com, <https://www.ibm.com/topics/artificial-intelligence>. Accessed October 30, 2024.
2. The Writing Center. "Generative AI in Academic Writing." University of North Carolina at Chapel Hill. <https://writingcenter.unc.edu/tips-a...demic-writing/>. Accessed October 30, 2024.

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1.9: Conclusion

✓ Critical Thinking

If you were looking for information for purchasing a new car, does the format that the information comes in matter to you? Are there times when digital information is more desired than print information? Does the source of the information and its reliability matter to you? Consider how your answers to these questions might change if you're doing scholarly research instead.

When important events and discoveries happen, information is created and shared with other people. People who experience these events share out their experiences (primary sources). Later on, this information is reviewed and studied by researchers who produce new perspectives on those experiences (secondary sources). As they create this information, authors choose which format to share their information in. Both print and online formats have their advantages and disadvantages, with online formats being less permanent but often more accessible.

As we move into the next chapter, we will look at the ethics of using information including citing these various different types of sources.

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CHAPTER OVERVIEW

2: Ethics and Citation

- 2.1: Chapter Scenario - Credit for Your Work
- 2.2: Using Information Ethically
- 2.3: Plagiarism and Academic Integrity
- 2.4: Citation Styles
- 2.5: How to Cite Sources
- 2.6: The Basics of MLA Citation Style
- 2.7: Examples of Common MLA Source Citations
- 2.8: Citation Tools
- 2.9: Conclusion

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2.1: Chapter Scenario - Credit for Your Work

✓ Scenario 2.1.1

Imagine you spent hours creating a project for your history class. You did tons of research, came up with creative ideas, and put everything together with your own unique style. When you present it, your teacher is really impressed and says it's the best project they've seen all year.

Now, imagine that another student sees your project and copies most of it, changing only a few words. They present it as their own work, and the teacher gives them the same praise and high grade as you. They don't mention you at all.

How would that feel?

A Few Things to Consider

- Giving credit for information recognizes other people's efforts.
- Giving credit builds trust, because other people know you are being honest and responsible. It strengthens your arguments.
- Giving credit encourages creativity. When people know that their work will be respected, they're motivated to share their ideas.

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2.2: Using Information Ethically

Using information ethically means respecting the work of others and being honest about where ideas come from.

Definition: Plagiarism

A form of academic dishonesty that occurs when you use another person's work or ideas without giving them credit.

When Should You Give Credit to Another Source?

Anytime you use information that is not your own, that is not well-known factual information, you should credit the source. For example, telling someone that the boiling point of water is 100 degrees Celsius is a simple fact. You would not need to give credit to a source for that. However, very few pieces of information used in academic writing are based on simple, well-known facts. If you quote information from another source, you should provide information crediting them; whether it is a website, person, or video. If you paraphrase (or rewrite in your own words) that information, you should still give credit to the original source.

When in doubt, you should give credit to the source!

Why Should You Cite a Source?

Definition: Citation (or citing sources)

A formal process for giving credit to the original source of information, ideas, or words used in your work.

Citing sources is important for many reasons:

1. Citing sources adds credibility to your claims by backing them up with other people's voices.
2. Citing sources respects the work that another person did.
3. Citing sources allows your audience to find and review those sources to get more information.
4. Citing sources helps to avoid claims of plagiarism in classes. Committing plagiarism (or the theft of information) can cause grade penalties or other negative academic consequences.

Other Concepts in Information Ethics

There are a number of other concepts to consider with regard to ethically using information in your research and personal life.

1. **Plagiarism**

Plagiarism is when you use someone else's work or ideas without giving them credit, like copying and pasting without saying where it's from. Giving credit is important because it shows respect for the person who created it and shows honesty in your work. It also avoids accusations of academic misconduct in classes.

2. **Copyright**

Copyright protects the rights of creators. Using someone's work without permission breaks these rules. By respecting copyright, we support the creators who put effort into making things like music, images, and writing.

3. **Fair Use**

Fair use allows you to use small parts of copyrighted work, like a short quote in a report. But taking too much can cross the line. Knowing what fair use allows helps us use resources fairly in school and other projects.

4. **Privacy**

Respecting privacy means keeping personal details (like photos or phone numbers) private and not sharing them without permission. This keeps people safe and builds trust.

5. **Checking Facts**

Sharing accurate information from trustworthy sources is important. If we pass along false information it can mislead others. We have an ethical obligation to try and share accurate information.

6. Staying True to the Source

Don't twist someone's words to make it sound like they said something else. Being honest about what information really says is part of being trustworthy and ethical.

Ethical Considerations for Generative Artificial Intelligence (AI)

Artificial intelligence tools can be remarkably helpful in many ways. They can help with planning projects, summarizing information, and even explaining topics. In particular, AI can be useful to some neurodivergent people; providing more personalized learning experiences or helping to manage tasks or adapt their communication to a more neurotypical style. However, there are many concerns related to using AI tools as well.

Generative AI tools are known to sometimes [make up or misrepresent information](#) ("[What are AI Hallucinations?](#)"). AI tools can also be created in a way that embeds [bias and discrimination](#) ("[Shedding light on..](#)") within the results they produce. The servers and technology used to power AI can also have a significantly [negative impact on the environment](#) ([Zewe](#)). In terms of information ethics, there are a couple key concerns to address:

- Academic honesty: Copying any other person or source's content and submitting it as your own is a form of academic dishonesty called Plagiarism. AI generated content should not be copied directly, but instead used to help inform and refine your own work. Additionally, when it is used to help write something, it should be cited.
- Intellectual property and copyright: Generative AI can create content that closely resembles existing copyrighted works. Additionally, AI tools are often developed by scanning thousands of other people's existing works. This brings up important legal questions about the use of those existing works and whether or not creations closely resembling them (especially when considering AI-generated Art) is infringing upon the original creator's copyright.

Generative AI tools have even been targeted by a number of lawsuits:

- In 2023, [an Australian mayor filed a defamation lawsuit against OpenAI](#) (owner of ChatGPT) over ChatGPT claims that he had served time in prison for bribery.
- In 2024, [five Canadian news outlets sued OpenAI](#) (the owner of ChatGPT) claiming that OpenAI violated copyright law by using their articles to train its language model.
- In 2025, a [man sued ChatGPT](#) accusing the company of knowingly allowing it to display false results after it accused the man of killing his children.

Sources:

- "What are AI Hallucinations?". *IBM.com*. <https://www.ibm.com/think/topics/ai-hallucinations>. Accessed April 1, 2025.
- "Shedding Light on AI Bias with Real World Examples." *IBM.com*. <https://www.ibm.com/think/topics/she...world-examples>. Accessed April 1, 2025.
- Zewe, Adam. "Explained: Generative AI's Environmental Impact." *news.mit.edu*. <https://news.mit.edu/2025/explained-...al-impact-0117>. Accessed April 1, 2025.

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2.3: Plagiarism and Academic Integrity



[Instructor Giving Instructions Not to Cheat by RDNE Stock Project, licensed under the [Pexels License](#)]

Plagiarism is the act of using someone else's words, ideas, or work without giving them proper credit, and presenting it as if it were your own. This can happen in writing, music, art, and even scientific research. Plagiarism violates the trust between the creator and the user, and it's a serious issue in academics because it's seen as dishonest and disrespectful to the original creator's work. Avoiding plagiarism is an important part of **academic integrity**, which is the commitment to honesty, fairness, and responsibility in academic settings. In the classroom, assignments are given in order to enhance and test your learning. When someone commits plagiarism, they cheat by using another person's information inappropriately, which defeats the purpose of the assignment.

Common Examples of Plagiarism

1. Copying another person's work word-for-word without quotation marks or credit. For example, copying a paragraph from a website without giving credit.
2. Rewriting someone else's ideas or writing into your own words without giving credit. Even if you change the wording, the ideas still belong to the original author.
3. **Self-Plagiarism:** Self-plagiarism is when a student reuses their previous work without permission or acknowledge. For example, submitting an essay to two different classes without letting the teachers know.
4. Accidentally committing plagiarism by unintentionally copying another person's content. This usually happens due to poor note-taking or a misunderstanding of citation rules.

Academic Integrity

Academic integrity is about upholding ethical values in all academic work. It means being respectful and trustworthy. Students who practice academic integrity demonstrate that they value learning and respect others' contributions.

Examples of Academic Integrity and Plagiarism in Real-Life Scenarios

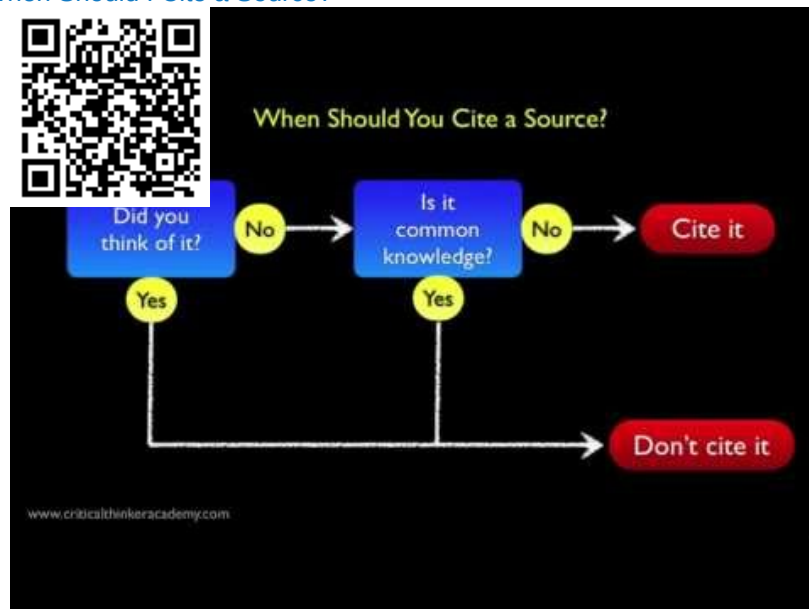
- **Example of Academic Integrity:** When writing a research paper on climate change, a student carefully includes citations for each source they consulted, whether they quoted directly or paraphrased the ideas. This shows respect for the original authors, allows readers to check the sources themselves, and strengthens the paper's credibility.
- **Example of Plagiarism:** A student finds an article online that explains climate change in simple terms. They copy several sentences directly from the article and paste them into their paper without quotes or a citation. This is plagiarism because they did not give credit to the original source and are presenting the words as if they were their own.
- **Example of Plagiarism:** Another student needs to submit an essay quickly, so they copy an old paper of theirs from a previous semester and change a few sentences before turning it in. This is self-plagiarism, which goes against academic integrity because each submission is expected to be new work unless otherwise stated by the instructor.

Why Academic Integrity Matters

Practicing academic integrity builds a foundation of honesty and respect in all your work, which will serve you in school, your career, and beyond. By respecting other people's work, we create a fair and trustworthy academic environment where everyone can learn and grow. In addition, knowing how to correctly use, credit, and build on others' ideas helps you become a more independent, confident, and respected thinker. This isn't just important in the classroom, but also in your career. Many careers require you to be able to research and find reliable information, and you'll be expected to show where that information came from as well.

Furthermore, research is not just a solo activity. Finding, evaluating, and sharing information is a part of ongoing scholarly conversations. Even as a student, you have a place in learning about the movers and shakers in your intended career fields, reviewing and sharing their information, and even in contributing your own voice to those discussions as well. Academic information and research rarely ends with just a couple quick studies. They are often the product of years of ongoing 'conversation' through research and writing; which only works because of academic integrity and citation!

Avoiding Plagiarism: When Should I Cite a Source?



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2.4: Citation Styles

Citation styles are formal systems for giving credit to the sources of information used in research or academic writing. They are essential for academic integrity, giving credit to original authors, avoiding plagiarism, and providing readers with the ability to trace and verify the information. Each style has its own rules for organizing this information, usually influenced by the academic discipline it's intended to be used by. These styles can often be really specific in their formatting rules because they are intended to give the reader all the information they need to locate the sources cited.

Here is a brief overview of three major citation styles:

1. MLA (Modern Language Association)

- **Purpose:** Commonly used in the humanities; especially in literature, language studies, and cultural studies.
- **Format:** Emphasizes the author and page number, allowing readers to locate sources in context. In-text citations include the author's last name and page number of the information used: (Smith 123).
- **Works Cited Page:** Includes a Works Cited page at the end of the work with all works cited. Arranged alphabetically by the author's last name, with each entry listing the author, title, container (publication the article or entry is published in), publisher, and publication date. Book example:
 - Smith, John. *Title of Book*. Publisher, Publication Year.

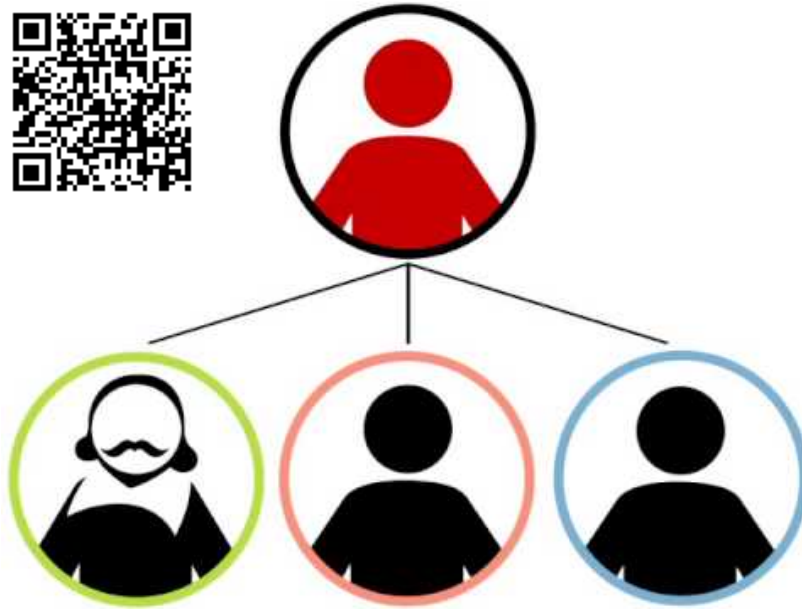
2. APA (American Psychological Association)

- **Purpose:** Primarily used in the social sciences; including psychology, sociology, and education.
- **Format:** Highlights the author and date, emphasizing the currency of the research. In-text citations include the author's last name, publication year, and page number of the information used: (Smith, 2023, p. 32).
- **References Page:** Includes a References page at the end of the work with all works cited. Entries are also alphabetically ordered and include the author(s), year, title, and source. For instance:
 - Smith, J. (2023). *Title of work*. Publisher Name. DOI (if available)

3. Chicago (Chicago Manual of Style)

- **Purpose:** Common in history, art history, and publishing; offering flexibility for different types of source material.
- **Format:** Offers two primary methods:
 - **Notes and Bibliography:** Uses numbered footnotes or endnotes for citations, with a bibliography at the end.
 - **Author-Date:** Sources are cited directly in the text, using in-text citations similar to APA style, rather than footnotes.
- **Bibliography Entry (Notes and Bibliography example):** Includes a Bibliography page at the end of the work with all works cited. The bibliography provides full citations, ordered alphabetically.

Different classes will use different citation styles. You should always review your assignments and class syllabus to identify the style used. Some classes may allow you to choose which style you want to use.



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2.5: How to Cite Sources

Despite the differences between citation styles, there are several important basic practices that apply to all of them. When considering how to cite sources keep in mind that the true purpose of citation is to give credit to your sources and to help your audience find those sources. That means that you need to consider which information is necessary for people to find them. It's not entirely uncommon for two authors to have the same name. Additionally, many works are published in journals with the same title. While author's name and journal title can be important pieces of information, they aren't enough alone. Finally, the website addresses (hyperlink URLs) for web content can often break or change over time. They are necessary for finding web sources but more information than just the hyperlink is needed.

Here's a list of common practices and considerations to follow when citing sources, regardless of the specific citation style:

1. Identify Reliable Sources

- **Academic Credibility:** Prefer scholarly articles, books, and reputable sources over unverified information.
- **Current Information:** Use up-to-date sources, especially for scientific and rapidly evolving topics.
- **Primary vs. Secondary Sources:** Research often relies on secondary sources, but it can be good to use primary sources (original research, documents) when they are available and relevant.

2. Be Consistent

- **Use the Same Style Throughout Your Writing:** Avoid mixing elements from different citation styles.
- **Follow Formatting Rules:** Pay attention to font, indentation, and punctuation for each entry to maintain a uniform format. It's generally a good idea to use a reference site like [Owl @ Purdue](#) that has examples for citing different sources.

3. Provide Complete Information

- **Include All Required Details:** Make sure every entry has the author, title, and other required information.
- **Collect Information Ahead of Time:** As you find sources that you mind use later, it's a good idea to go ahead and record information needed to find that source again later. For website sources, you should include the date that you first accessed the source.

4. Use In-Text Citations Properly

- Whenever you quote or paraphrase information you should include an in-text citation or footnote (for certain styles).
- In-text citations, also called parenthetical citations, are used right after you reference another source of information. Each of these in-text citations should be used to refer to a full citation used in the Works Cited page. As shown below, you can include an in-text citation in a couple different ways. In the first example, you can introduce the quote or information that you reference with the author's names (from the information source). When doing this, the parenthesis at the end only needs the page reference. Alternatively, as shown in example two, you can include all of the reference information in parenthesis.

Example In-Text Citation 1:

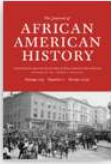
Donaldson and Clements found that students performed better in classes that used more engaging assignments (37).

Example In-Text Citation 2:

Students were found to perform better in classes that used more engaging assignments (Donaldson and Clements, 37).

5. Use Citation Tools with Caution

- **Double-Check Generated Citations:** Even reputable citation tools can make errors; always verify generated citations against the official style guide. Use sites with example citations to help identify errors.



ARTICLE

Staging Environmental Racism: The Free Southern Theater's Environmental Justice Script and Use of Documentary Theater

Wallenberg, Erik

The Journal of African American history, 2023-09, Vol.108 (4), p.656-681

“... in, this performance identifies **environmental racism** and **environmental justice** before they were named as such. Produced from community engagement, the same method that SNCC used...”

PEER REVIEWED

 Get Full Text   Get Full Text   Available Online 

Tools

 CITATION

 EMAIL

 PRINT

 QR

 PERMALINK

MLA (9th edition)

APA (7th edition)

Chicago (17th edition)

Wallenberg, Erik. “Staging Environmental Racism: The Free Southern Theater’s Environmental Justice Script and Use of Documentary Theater.” *The Journal of African American History*, vol. 108, no. 4, 2023, pp. 656–81, <https://doi.org/10.1086/726673>.

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2.6: The Basics of MLA Citation Style

The current edition of MLA Style is the 9th edition, which was published in 2021 with the 9th edition of the [MLA Handbook](#). This handbook governs the formatting requirements and citation methods for academic writing that uses the MLA Style.

When writing full citations in MLA Style, the elements (or necessary pieces of information) are usually listed in the following order:

1. Author
2. Title of the source
3. Title of the container
4. Other contributors (such as an editor)
5. Version of the container (if relevant)
6. Number of the container (if relevant)
7. Publisher
8. Publication date
9. Location (if relevant)

However, you will find that each type of source (website, journal article, video, interview, etc.), has different requirements for how to format their citations and what information needs to be included.

Most citations begin with the author's last name. The author (or authors) is the person/persons who created the source of information. The title of the source generally follows the author's name and is the title listed at the top of the source. This can sometimes get confusing with websites. When referencing an article on a website, you will normally use the title of that specific page as the source title, rather than the title of the website. The title of the website is the 'container title', because it contains the individual pages. This is just like an academic journal. An individual issue of an academic journal contains many individual articles!

"Other contributors" can include editors and translators. Publisher refers to whomever produces or distributes the information source. This is often an organization that produces (or puts together) the source and shares it.

Formatting a Paper in MLA 9th Edition

MLA has specific requirements for formatting a paper or essay. An MLA paper does not require a title page, but your course instructor might require one. If no other instructions are given, your first page should include a Header with your last name and a page number in the top-right. All text on the page should be double-spaced and left-aligned. It should begin with Your Name, Your Instructor's Name, Course Number or Name, and the Date you wrote the paper. You would then enter the Title of Your Paper with centered alignment. The actual writing of your paper should be left-aligned, with the first line of each paragraph indented over once.

- [Example MLA Paper](#)

Overview of Basic Formatting Requirements:

- Double-space your text and use a legible font such as Calibri, Aptos, or Times New Roman. The font size should be 12 pt.
- Leave only one space after periods or other punctuation marks.
- Set the margins of your document at 1 inch on all sides (the default on Microsoft Word and Google Docs).
- Create a header that numbers all pages in the upper right-hand corner.
- Use italics throughout your paper to indicate the titles of longer works.
- If your essay needs section headings, MLA recommends numbering them in the following fashion:
 1. First Section Title
 - 1.1 First Section Sub-Title
 2. Second Section Title
 3. Third Section Title

Formatting a Works Cited Page

A Works Cited page comes at the end of your paper and lists every source you cited within your writing. It should begin on a separate page from the rest of your paper. The Works Cited page should include Works Cited centered at the top of the page. Only the title will be centered. You should follow these practices to format a Works Cited page:

- Double space all citations
- Organize the citations in alphabetical order
- Each citation should include a hanging indent that indents each line after the first.

How to Create a Hanging Indent in Word



In-Text Citations

To write a basic in-text citation, you include two pieces of information in parenthesis at the end of the information you referenced in your writing. For most sources, you will include the author's last name and the page number of the information you are citing.

✓ Example 2.6.1

Basic In-Text Citation Example

Students have been shown to have improved success in courses that employ active learning techniques (Carter 21).

However, you can also use the author's name to introduce the source. If you do this, you only need to include the page number in parenthesis.

✓ Example 2.6.1

Narrative In-Text Citation Example

According to Carter, students have been shown to have improved success in courses that employ active learning techniques (21).

If your source does not have a known author, you simply replace the author's name with the first several words of the source title. If it is a short work (such as an article) you place the title in quotation marks. If it is a longer work such as a book, you would italicize the title.

✓ Example 2.6.1

No Known Author In-Text Citation Example

Students have been shown to have improved success in courses that employ active learning techniques ("Active Learning Techniques in the College Classroom" 21).

The last common consideration is what to do if you have a source with multiple authors. If there are two authors, you would list each of their last names. For example: (Thompson and Carter 21). For a work with three or more authors, list the last name of the first author then et al. For example: (Carter et al. 21). The 'et al' means "and others".

What if You're Referencing Information from Multiple Pages?

In the in-text citation, you just include the full page number range. For example: (Carter 16-21). If you are using information from more than one discontinuous pages (pages that are not next to each other), you include a comma between them. For example: (Carter 16, 21).

Creating Full Citations

In your Works Cited page, you will create full citations of sources used in your work. These will include far more information than the in-text citations. Here are some basic practices to keep in mind when writing citations:

- Capitalize each word in source titles but do not capitalize articles (a, and, the), prepositions (at, in, for, after, about, against, by, etc.), or conjunctions (for, or, yet, so, both, etc.).
- Use italics for titles of larger works (such as books) and quotation marks around titles of shorter works (such as articles).
- Authors' names are written last name first, then the first name, with a middle name or initial when needed.
 - Do not include titles or degrees with their names (Dr., PhD, etc.).

What if There is No Known Author?

If you do not know the author of a work, start the citation with the source's title. Alphabetize the citation in order using that title.

What if There is No Publication Date?

In MLA, if there is no publication date, then you just skip that information. Don't include anything for it and move to the next piece of information.

What if there are Multiple Authors?

If there are two authors, list both of them with and in-between their names. List the second author with their first name first and last name last. If there are three or more, list the first author's name followed by a comma and then et al.

✓ Example 2.6.1

Two Author Example

Carter, Luiz, and Donald Trimm. "Active Learning Techniques in the College Classroom." *Journal of Education*, vol. 101, no. 2, pp. 5-24, JSTOR, <https://doi.org/10.1515/rep201.103.1.1>

✓ Example 2.6.1

3+ Author Example

Carter, Luiz, et al. "Active Learning Techniques in the College Classroom." *Journal of Education*, vol. 101, no. 2, pp. 5-24, JSTOR, <https://doi.org/10.1515/rep201.103.1.1>

What About Annotated Bibliographies?

An annotated bibliography is basically a Works Cited page with a summary of each source after the citation. It should be titled Annotated Bibliography instead of Works Cited and each entry should include a one-paragraph summary. The entirety of that

summary should be indented one inch from the left (from where the citation begins).

Identifying a Website Article vs a Journal Article vs a Newspaper Article

Because these works are all cited differently, it's important to be able to identify between a website article, journal article, and newspaper article.

Website Articles:

- Generally found on popular websites, blogs, and similar locations. This can include educational (.edu) and government (.gov) websites.
- Often written for a broad audience.
- Often lack a formal author, academic credentials for any author that is listed, and a specific publication date.

Journal Articles:

- Published in academic journals often found through libraries, database collections, or through websites like Google Scholar. These are periodicals (publications put out at a regular schedule).
- Written by experts or researchers. Often include credentials about the authors such as their degrees or places of work.
- Written in a very formal, organized fashion. These often include sub-sections, abstracts, and references.
- Journals often have a volume and/or issue number and are not usually published more often than monthly. May only include the month and year for publication.
- Typically provide lengthy articles that can be over ten pages in length.

Newspaper Articles:

- Published in newspapers or on news websites. However, these can often also be found in library collections!
- Are normally published quite frequently, perhaps even daily. Newspapers usually have an exact date of publication including the month and day.
- Usually report on current events with articles written by journalists rather than subject experts.
- Typically provide short articles.

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2.7: Examples of Common MLA Source Citations

Properly formatting citations requires a lot of very specific requirements. This includes very specific places to use italics, quotation marks, and punctuation. It can often be helpful to use a website or book that provides example citations, so that you can be sure to not miss some of the specific formatting requirements. On this page, we provide example MLA 9th edition citations for some of the most common source types. Most of these example citations will include generic descriptions to show what the information is, in order; then an example showing the type of information you would include.

Note

Many of the examples, web addresses, and DOI numbers included below are made up to serve as an example.



[Example Citation with Information Labeled by Daniel Wilson, licensed [CC BY NC 4.0](#)]

Books

An Ebook (or Electronic Book)

Author Last Name, First Name. *Title of the Book*. E-book, Publisher, Publication Date.

Williams, Costa. *In the Age of Wonder*. E-book, Penguin, 2002.

Print Book

Author Last Name, First Name. *Title of the Book*. Publisher, Publication Date.

Williams, Costa. *In the Age of Wonder*. Penguin, 2002.

Print Book with an Editor

You cite this as you would a normal print book, but add the editor after the title with "edited by" in front of their name.

Williams, Costa. *In the Age of Wonder*, edited by Jorge Collins, Penguin, 2002.

A Subsequent Edition of a Print Book

You cite this as you would a normal print book, but include the number of the edition after the title.

Williams, Costa. *In the Age of Wonder*. 4th ed., Penguin, 2002.

Journal Articles

For online journal articles, you should include the DOI (Digital Object Identifier) if one is available. Otherwise, you should include a URL or Permalink to the article. Permalinks are provided by most library database collections. If an online journal article has page numbers, include those in the citation. If it does not have page numbers, omit that section. For online journal articles, you may optionally include the date of access.

Journal Article from a Library Database

When citing an online journal article from a library database collection, you should include the database name in italics.

Author's Last Name, First Name. "Title of the Article." *Title of the Journal*, volume number, issue number, date of publication, page range, DOI or web URL.

Carter, Alice, and Simmons A. Pollato. "An Evaluation of Active Learning Models in K-12 Classrooms." *Journal of Education*, vol. 10, no. 3, 12 Feb. 2012, pp. 50-57.

Academic Source Premiere, <https://doi.org/10.1112/tor.20155>.

Journal Article from an Internet Website

Although not required, it can be advisable to add a date of access when the article comes from a public internet website; in case there are changes to the website.

Collins, Samantha, et al. "Marketing Strategies for Generation Z Consumers." *Marketing Issues*, vol. 13, no. 1, 1 Mar. 2015, pp. 2-13.

<https://www.marketingissuesjournal.org/2015/1>. Accessed 12 Jan. 2024.

Print Journal Article

Author's Last Name, First Name. "Title of the Article." *Title of the Journal*, Volume Number, Issue Number, Publication Year, page range.

Moorehouse, Gaston. "Trends in Extreme Nationalism: A Multi-National Review of Literature." *Journal of International Government*

Studies, vol. 10, no. 2, 2001, pp. 13-20.

Newspaper Articles

Newspaper Article from a Library Database

When citing a newspaper article from a library database collection, you should include the database name in italics.

Simpson, Charles. "New Initiatives in Housing Support." *Los Angeles Times*, 22 Apr. 2010, *International News Collections*, p. 6.

Newspaper Article from an Internet Website

Although not required, it can be advisable to add a date of access when the article comes from a public internet website; in case there are changes to the website.

Simpson, Charles. "New Initiatives in Housing Support." *Los Angeles Times*, 22 Apr. 2010, p. 6.
<https://www.latimes.com/2010/4/22>.

Accessed 22 Oct. 2024.

Print Newspaper Article

Author's Last Name, First Name. "Title of the Article." *Newspaper Title*, Publication Date, page number of the article.

Simpson, Charles. "New Initiatives in Housing Support." *Los Angeles Times*, 22 Apr. 2010, p. 6.

Websites and Web Documents

When citing content on a website, you will normally need to include a date of access. This is the date that you most recently opened and viewed the material to get the notes or content you used in your work. The access date should be listed in the format of day month year. Example: Accessed 6 July 2015.

Website Article

Article Author's Last Name, First Name. "Title of the Article." *Title of the Website*, Web Address URL. Accessed Date of Access.

Donaldson, Claire. "A Review of Social Media Trends from 2000-2010." *Social Truths*, <https://www.socialtruths.com/claire/2015>.

Accessed 6 July 2020.

Website Article with No Known Author

When information such as the author is not available, you skip that information in the citation.

"A review of Social Media Trends from 2000-2010." *Social Truths*, <https://www.socialtruths.com/claire/2015>. Accessed 6 July 2020.

Wikipedia Article

When citing Wikipedia, you'll want to include both the date of the last time the page was edited and the date you accessed the information. The date the page was last edited can be found towards the bottom of the page.

"Title of the Article." *Wikipedia: The Free Encyclopedia*, Wikimedia Foundation, Day Month Year the page was last edited.

Web Address URL. Accessed Date of Access.

"Environmental Justice." *Wikipedia: The Free Encyclopedia*, Wikimedia Foundation, 2 November 2024.

https://en.Wikipedia.org/wiki/Environmental_justice. Accessed 3 November 2024.

Government Document from a Website

Many government documents will not provide a person as the author. If a person is not listed, use the government agency/department that created the document as the author.

Author Last Name, First Name. *Title of the Document: Subtitle if Given*. Edition if given and it is not the first edition.

Name of the Primary Government Agency, Publication Date, Web Address URL. Accessed Date of Access.

Bureau of Justice Statistics. *Human Trafficking Data Collection Activities, 2024*. 29 October 2024.

<https://bjs.ojp.gov/library/publicat...ctivities-2024>. PDF document.

Digital File (Word document, PowerPoint file, PDF document, etc.)

When citing a digital file such as a PDF document, you create a normal citation for that type of source and then add the file type at the end of the citation.

"A review of Social Media Trends from 2000-2010." *Social Truths*, <https://www.socialtruths.com/claire/2015>. Accessed 6 July 2020. PDF document.

Media

Image on a Website

Artist's Last Name, First Name. *Title of the Image. Title of the Website it is Hosted On*, Web Address URL. Accessed Date of Access.

Capatriman, Alice Ewelle. *My Dog Sitting in a Bird Bath*. *Capatriman.com*. <https://www.capatriman.com/photographs/June>.

Accessed 20 October 2022.

Video (YouTube, TikTok, etc.)

For videos from sites such as YouTube, you may need to include separate name entries for the author and for the uploader. If they are the same, you only need to include the name once and omit the 'uploaded by' section.

Triscol, Jessica. "How to Speak Confidently." *YouTube*, uploaded by PublicSpeak, 10 Sep. 2021, <https://www.youtube.com/watch?v=0sdf234WW34>.

Podcast

For a podcast, you should begin with the title of the episode in quotation marks. This is followed by the name of the series.

"Title of the Episode." *Name of the Podcast Series* from Name of the Podcast Site or Organization, Date of Publication, Web Address URL.

"Venturing into the U.S. West." *The Old Timey US* from NPR, 10 Jan. 2015, <https://www.npr.org/podcasts/30402521/west>

Other Sources

Twitter Post

Begin with the user's Twitter username as the author's name, then include the entire tweet in quotations. Include the date and time of posting.

@twitterUser02. "Twitter has gained a lot more bots, posting different types of content and misinformation." *Twitter*, 20 Mar. 2020, 12:01 p.m.,

<https://twitter.com/twitterUser02/status/1002003040010>.

Facebook Post

Author Last Name, First Name or Account Username. Short Description of the Post. *Facebook*, Date of Post, Time of Post,

Web Address URL. Accessed Date of Access.

TimTim11013. Description of the Wagyu Riot. *Facebook*, 15 Apr. 2020, 6:01 a.m., <https://www.facebook.com/timtim11013/2130034>.

Accessed 3 Mar. 2024.

Blog Post, Listserv Post, or Discussion Group Post

Author Last Name, First Name (if available, possibly including the poster's username). "Post Title." *Name of the Web Site*, Version number (if available),

Name of the Organization Affiliated with the Web Site (such as a sponsor or publisher), Web Address URL. Date of access.

Creator91 [Daniel Timms]. "The Total Cost of Current Policies." *PoliticBlog*, 29 Sept. 2010, <https://www.politicblogusa.org>. Accessed 10 Apr. 2015.

Personal Interview

You use this format for citing an interview that you conduct personally. List the interview with the name of the interviewee at the beginning.

Interviewee Last Name, First Name. Personal interview. Date of interview.

Williams, Donald. Personal interview. 20 April 2020.

Class Notes or Handouts

Instructor's Last Name, First Name. "Title of the Handout/Notes/Page." Name of the Course, Course Code/Number, Name of the Institution, Date of Publication (if available) or the Date Accessed.

Wilson, Dani. "Using AI Effectively and Creatively." Introduction to Information Literacy, LIB-1-28317, Moreno Valley College, Accessed 4 Nov. 2024.

Class Presentation Slides (PowerPoint, etc.)

Instructor's Last Name, First Name. "Title of the Presentation." Presentation slides, Name of the Course, Course Code/Number,

Name of the Institution, Date of Presentation or Publication (if available) or the Date Accessed.

Wilson, Dani. "Week 1 Presentation." Presentation slides, Introduction to Information Literacy, LIB-1-28317, Moreno Valley College,

Accessed 4 Nov. 2024.

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2.8: Citation Tools

Reference Websites

There are a number of websites that you can use to find formatting rules and guides for citing sources.

- [Online Writing Lab @ Purdue University](#): This website provides formatting rules and example citations for both MLA and APA styles.
- [Online Writing Lab @ Excelsior University](#): This website provides formatting rules and example citations for both MLA and APA styles.

Citation Generators

Citation generators are tools that can create or format citations for you. While these can be useful, they often contain minor errors that you will need to be careful to correct yourself. One of the perks of using library database collections, is that most of them have a built-in tool for providing pre-generated citations for the sources found within them.

- [Zotero.org](#): Zotero is a free tool for collecting and compiling citations for your research sources.
- [Easybib.com](#): Easybib is a free tool for creating citations or checking your papers for signs of plagiarism.
- [QuillBot.com](#): QuillBot is an AI-powered tool for creating citations.

Artificial Intelligence

Generative A.I. tools can suggest citations for your sources; however, you should be wary of their accuracy (just like with citation generators). Additionally, do not rely on these tools to find and cite sources for you. They are known to make up sources and provide non-working hyperlinks.

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2.9: Conclusion

✓ Critical Thinking

As you reflect on the need to give credit for the source of information, consider the following questions. How could seeing the information sources for someone else's article help to encourage discussion among scholars? How would you feel if someone else copied your own work without giving you credit? In what ways does giving credit to other sources of information help to make your own claims stronger?

In this chapter we've reviewed the basic ethics of using information, which heavily emphasizes the importance of giving credit. Not only can a failure to give proper credit hurt you academically, it can also weaken your own work. Citation can be a difficult practice to learn but there are many tools that can help, including websites that you can use for examples to help you cite sources.

In our next chapter, we will begin to learn more about how to conduct research including learning how to narrow down topics and identify effective search keywords.

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CHAPTER OVERVIEW

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3.1: Types of Research

In research, there are different ways to gather information and answer questions. Each type of research has its own methods, strengths, and purposes. This section will explain some of the main types of research and how they differ.

Types of Research

Definition: Variable

A characteristic, number, or quantity that can be observed.

1. **Descriptive Research:** Descriptive research aims to describe something as it is. It tried to explain the characteristics of a population or situation. It doesn't try to find out why something happens but instead focuses on what is happening. For example, a researcher might use surveys to find out how many students prefer online learning versus in-person classes.
2. **Experimental Research:** Experimental research focuses on controlling certain factors in order to observe how changes affect the results of the experiment. This is a key approach to the Scientific Method, a research method highly valued by Western society. For instance, a researcher might change the amount of light in a room to see if it affects people's ability to focus. Experimental research often happens in labs, where variables can be carefully controlled.
3. **Correlational Research:** Correlational Research looks for connections or relationships between two things. For example, a study might find a correlation between the number of hours students study and their grades. However, proving that a relationship exists does not necessarily prove that one variable directly causes the other to occur or change.
4. **Exploratory Research:** Often used when little is known about a topic, exploratory research helps researchers gather more information to better understand the subject. It's less structured and can involve open-ended questions or observations, making it useful for new areas of study.
5. **Case Study Research:** This approach focuses on a single subject, group, or event to get a deep understanding of it. For example, a case study on a specific high school might examine its policies, culture, and student outcomes in great detail.

The Goal of Research: Fact vs Evidence

The goal of research is not often to establish fact. Unquestionable facts are quite uncommon in research. Instead, research focuses on developing a hypothesis of what is happening and why, then seeking out evidence that supports or refutes those hypotheses. In the aforementioned example measuring student study hours and its potential impact on their grades, even if the researchers found that grades improved with an increase in hours studied, it does not prove that the hours studied improved their grade. Instead, it provides evidence supporting the theory that increased study hours improves grades. There could still be errors in the research methods used or other variables affecting the outcome.

Quantitative vs. Qualitative Research

Research methods are the approaches used in doing a specific research study. One important difference in research methods is between **quantitative** and **qualitative** research.

Quantitative Research

Quantitative research is all about numbers. Quantitative research seeks out measurable data. This type of research often involves statistics, charts, and graphs to present findings. For example, if researchers want to know how many people prefer online learning, they might survey a large group, count the responses, and create a percentage.

- **Strengths:** Quantitative data is clear and precise, making it easier to measure and compare. It can also help with testing theories and finding patterns.
- **Weaknesses:** It doesn't provide much detail about people's feelings, motivations, or personal experiences. Numbers can show trends but might miss the deeper reasons behind them.

Qualitative Research

Qualitative research is more about words and ideas than numbers. It aims to understand deeper thoughts, feelings, and behaviors. Common research methods include interviews, open-ended survey questions, or observations. For example, to understand why

students prefer online learning, a researcher might conduct interviews with students to hear their personal reasons.

- **Strengths:** Qualitative data provides depth and detail. It captures personal experiences and emotions, helping researchers understand the "why" behind behaviors and choices.
- **Weaknesses:** Qualitative data is harder to measure or compare because it isn't based on numbers. It can also be more time-consuming, as it often involves collecting and analyzing long responses.

Comparing Quantitative and Qualitative Research

Feature	Quantitative	Qualitative
Data Type	Numbers and statistics	Words and descriptions
Purpose	To measure and compare	To understand experiences and meanings
Methods	Surveys, experiments, statistical analysis	Interviews, observations, case studies
Strengths	Precise, measurable, good for large groups	In-depth, captures personal experiences
Weaknesses	Lacks detail on feelings and reasons	Harder to compare and analyze statistically

Both types of research are valuable, and often, researchers use them together. For example, a study on student learning might start with a quantitative survey to gather general data, then follow up with qualitative interviews to explore students' experiences in more depth. By combining these methods, researchers can gain a fuller, more accurate picture of the topic they're studying.

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3.2: The Research Process

The academic research process is a series of steps that help scholars and students investigate questions, solve problems, and create new knowledge. Whether you're writing a high school research paper, working on a college project, or conducting a scientific study, the research process is a structured approach that helps ensure your findings are accurate, reliable, and meaningful.

The research process involves several key stages, each building on the previous one to guide researchers from initial curiosity to clear conclusions. Here's a breakdown of the main steps in this process:



[[The Scientific Method \(simple\)](#) by [Thebiologyprimer](#), licensed [CC0](#)]

1. Identify a Research Topic or Problem

The first step in the research process is to choose a topic or identify a problem to study. This could come from an area of interest, a gap in existing research, or a real-world issue that needs a solution. A good research question is specific, focused, and achievable within the scope of your project. For example, a broad topic like "climate change" can be narrowed down to "the impact of climate change on polar bear populations in the Arctic."

2. Conducting Background Research

Once you have a topic, it's essential to understand what has already been discovered about it. You can look up information that explains the background of a topic or issue. One formal method for this is the literature review. A **literature review** involves reading and analyzing existing research on your topic, such as journal articles, books, and credible websites. This step helps you avoid duplicating work that's already been done and provides context for your study. Reviewing the literature also reveals gaps in knowledge that your research could fill, guiding your approach and helping refine your research questions.

3. Formulate a Research Question or Hypothesis

Based on what you've learned, you can now develop a research question or hypothesis. A **research question** is a clear, focused question that your study will try to answer, while a **hypothesis** is a statement predicting an outcome that can be tested. For example, if your topic is "the effect of exercise on mental health," your research question might be, "How does daily exercise influence anxiety levels in teenagers?" If you're using a hypothesis, it might be, "Teenagers who exercise daily will report lower levels of anxiety than those who do not."

4. Choose a Research Method

The next step is to decide how you'll gather the data needed to answer your question. This choice depends on the nature of your question and whether your research will be **quantitative** (focusing on numbers and measurable data) or **qualitative** (focusing on words, meanings, and experiences). Common methods include surveys, experiments, interviews, observations, or analyzing existing data. For instance, if you want to measure the anxiety levels of teens before and after exercise, you might use surveys and interviews.

5. Collect Data

With a method in place, it's time to gather data. During this stage, researchers follow ethical guidelines, ensuring that all participants are treated fairly and respectfully, and that their information is kept confidential. Collecting data may take time, especially if it involves tracking changes over weeks or months. Depending on your method, you could be analyzing documents, conducting interviews, or gathering responses from a survey.

6. Analyze Data

After collecting your data, you'll need to examine it to draw conclusions. As a researcher, you will look for trends in your findings. Do multiple sources agree? Are there any particular findings that disagree with others?

7. Interpret Results and Draw Conclusions

Once your analysis is complete, you can interpret your findings and draw conclusions. This step involves explaining what the data means in relation to your research questions. Do the results support or contradict your hypothesis? What are the possible reasons for your findings? Are there any limitations to your study? For example, if your study shows that exercise reduces anxiety in teenagers, you might conclude that promoting exercise could help improve mental health in this age group.

8. Communicate Your Findings

The final step in the research process is sharing what you've learned. This can take the form of a research paper, presentation, or report. When communicating your findings, it's essential to explain your methods, present your data clearly, discuss your results, and acknowledge any limitations of your study. This way, others can understand your work and potentially build upon it in future research.

✓ Scholarship as Conversation

Communities of scholars, researchers, professionals, and students engage in a continual discussion to build knowledge in a subject area. Through each work of research and scholarship (including journal articles, presentations, and teaching), knowledge is built up and further developed with new insights and findings. Sometimes, researchers will repeat other people's studies to confirm or refute their findings. This creates an ongoing "conversation" that continually builds on what we know (ACRL Board).

Summary

The academic research process is a powerful tool for answering questions, solving problems, and advancing knowledge. By following these steps—identifying a topic, conducting a literature review, forming a research question, choosing a method, collecting and analyzing data, interpreting results, and sharing your findings—you ensure that your research is systematic, thorough, and credible. Each step is crucial to building a solid foundation for understanding and making discoveries that others can trust and learn from.

Sources

- ACRL Board. "Framework for Information Literacy for Higher Education." *Association of College & Research Libraries*. 11 Jan. 2016. <https://www.ala.org/acrl/standards/ilframework>

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3.3: Identifying Your Research Need

Identifying your research need (also called your information need) is one of the first steps to doing effective research. Your research need is a specific gap in knowledge or understanding required to address a problem or answer a question. It represents the questions you need to answer to complete an assignment, write a paper, etc. Defining your research need helps clarify your problem and what you need to do. In a classroom, your research need is often defined by your assignment instructions and your own current level of knowledge about the related topic.

Define Your Research Need

To identify your research need, start with the following steps:

- Read over your assignment requirements.
- Choose a research topic that interests you.
- Ask yourself
 - What am I trying to learn or demonstrate?
 - What problem am I solving?
 - What specific questions do I have about this topic?

For example, if you're assigned a project on climate change, your research need might be to understand the causes and effects of climate change, or it might be to learn about solutions that have been proposed. The more specific you can be with your question, the easier it will be to find useful information.

Once you have considered the questions that you have, you can consider what types of information you need to find first. If you don't have in-depth knowledge of your topic, you may need to start by gathering background information.

Seeking Background Information

It's difficult to conduct more in-depth, detailed research when you don't know much about your topic. Background information helps you to learn general information about your topic, such as its history. This background information will then help you identify related topics that you can use to narrow your topic down. Selecting a more narrow and specific research topic will make the research process easier.

Identifying What to Search For

Your research need will help you identify the information you need to find. Different source formats are useful for finding different types of information:

- **Books** – Great for broad topics and overviews. Good for historical information, background, or well-established information.
- **Websites** – Useful for a wide assortment of information, but mostly general information and news. However, you have to be careful to find reliable websites. In particular, websites with URLs ending in .edu or .gov tend to be more trustworthy.
- **Academic Journals** – Good for scientific studies, new research, or technical information. These articles are often written by experts in the field and are a vital source for research information.
- **Newspapers and Magazines** – Useful for recent events, opinions, and interviews. Magazines are often easier to read, while newspapers provide up-to-date information.
- **Videos, Podcasts, and Documentaries** – Good for visual learners or those looking for opinions and interviews. Useful when you want to hear or see information rather than just read it.

When we say “information format,” we mean the form that information comes in, like books, articles, or videos. Choosing the right format depends on your research need:

- **If you need an overview or background:** Books or reliable websites work well.
- **If you need specific, detailed information:** Academic articles or primary sources are often best.
- **If you need current information:** Look for recent news articles.

The Research Information Lifecycle

Information goes through a lifecycle. In the largest, macro level, this includes passing through various forms from Primary Source, to Secondary Source, to Tertiary Source. The information is created, then it is collected and stored, then it is analyzed, and finally it is used to create.

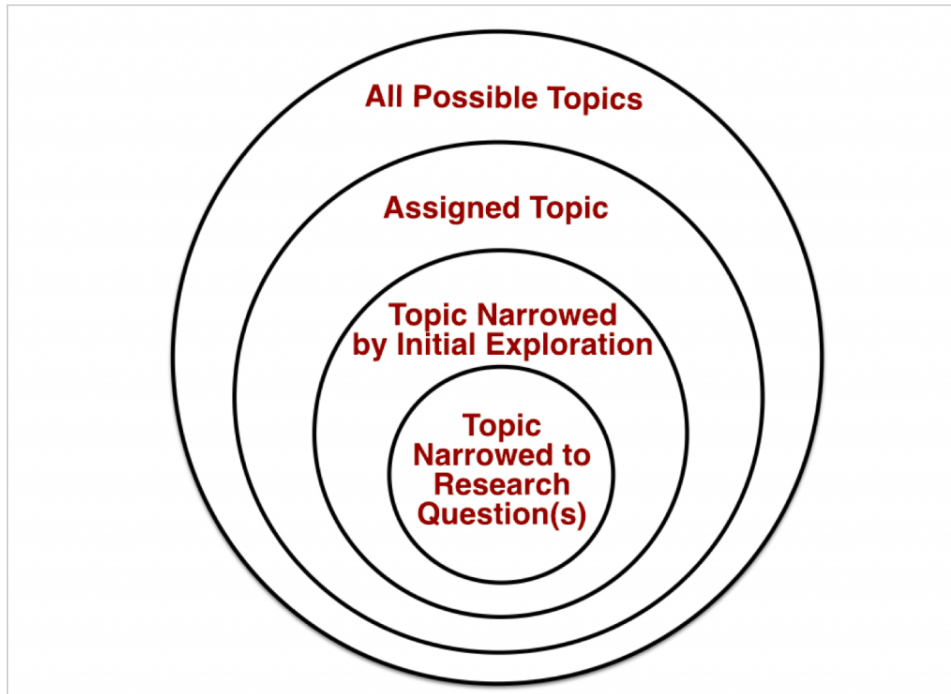
- Phase 1: Information is created and acquired (Primary Sources)
- Phase 2: Information is stored and maintained so that it can be accessed
- Phase 3: Information is processed, analyzed, and studied.
- Phase 4: Information is used to create, educate, and inform.

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3.4: Selecting and Narrowing a Topic

Selecting a good research topic involves a few steps. First, you'll often choose a broad topic that interests you. From there, you'll want to consider related topics that can help you focus your interest into a specific topic that helps you identify effective search keywords. You work from the outside in, starting with all the possible topics you could research and then narrow down to the specific thing you want to write about.

The Process of Narrowing a Topic



[Process of Narrowing a Topic by Teaching & Learning, University Libraries; licensed CC BY 4.0]

Brainstorming Related Topics

Brainstorming is the process of thinking about your topic and listing the different ideas and topics that come to mind. By brainstorming related topics, you can come up with ideas to help narrow down your topic. You can also ask yourself a number of questions that help you come up with related sub-topics.

Consider these questions about your topic: Who? What? When? Where? Why?

Who are you wanting to focus on? What are you trying to explain? Is there a particular time period you want to focus on? Is there a particular place you want to focus on? Is there a particular problem you're trying to solve? You don't need to include all of these questions. They're just for giving you new ideas!

For example: For the topic Climate Change I might think of: ocean warming (what), Pacific Ocean (where), now (when), or impact on food scarcity (why)

What impact does Pacific Ocean warming have on food scarcity in the United States?

Narrowing Your Topic

So why should you narrow down your topic? Researchers often start by selecting a very broad topic. However, a topic that is too broad will be difficult to research. When you conduct your search you will find a huge number of sources, making it difficult to focus. Ultimately, you want to fit the scope of your research topic to your assignment (or research need). This will help you find the information you need to explain your findings within the length and requirements of your assignment.

When applied to professional research conducted outside of a class, researchers still need to narrow their topic in order to make it something that can be researched within their available time and resources.

Once you have chosen a narrow topic it's a good idea to do some initial research. By collecting background information you can learn a lot about areas you might be able to find research. By reading up on your topic and doing some test searches, you can learn a lot about the types of information you may or may not be able to find. Before fully settling on a research topic, it's a good idea to do some test searches to make sure it's something you can find information about!

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3.5: Writing Research Questions

What is a Research Question?

A research question is a question that you want answered through your research. In most research projects, you will have multiple questions that you want answered. These questions guide your research and identify search keywords. Research questions help you to:

- Stay on track and avoid unnecessary information.
- Explain exactly what you want to find out.
- Narrow your topic to something researchable.

How Do I Write One?

Writing a research question can start with basic brainstorming. Just write down different ideas for what you want to know about your topic. This may involve doing some background research! If you look up basic information about your topic you'll often identify other related topic areas that you can ask about.

What makes a good research question?

- Clear: It's specific and easy to understand.
- Focused: Each question focuses on a single main idea or problem.
- Researchable: It can be answered through research. It's based on evidence.
- Complex: It should be complex enough to require research. Good research questions often stimulate deeper thinking.
- Relevant: It needs to be related to your research topic.

Steps to Writing a Good Research Question

Once you have some good ideas, you can follow these basic practices to write a good research question:

1. Begin with a broad research topic.
2. Do some background research to identify related topics and questions you might explore.
3. Narrow your topic to something interesting and manageable.
4. Ask open-ended questions about your topic. Think about questions starting with "how", "why", or "what". For example: "How do nurses prepare to assist people from different cultures?"
5. Check if your question is researchable. Do a couple test searches to make sure you can find relevant information.

Examples of Good Research Questions

Poor Research Question	Improved Research Question
Does social media affect people?	How does social media usage influence teenager's mental health?
Is climate change real?	What are the most significant ways that climate change impacts coastal cities?
What is systemic racism?	How does systemic racism impact Black people's access to education?
Why do some animals go extinct?	Why are certain species more vulnerable to extinction?

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3.6: Selecting Search Keywords

Search keywords help you to find information about your topic. After you select research questions, you should be able to look at each of your questions and use it to identify a handful of "keywords": main topics that your question is focused on.

When deciding on search keywords, consider the following:

- What information do you want to find? What are your main topics or points?
- Is there a specific word or words that best describe one of those topics or points?
- Are there any synonyms (words that have the same or similar meaning) for your keywords?
- Are there different perspectives you need to consider? What keyword or keywords would help you find information on those perspectives?

Example Scenarios for Research and Keyword Selection

Scenario 1: Abeba has a class assignment asking her to research the history of religious warfare in Medieval Europe. Abeba looks up background information and finds related topics including the Crusades, Minor Knights' War, German Peasants' War, Thirty Years' War, Wars of the Reformation, Holy Roman Empire, and the Swiss Confederacy. She decides that is too many topics for one research paper, so she decides to focus on the Holy Roman Empire. She then looks up some background information about the Holy Roman Empire, finding that it existed from 962 AD to 1806 AD and participated in dozens of conflicts. She decides to focus on the Thirty Years' War and just briefly survey some of the other conflicts. Abeba works to identify some research questions, one of which is:

Research Question: What started the Thirty Years' War?

Essential Keywords: Thirty Years' War

Optional Keywords: Holy Roman Empire, cause, beginning, religion

Why These Keywords?

Thirty Years' War is essential because it's the key topic of the research question. Without those three words, the search engine will have no idea what to look for. The optional keywords aren't all required, but you do need some of them! If you just searched "thirty years' war", you'd get far too much information. At the least, the word cause, beginning, or a similar term should be included to steer the research towards information related to what started the war. You may find that you have to swap terms out and try new ones. You may also need to include religion or Holy Roman Empire if you aren't finding enough information directly related to those topics.

Scenario 2: Mali is working on their own research and they decide to find information about the business of farming coffee. They begin by looking up background information related to the business of coffee and find several related topics: environment, profitability, distribution, staffing, genetic diversity in coffee plants, coffee plant diseases, herbicides, pesticides, and child labor. They decide that they want to focus on the finding out more about the use of child labor in coffee farming.

Research Question: Why is child labor used by some coffee farms?

Essential Keywords: Coffee, child labor

Optional Keywords: child labour, slavery

Why These Keywords?

In this scenario, coffee and child labor are the two most significant topics and are required to find the needed information. The word "labour" is an alternative spelling that might need to be tried instead of labor. Additionally, slavery is a related topic that comes up as an issue on some coffee farms. Mali may need to do a search using that keyword as well.

Why Use Search Keywords?

There are a few "key" reasons to use keywords. Using keywords can:

- Improve your accuracy: Searching using too many words, whole sentences, or using the wrong words can give you poor results. A lack of accuracy makes research take longer.
- Save you time: By improving the accuracy of your searching you save yourself time.

Search engines work by taking the words that you provide and searching throughout the available text for any or all of those words. Therefore, the more words you type in, the more words the search engine searches for. These searches often include not only the titles and descriptions of sources, but also the entire text! Commonplace words like "what", "thing", or "good" can give you worse results. They can also prevent you from seeing good results. When using a library database, the results page will often omit sources that do not include one of your keywords.

Common Words to Avoid:

- General Terms:
 - Thing
 - Stuff
 - A
 - The
 - For
 - On
 - Everything
 - Anything
- Adjectives:
 - Good
 - Bad
 - Best

Phrases

A phrase is a group of words that have meaning paired together, such as "jogging track". That identifies a very specific type of track. Phrases can often be very useful in research. Sometimes, searching for a phrase can be essential to locate exactly what you are looking for. In chapter four we will talk more about how to use quotation marks to pair keywords together in short, useful phrases.

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CHAPTER OVERVIEW

4: Searching for Information

- 4.1: Chapter Scenario - Doctor Internet
- 4.2: Sources of Information
- 4.3: Searching as Strategic Exploration
- 4.4: Creating a Search Statement
- 4.5: Collecting Information
- 4.6: Analyzing Information
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- 4.8: Conclusion

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4.1: Chapter Scenario - Doctor Internet

✓ Scenario 4.1.1

Your friend started feeling moderate pain in their abdomen and they came to you for advice. You're not a medical professional but you want to help calm them down. What do you do? Of course the easiest thing to do is to search online! You search for stomach pain but get too many sources. Here, you might be able to apply what we've learned and try new keywords; perhaps abdominal pain!

As you search you find a number of .org websites that seem reliable. The problem is there are a lot of possibilities and you aren't a medical professional. How do you decide which possibilities are likely vs those that are unlikely? It could be anything from gas to a tumor! If you add more keywords, perhaps additional symptoms that they have, you might have better luck; but perhaps you need a better strategy.

A Few Things to Consider

1. Medicine is a very complicated topic; one where your friend probably needs an expert. However, your own searches might give you an idea of how long it's safe to wait before consulting a physician.
2. In this scenario you spent some time with a hasty initial search, then more time refining things from there. Could this process have been planned out more efficiently?
3. Are there situations where doing a hasty online search is just a total waste of time because public websites aren't likely to have what you need - such as if your friend's pain was severe?

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4.2: Sources of Information

We've discussed different sources of information, but let's review them with a slightly different perspective on their uses.

Types of Information Sources

Background Sources

Background sources help to explain a topic or concept to you. It expands your understanding of the subject and connects you with related topics that might help steer or refine your research. These sources give history, basic facts, and context. They serve as good starting places for research. The following are all possible sources of background information:

- Books
- Encyclopedias (Including Wikipedia)
- Dictionaries
- Websites

Comprehensive Sources

Comprehensive sources are similar to background sources, except they provide a very thorough explanation of a topic. These sources require time to examine but can provide you with a detailed understanding of the topic. The following are all possible comprehensive sources:

- Books
- Literature Analysis (found in academic journals)
- Websites

Definition: Literature Analysis

The thorough examination and interpretation of scholarly journal articles in order to understand the overall trends and findings of the research that exists in that area. Literature analyses usually compare studies, identify common themes and gaps in understanding, and summarize the information.

Analytical Sources

Analytical sources are those which examine data and make interpretations. These are generally found as scholarly journals as original research articles and literature analysis articles. Scholarly journal articles are often focused on very specific topic areas, but then can be useful to find a lot of very detailed and authoritative information about parts of your research question. Most often, you will not find a single scholarly article source that covers your entire research topic. Instead, you will need to review and combine information from multiple sources.

Here are some example scholarly journal article titles so you can see how specific their topics can be:

- Effect of Gun Culture and Firearm Laws on Gun Violence and Mass Shootings in the United States: A Multi-Level Quantitative Analysis
- Learning and Teaching Together: Weaving Indigenous Ways of Knowing into Education
- A Statistical Assessment of Pesticide Pollution in Surface Waters using Environmental Monitoring Data: Chlorpyrifos in Central Valley, California
- Two Perspectives on the Communication Skills of Political Leaders

Analytical sources can sometimes include professional trade journals as well. These are often not held to the same degree of academic standards that academic scholarly journals are, but for many fields they can contain valuable information. Trade journals tend to be written by those experienced in a specific field. Those authors may or may not have advanced degrees or training in research and the articles are often not subject to a peer-review process. The articles tend to focus more on practical day-to-day applications and experience.

Qualitative Research

Qualitative research is a type of research that tries to understand experiences and behaviors. It does this primarily through gathering data on research participants via surveys, interviews, focus groups, and/or observation. Qualitative research can provide context and understanding on how people think and feel. It's a very flexible form of research that helps to create a narrative about people, events, or situations. However, the qualitative research can be affected by the researchers' own perspectives. It can also be very time-consuming and difficult to generalize to a wider population.

Quantitative Research

Quantitative research is a systematic approach that relies heavily on numerical data and statistical analysis. It attempts to measure variables in order to draw logical or statistical conclusions about events. Quantitative research often relies on tests, experimentation, and some surveys. These can be easier to do and be more generalizable to wider populations; however, quantitative research can fail to consider context and may oversimplify the social and psychological elements of human experiences.

Many studies are called "mixed-methods research" and use a combination of qualitative and quantitative methods.

Data

Sometimes you will find yourself looking at raw data in order to draw your own conclusions. Oftentimes, this is how academic journal articles are written. Academic scholars dig into or collect research data, then analyze and draw conclusions based on that data. Using data in your research can be a powerful tool!

Tools for Finding Information

There are many ways to find information, but which is the best source for your information need?

- Public search engines (like Google) can find a wide assortment of information. These can be very useful for finding quick information, background information, or if you know exactly what you're looking for. They're good at finding websites, videos, and sometimes books. They are often much less efficient at finding scholarly information.
- Google Scholar is a version of Google that searches specifically for more scholarly information. It can reliably find academic journal articles on a variety of topics. However, Google Scholar will also provide you with information about sources that you do not have access to.
- Library databases are collections of information sources and resources. Each database is a searchable collection. Many databases focus on a specific topic area. Many academic libraries have a single search tool or "Discovery Service" that can allow you to search all of their databases at once. Library databases are excellent sources for finding journal articles, books, and videos.

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4.3: Searching as Strategic Exploration

Research is often a multi-stage process that involves a fair bit of exploration. It's rare that you'll find the perfect sources of information right away. You will often need to experiment, trying out different combinations of keywords and searching in different locations. This process can be time consuming, but having a good plan in place will help you to research efficiently!

Scope and Need

One of the first things you should do is identify the scope and need of your research. Scope refers to the limits within which your research is focused. It helps identify how narrow your topic needs to be including: the time frame of research, the intended population for study, and geographical areas that will be included. Once you understand the scope of your research, you can begin identifying your information need.

Information needs are directly tied into your research questions. By writing these questions, you identify the types of information you need to find.

Identifying Relevant Authors

Definition: Authority

The credibility and reliability of an information source. Academic research often emphasizes the importance of finding "authoritative" sources.

Once you know the types of research information you need you can identify authors relevant to your research. There are four types of authors to consider:

- **Popular:** Popular authors include people who generally lack expertise or research methodology to create authoritative sources in your topic. These are often found in websites, videos, blogs, and many newspaper articles.
- **Government:** Government publications are created by government agencies. These sources are often found within websites, raw data sets, and reports. Government publications are often authoritative, but political shifts can sometimes lead to censorship.
- **Professional:** Professional publications include journals, magazines, and websites created by professional associations related to your topic. They can be authoritative sources of information but often do not use stringent academic research practices.
- **Scholarly:** Scholarly publications include journal articles and books created by experts in your topic. These are among the authoritative sources most commonly used in academic research.

Planning Your Research

By planning out your research you can save time and find better sources of information. The following steps will help you to effectively explore the world of research!

1. Identify your research questions.
 - Identify essential and optional search keywords.
2. Identify your intended audience.
 - Are you writing for a grade and need to consider the requirements of your assignment?
 - Are you writing for fellow students or for a class presentation?
 - Are you writing for scholarly publication and need to consider the journal's requirements?
3. Review your information needs, scope, and requirements. Select the research methods you will use.
 - How much do you already know about your topic? What background information do you need to find?
 - Which types of information authors will be most useful to your research?
 - Where should you search to most reliably find that information?
 - What time-frame do you have to conduct your research?
 - Do you need to conduct your own original research?
 - If so, will you use quantitative or qualitative methods?

Avoiding Confirmation Bias

Definition: Confirmation Bias

The tendency to look for, favor, or recall information that confirms or supports a person's prior beliefs or values.

Avoiding confirmation bias is important in order to remain unbiased as you conduct your research. You can use the following practices to avoid confirmation bias:

- Question what you know or believe about the topic. Ask yourself if you could be wrong and look for information that disagrees with your viewpoint.
- When researching a topic, try to find information that supports different perspectives on the topic.
- Focus on finding reliable, authoritative sources of information. Avoid relying on biased and opinionated sources.
- Take time to weigh evidence discovered through your research. Do not rush to make conclusions.

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4.4: Creating a Search Statement

Once you have your research plan, you can begin conducting your research in earnest! While you can search using only keywords, there are other tools you can use to improve your results.

Using Keywords

As we've discussed, the key topics of your research questions can be broken down into essential and optional keywords. Essential keywords will be featured in most of your searches, although you may have synonyms that you can swap in at times. You will often need to conduct multiple searches by trying out combinations of different keywords. You should conduct one or more keyword searches for each of your research questions. Each research question focuses on a specific information need and you will likely need to conduct different searches for each.

Boolean Operators

Definition: Boolean Operators

Words or symbols used to define the relationships between keywords in your search.

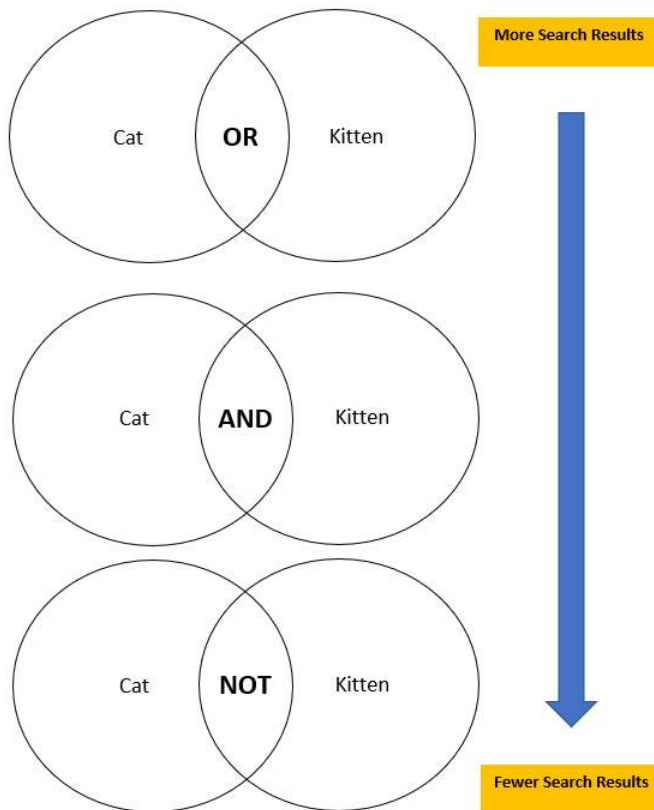
Library databases, and many public search engines, allow you to use boolean operators to better refine your search. When a search engine or database searches for your keywords, it will look for every single one of those keywords somewhere in each source of information.

AND, OR, NOT

Putting AND, OR, or NOT in-between two keywords changes how the database searches for them. AND is the default. Even if you do not include AND in-between two keywords, the search will look for both words. It will find those words anywhere within the source, whether they are located near to each other or not.

Putting OR in-between two keywords will make the search look for information sources that have either of the words in it. The information source does not have to have both terms. This is useful when you want to search using similar keywords. For example: cloning OR genetics OR reproduction

Putting NOT in-between two keywords will make the search avoid information sources that have the second keyword in it. This can be useful when you have a word that keeps coming up in your searches but are not relevant to your information need. For example: animals NOT mammals



Phrase Searching

A phrase search allows you to locate more than one keyword grouped together as a phrase. You can use phrase searching when you want to find information sources that have the keywords close together rather than located anywhere within the document. In order to conduct a phrase search, you put quotation marks around the keyword phrase. For example: "job satisfaction" would locate sources with those words right next to each other.

Nesting

For greater precision in your results, you can use parentheses to group portions of your search together. This is generally used in combination with phrase searching or AND/OR/NOT. For example: fruit AND (banana OR apple).

For another example: "qualitative research" AND (survey NOT interview)

Truncation

Truncation involves using an asterisk to shorten a keyword. This tells the search to find all versions of that word - searching using different word-endings starting where the asterisk is.

Truncated word	Example words that will be searched
child*	child, childhood, childlike, children
hospital*	hospital, hospitals, hospitalize, hospitalized, hospitalization
music*	music, musician, musical
politic*	politics, political, politically, politician

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4.5: Collecting Information

As you search for information, it's important to collect and organize it effectively. This will not only enable you to analyze the data and draw conclusions, but also to locate your sources again later. It also helps to provide proper citation of your sources.

Evaluating Quality and Relevance

As you locate sources of information, it's important to not only consider how relevant they are to your research topic, but also to consider the quality of the source. While we will consider source evaluation more in-depth in chapter six, we will survey some of the basics now:

- **Source quality:** In order to identify quality sources of information a researcher needs to consider the credentials of the author, the evidence provided to support the source's conclusions, and the purpose for which the source was written.
- **Relevance:** It's also important to focus on finding sources directly related to your research topic. This includes topic coverage, geographic focus, and the time period covered by the source.

Collecting Citation Information

As you find sources of information that are useful to your research, you should document citation information for each source. It's important to retain citation information and pair it with any notes, especially references or quotes that you plan to use. As a general practice, it's advisable to record each source's full citation information in one place. As you identify separate quotes or references you might use; it's a good idea to note the source's title, author, and the page or pages for the quote/reference along with it.

At a minimum, recording each source's title, author(s)' name(s), publication date, and a URL/hyperlink (if relevant) will help you to locate the source again later.

Organization Your Findings

Keeping your findings well-organized will help you to analyze your findings and make conclusions in a more efficient way. There are a few note-taking and organization practices that you can follow to keep things orderly:

- After you take notes on a source, re-read the notes.
- Organize your findings by grouping similar information together.
- When writing down a reference, always record it as a direct quotation. This will help you know what has and has not been paraphrased into your own writing.
- Use a citation table (example below) to organize citations, quotes, and notes on its possible use.
- Consider using tools that help to organize research sources:
 - [Zotero.org](https://www.zotero.org/)
 - [Mendeley.com](https://www.mendeley.com/)

Citation	Quotation	Possible use
Reeping, P. M., Cerdá, M., Kalesan, B., Wiebe, D. J., Galea, S., & Branas, C. C. (2019). State gun laws, gun ownership, and mass shootings in the US: cross sectional time series. <i>bmj</i> , p. 5	"States with more permissive gun laws and greater gun ownership have higher rates of mass shootings..."	Discussion of gun law effectiveness.

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4.6: Analyzing Information

Once you've found your sources and reviewed them, you should be able to start analyzing your findings in order to draw conclusions! Once you understand the basic background information, you can then group your findings into similar topics and identify common trends between them.

- Look for conclusions or results that agree across sources.
- While identifying these trends, make sure to note areas where other sources disagree.
- Consider whether or not there are any gaps in the information. Either conduct more research to fill those gaps or note the gap within your writing.

Definition: Synthesis (or synthesizing research)

The process of combining multiple sources of information together in a meaningful way.

Once you have analyzed your findings, you can begin to synthesize them. Identifying common themes and trends in the findings will help you to synthesize the information and produce the report or paper that is the intended product of your research. This involves identifying the most significant common themes, supporting them with evidence from multiple sources, and then also considering the contradictions and gaps that you identified earlier. Once you've synthesized the information, you should be able to reflect on what these findings mean for the field; including identifying possibilities for future research.

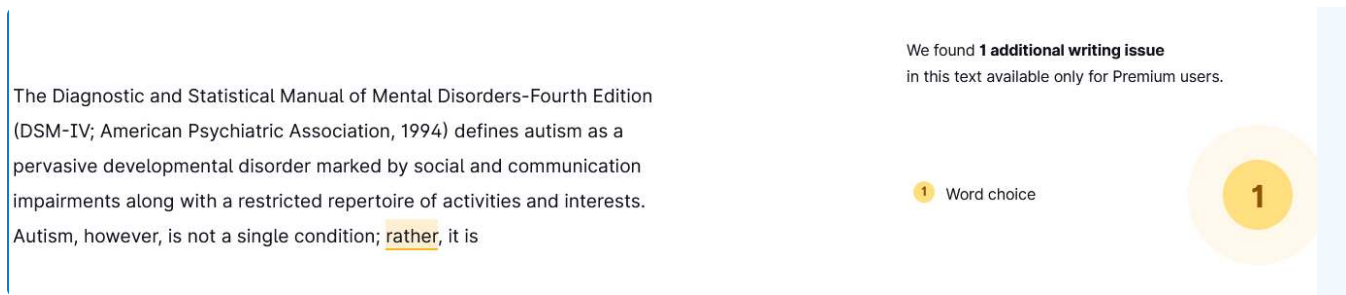
Synthesis can be achieved through the careful review of literature to establish common themes and write about them throughout your work. On the smaller scale, synthesis of single ideas can often be achieved by paraphrasing (or rewriting in your own words) information from multiple sources.

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4.7: How Can AI Help With Research?

There are a number of ways that you can use Artificial Intelligence tools to assist with research tasks. Again, it's important to know the limitations and issues involved with AI tools. It's also important to always refer to your course syllabus and teacher before choosing to get help from AI. It can often be perfectly fine to use an AI tool to help adjust a few words in a sentence or identify search keywords, but it's almost always inappropriate to copy writing from an AI tool and use it in an assignment (unless specifically instructed to do so).

For example, Grammarly is a commonly used tool that uses AI learning to recommend improvements to your writing. As shown below, it can be used to highlight and recommend that I use a different word than 'rather'.



The Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (DSM-IV; American Psychiatric Association, 1994) defines autism as a pervasive developmental disorder marked by social and communication impairments along with a restricted repertoire of activities and interests. Autism, however, is not a single condition; rather, it is

We found **1 additional writing issue** in this text available only for Premium users.

1 Word choice

1

Changing that word (or even a part of a sentence or several small sections) would be fine in most cases. However, there is a 'Generative AI' mode where you can ask Grammarly to write for you and it will completely rewrite your text. Copying and using that text from Grammarly would be plagiarism (as you did not write it yourself). This writing is predictable and often able to be detected by different teachers (potentially causing disciplinary action or a significant penalty to your grade).

Other AI Tools That Can Be Useful

[Goblin.Tools](#)(opens in new window) can be used to create to-do lists. These can help keep you on track with your projects!

- Their [Formalizer](#)(opens in new window) can also be used to suggest more professional-sounding versions of your own writing. However, directly copying this text would also be plagiarism. Instead of using it to completely change your writing, you could use it to get ideas for changing some of the words that you used or ways to adjust a few sentences. Instead of copying, use it as a learning tool to improve!

[ChatPDF](#)(opens in new window) can be used to help you understand scholarly articles. If you find an article confusing, you can try loading it into ChatPDF where you can ask questions and have the website answer them. First, you have to download an article as a PDF. Then you can upload the article into the ChatPDF website. Once the PDF is loaded, you can type questions into the website and it will generate answers based on the content of the PDF. For example, you could try:

- What are the main points of this article?
- What methodology did the authors use?
- Summarize this article

[Bing Chat](#)(opens in new window) can be used to brainstorm ideas or keywords. While it would be unethical to ask Bing Chat to write your paper for you, you can at least use it help you search. If you're struggling to come up with a paper idea, you can ask Bing Chat to recommend essay topics; or even to recommend research topics related to a specific subject you have in mind. You can also ask it for keywords that you might use to search. It will provide you with an assortment of related topics.

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4.8: Conclusion

✓ Critical Thinking

If you were researching important skills and training for your career, how could you apply the skills from this chapter? Consider the following questions:

1. What authors would provide the most relevant information?
2. What sources would be most useful in compiling a training list?
3. How old of a source would still be relevant for your needs?
4. Could you prioritize the skills/training by identifying which were mentioned by the most sources?

While this can seem like a lot of steps for conducting research, having an effective research process can help to prevent issues down the road. It's fairly common for researchers to realize that they have lost citation information and later need to look up one of their sources again. While this chapter provides a number of tips on how to find and organize those resources, you will likely find that you develop a preferred method that works best for you. As you gain experience with research, it's ideal for you to begin identifying the best practices that work for you!

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CHAPTER OVERVIEW

5: Using the Library

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[5.2: Library Collections and Services](#)

[5.3: Using Library Databases](#)

[5.4: Using Advanced Search](#)

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5.1: Chapter Scenario - A New Librarian

✓ Scenario 5.1.1

Kyan was starting his first day at the Bridgerton Public Library. After finishing his bachelor's, he'd been studying for two years to become a librarian and it was his first day on the job. He thought he'd learned everything about the services libraries offered, but his new library astounded him!

If you can think of something you wanted, your local library has probably considered offering it! Kyan spent his first day helping people find books, apply for jobs, print off resumes, and even learn how to use the computer!

When he wasn't as busy helping people who wanted to borrow tools, videos, and a powerwasher, he got to spend some time learning how to use the library's button maker and 3D printer. He found himself amazed by all the different resources offered by the library, and by the different reasons people came to use the space.



[Man in Black Coat Reading Book by Kyle Woods, licensed under the [Unsplash license](#).]

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5.2: Library Collections and Services

Libraries offer a wide assortment of resources and services. The library "collections" include all of the various resources that a library offers for loan. There are services and resources that are commonplace across almost all libraries, and then specialized resources offered by only particular types. Most commonly, there are two types of libraries:

- **Public libraries:** Public libraries are state-funded institutions that offer free service to their community.
- **Academic libraries:** Academic libraries are associated with a specific college or university, and offer services to the members of their institution. However, many academic libraries also offer services to the public as well!

Library Collections

Libraries loan (or "check out") many different types of resources. The physical collection is often made up of print books, periodicals such as newspapers and magazines, and often simple devices such as headphones, web cams, dry erase markers, or fidget toys. However, these physical collections can include a lot more! Below, is a list of common resources and the types of libraries where you might find them.

Resource	Public Library	Academic Library
Print Books, Magazines, Journals, and Videos	✓	✓
Audiobooks and music	✓	✓
Electronic books, journals, videos, and music	✓	✓
Computers and WiFi	✓	✓
Workshops on using computers and doing research	✓	✓
Meeting/study space (including private study rooms)	✓	✓
Printing and scanning	✓	✓
Headphones and webcams	✓	✓
3D printers, button makers, etc.	✓	✓
Public speaker events, book readings, etc.	✓	✓
Tools, small kitchen appliances, umbrellas, power washers, etc.	✓	
Specialized research sources such as substantial subject-specific databases		✓
Laptops, chromebooks, iPads		✓

There are other types of libraries as well. Within the category of academic libraries there are a number of specialized libraries including law libraries, medical libraries, science libraries, and more.

Library Services

Libraries are constantly changing and offering new resources and services. Every library is happy to receive feedback and suggestions, always looking for new ways to serve their community. Libraries include a number of different staff such as the circulation staff who often check out and re-shelve your books, the librarians who help to find things, and the directors who plan budgets and organize schedules.

Librarians train in graduate school to learn how to provide "reference support". This refers to helping people find research. Whether you're looking for a book, a diary from the 1920s, information on car loans, or journal articles to research a school project; librarians are experts on finding and organizing information! One of the primary jobs of librarians is to answer your questions and help you find what you're looking for.

As a part of this, librarians often offer workshops or other types of training to help educate people on how to conduct research, use computers, etc. However, there are a host of other services offering by libraries.

At the public library, you're more likely to see public community-oriented events such as English as a Second Language classes, computer workshops, home delivery services for disabled patrons, homework help centers, legal clinics, book clubs, child and teen reading hours, and even notary public services.

At academic libraries, you'll often find interlibrary loan to borrow items from other libraries, reserve collections for specific courses, and sometimes textbooks.

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5.3: Using Library Databases

Definition: Library Database

A digital collection of organized information and resources, typically including academic journals, books, magazines, newspapers, and other content.

Both academic and public libraries have electronic databases. These are digital collections that the library subscribes to. They are searchable collections that group content together to make it easier to find and access, often grouping it by subject area and/or format. Unlike internet search engines, library databases often focus on providing high-quality resources such as peer-reviewed journal articles, scholarly papers, and digital media that is not freely available on the internet.

While public libraries do subscribe to library databases, academic libraries usually have much larger collections of them. The exact databases they have will vary by the educational needs of their students; with the library subscribing to different database collections based on the degree programs at their school. Within the college library, there are generally two ways to search their database collections:

- **Discovery Service:** Most libraries will have a discovery service, which operates kind of like an internet search engine. This tool is often located on the library's website homepage and allows you to search across most (if not all) of their database collections at one time. This can be a quick way to see what they have, however, it can provide a ton of resources and become too much information to easily sift through. Discovery Services go by many names and will not usually be called "discovery service" on the library homepage. Some common names include: OneSearch, Search, Find Books and Articles, Library Search, Discovery, and Summon.
- **Database Search:** Libraries will often have web pages or LibGuides (a special type of webpage) that offer lists of their databases. These usually provide information about each specific database including the topics and types of materials it includes. You can use these lists to find a specific database, then open it and search directly within it. There are also some tools that will search a small group of databases, rather than searching everything like a discovery service does. These are often broken up by the vendor that rents out the database, such as EBSCOhost or ProQuest.

Choosing a Database

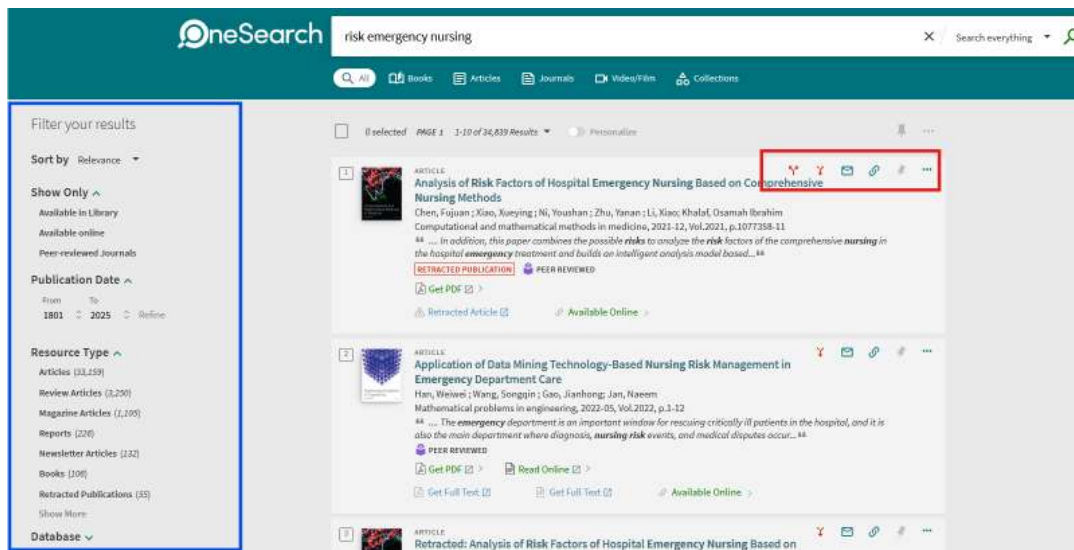
If you need to do a quick search, perhaps to test a new research topic and see how many resources you can find for it, using a Discovery Service is a great option. It can also be useful if you're searching on a broad topic area.

If you have very specific type of information need or are conducting research in a specialized topic area, then choosing a specific database can be a much more efficient use of your time. For example, if you're doing research into business plans and/or looking up SWOT analyses; you can often find a business database that offers those specific resources. This type of database is often called **subject-specific database**.

Database Features

In addition to offering high-value resources, databases (and discovery services) often include a number of very helpful features. The image below displays the search results screen from a discovery service called OneSearch. On the left-hand side, you can see a list of filters. Filters are tools that allow you to get rid of undesired results. For instance, you can limit by publication date, availability online, resource type (journal article, book, etc.), and more.

As shown here outlined in red, each resource also has tools allowing you to email it to yourself, get a permanent hyperlink to the source, and even to get citations for it. These citation generators can be very useful, but are not always 100% accurate.



OneSearch risk emergency nursing

Filter your results

Sort by Relevance

Show Only

Available in Library

Available online

Peer-reviewed Journals

Publication Date

From To

1801 2025 Refine

Resource Type

Articles (33,159)

Review Articles (3,290)

Magazine Articles (1,100)

Reports (200)

Newsletter Articles (132)

Books (106)

Retracted Publications (33)

Show More

Database

0 selected PAGE 1 1-10 of 34,839 Results Personalize

ARTICLE
Analysis of Risk Factors of Hospital Emergency Nursing Based on Comprehensive Nursing Methods
Chen, Fujuan ; Xiao, Xueying ; Ni, Youshan ; Zhu, Yanan ; Li, Xiao ; Khalaf, Osama Ibrahim
Computational and mathematical methods in medicine, 2021-12, Vol.2021, p.1077358-11
44 ... In addition, this paper combines the possible risks to analyze the risk factors of the comprehensive nursing in the hospital emergency treatment and builds an intelligent analysis model based...44
RETRACTED PUBLICATION PEER REVIEWED
Get PDF >
Retracted Article > Available Online >

ARTICLE
Application of Data Mining Technology-Based Nursing Risk Management in Emergency Department Care
Han, Wiewei ; Wang, Songjin ; Gao, Jianhong ; Jan, Naem
Mathematical problems in engineering, 2022-05, Vol.2022, p.1-12
44 ... The emergency department is an important window for rescuing critically ill patients in the hospital, and it is also the main department where diagnosis, nursing risk events, and medical disputes occur...44
PEER REVIEWED
Get PDF > Read Online >
Get Full Text > Get Full Text > Available Online >

ARTICLE
Retracted: Analysis of Risk Factors of Hospital Emergency Nursing Based on

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5.4: Using Advanced Search

Most databases and discovery services will include an advanced search. Sometimes, the database will default to offering the advanced search. While this screen can look more confusing than the simple single search box interface, don't fret! It's not really that complicated.

You can search using only the first search box. The other lines and search fields offer you the option to use your boolean operators more easily. As shown below, this search will find resources including the keywords risk, emergency, and nursing. It also includes geriatric in the second search box, however, the drop-down next to it has been set to NOT. This will employ the NOT boolean operator, telling the database not to display any results with the word geriatric in them.

The advanced search also offers filters to help limit your results further. In this case, it offers to filter by material type, language, and publication date.

SEARCH CRITERIA

Search for: ☒ Search everything ☐ Textbooks / Reserves ☐ RCCD Library Materials

Search filters

Any field contains risk emergency nursing

NOT Any field contains geriatric

[+ ADD A NEW LINE](#) [CLEAR](#)

Material Type

All items

Language

Any language

Start Date:

Day Month Start Year

End Date:

Day Month End Year

[→](#) Any field contains risk emergency nursing NOT Any field contains geriatric [SEARCH](#)

[OneSearch Advanced Search by Daniel Wilson, licensed [CC BY NC 4.0](#)]

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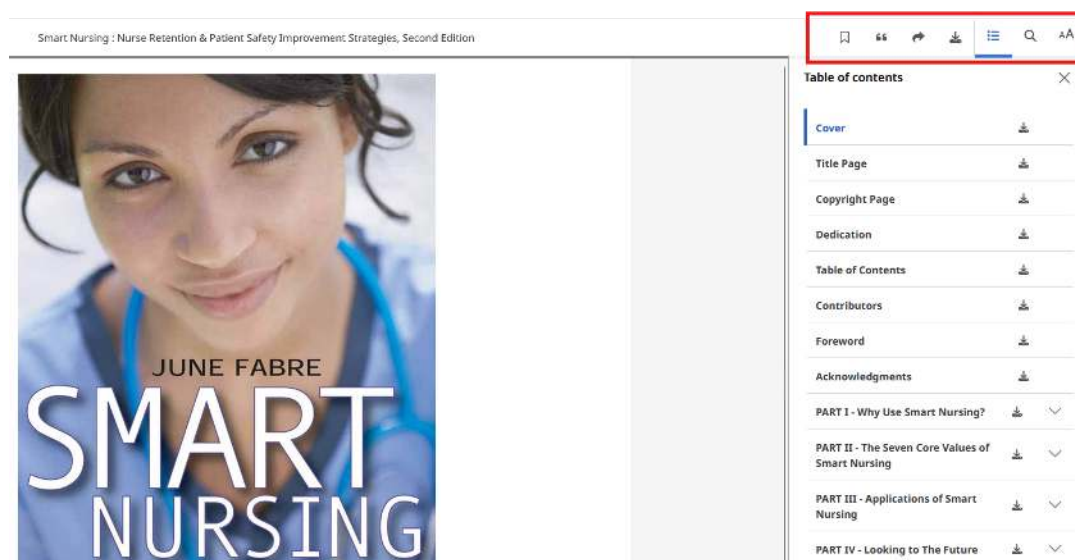
5.5: Using Electronic Books

Using electronic books (or ebooks) can be a bit confusing! The way that you access and use each book depends on a number of different factors including:

- Vendor that sells/rents the book
- License type
- Database interface

Sometimes you will be able to download the ebook to your device, while at other times you may have to use it online through the library's website. Some books will have licenses that allow an unlimited number of people to use them at once, while others will only permit one user at a time.

However, ebooks have a ton of benefits that make using them worthwhile! As shown below, the interface for this book has some handy tools that you can use. These buttons allow you to bookmark the book, share it, download it, or get citations for it. It also has tools for searching the text and for enlarging the size of the text. Enlarging text can be incredibly useful for people with visual impairments or who are on smaller screens.



Ebooks also have the benefit of being able to be read with screenreaders, another technology that helps people with visual impairments. Some ebook interfaces even have text-to-speech tools to read the book aloud to you. These tools are essential for people with visual impairments, but are also helpful for auditory learners!

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5.6: How Libraries Organize Materials



[[A Person Wearing a Hard Hat](#) by [Artistic Frames](#), licensed under the [Unsplash license](#)]

Definition: Call Number

A series of numbers and letters, usually provided on a book's spine label, which designates where the item should be placed on library bookshelves in order to be located with other titles of a similar subject.

Libraries organize materials by subject, generally using one of two call number systems: Dewey Decimal or Library of Congress. The Dewey Decimal system is mostly used by public libraries and public school libraries while Library of Congress is primarily used by academic libraries. Public and school libraries use Dewey Decimal because it is a more general system that is useful for smaller libraries. It has fewer subject categories which can simplify their system for library users. The Library of Congress system is more detailed, providing much more specific subject categories.

Special Collections

Libraries sometimes shelve special books into their own collections outside of their call number system. This is usually for archives, course reserves, or other specific resources that the library wants to highlight or make easier to access.

- 000 Computer science, information, & general works
- 100 Philosophy & psychology
- 200 Religion
- 300 Social sciences
- 400 Language
- 500 Science
- 600 Technology
- 700 Arts & recreation
- 800 Literature
- 900 History & geography

- 600 Technology
 - 630 Agriculture
 - 636 Animal husbandry

Library of Congress System

The first lines of each call number include 1-2 letters and then numbers. Books are first organized on the shelves by broad subject, identified by the letters. These are organized in alphabetical order, from A to Z. After that, books are organized within their subject category based on a whole number. As shown below, once you find programming books under QA, you can find the Java books under 76.

TAU

SECOND EDITION

JAVA

JAVA 1.5

IN A NUTSHELL

IN A NUTSHELL

JAVA

IN A NUTSHELL

visual J++

java Programming

GAME PROGRAMMING, SECOND EDITION

FIRST EDITION

STARTING OUT WITH Java 5

Design Patterns for e-Science

Core java- Volume II - Advanced Features java SE 6

STARTING OUT WITH Java 5



5.7: Call Number Practice Exercises

The following exercises will help you practice organizing books by Library of Congress call numbers.

? Exercise 1 5.7.1

Organize the following call numbers into the correct Library of Congress order, then click below to reveal the correct answer.

BL 2301 .M37	BR 401 .S2	BR 401 .S12	BL 2500 .N1	BT 1 .O3
--------------------	------------------	-------------------	-------------------	----------------

Answer

BL 2301 .M37	BL 2500 .N1	BR 401 .S12	BR 401 .S2	BT 1 .O3
BL goes before BR and BT, and 2301 comes before the next number under a BL call number, which is 2500		BR 401 .S12 comes before BR 401 .S2 because the third line is a decimal. .12 is smaller than .2		

? Exercise 2 5.7.1

Organize the following call numbers into the correct Library of Congress order, then click below to reveal the correct answer.

PN 13 .A1	PN 10.1 .A1	PN 37 .G1	PS 11 .N1	P 131 .M33
-----------------	-------------------	-----------------	-----------------	------------------

Answer

P 131 .M33	PN 10.1 .A1	PN 13 .A1	PN 37 .G1	PS 11 .N1
Alphabetically, P comes before any of the other entries (PN and PS), so it goes first.		There are three call numbers starting with PN, but 10.1 comes before 13 and 37.		PS goes last in this list, because PS falls after PN alphabetically.

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5.8: Conclusion

✓ Critical Thinking

The library provides a ton of resources and services. Take a moment and consider how the library can help you to do academic research. How can the following make things easier for you:

- Having a collection already curated for quality
- Having databases that collect resources by subject
- Having citation tools to provide source citation information
- Having library staff to help you find research

Libraries are dynamic, evolving places dedicated to supporting their communities. The library profession emphasizes the importance on providing free access to information and opposing censorship. Above all else, librarians want to ensure that people have the resources needed to grow, discover, and learn. In order to provide useful service to their communities, libraries regularly reflect on their services and look for new ways to support their users. Unfortunately, not every community has access to a high-quality and well-staffed library.

From this chapter, consider the resources of the library and how they can help you in your professional and academic goals.

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CHAPTER OVERVIEW

6: Evaluating Sources of Information

6.1: Chapter Scenario

6.2: Thinking About Your Sources

6.3: What is Timeliness?

6.4: What is Relevance?

6.5: What is Authority?

6.6: What is Accuracy?

6.7: What is Purpose?

6.8: Identifying Bias

6.9: Determining Quality

6.10: Conclusion

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6.1: Chapter Scenario

✓ Scenario 6.1.1

Kevin's employer has asked them to research different budgeting software and create a short list of the best options for their company. Kevin has been asked to look for a tool that is affordable, but also highly rated and comes with the features they need for their company. Kevin immediately turns to the internet to search for information about different budgeting software platforms in order to identify options that would serve the company; however, Kevin has concerns about some of his sources.

1. The company website for each software provides the most information about it and they seem highly relevant. However, the company is certainly going to be biased about their own product. Their website exists to sell the product, doesn't it?
2. The internet is filled with user reviews for these different software products; however, Kevin can't tell which reviews are from people who legitimately owned it. Some of them could be fake. They aren't sure which ones to rely on.
3. There are websites that exist to compare these products and provide reviews on them, which really seems to address the first two problems! However, it occurs to Kevin that those websites sell ad space, including having ads for some of these same products. This suggests that they could also be biased!

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6.2: Thinking About Your Sources



[Man in red and black plaid dress shirt by [invadingkingdom](#), licensed under the [Unsplash license](#)]

When conducting research it is important to think critically about the sources of information that you use. You not only want information that is accurate and reliable, but also want the right kind of information for your information need. The process of thinking about your sources to ensure they are useful and reliable is called evaluating sources. As shown in our chapter scenario, this is a skill that can help you both in school and in real life!

Unfortunately, not all information sources are created equally. Some will provide poor information while others will actively try to mislead or influence you. Learning how to evaluate sources helps you to find the best information, avoid misinformation and fake news, and build strong arguments.

You can remember a simple acronym to help guide you through evaluating sources: TRAAP.

- Timeliness: When was the source published/last updated?
- Relevance: Is the source closely related to your topic and your information need?
- Authority: Is the author an authority on this topic?
- Accuracy: Is the information accurate?
- Purpose: Why was this source written/created? Can you trust it?

In this chapter we will review each of these elements and help you avoid falling into the TRAAP of poor quality information!

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6.3: What is Timeliness?



[Stonewall Inn Nightclub Raid Crowd Attempts to Impede Police, 1969, public domain image]

Definition: Timeliness

A measure of how well the time of publication or creation of your information source is for meeting your information need.

Put simply, timeliness refers to how appropriate the publication/creation date of your source is for meeting your information need. Depending on your research task you may need information published at different times. For example, if you are conducting research into the historical Stonewall Riots (pictured above), then a photograph from 1969 can be a useful primary source document for you.

However, if you are researching something more current such as training requirements for nurses; using a source that is too old will only give you outdated information. It's important to ensure that the age of your information matches the need. Even for historical research you may want more updated sources that have had time to reflect on and provide context for the primary sources created in that time period. In some fields, such as medicine, you will want to rely on very current sources (usually published within the last 3-5 years).

When evaluating your source, ask yourself the following questions about timeliness:

- When was this information published and last updated?
- Is the information current enough for your topic?
- Have there been more recent discoveries or developments since this information was published?

Timeliness Clues

The following are clues you can look for to inform you about the source's timeliness:

- Publication date
 - On books, this is often on one of the first couple pages.
 - On articles, this is often on the first or second page.
 - On websites, this is often provided at the top or bottom of the page.
- Date of last update/revision
- Look for broken hyperlinks on web resources

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6.4: What is Relevance?

When you're doing research, it can sometimes be difficult to wade through the mountains of useless information. The internet is filled with information. Even in a library's carefully curated collection, there are millions of sources that you could review. Despite most of these being useful to someone, somewhere, most of them aren't going to be **relevant** to your current information need!

Definition: Relevance

The degree to which your information source is closely connect or appropriate for your information need.

It probably sounds obvious but when you're doing research you want to find sources that provide information directly related to your topic! This is a big part of why we've spent so much time learning how to form research questions and choose good search keywords, to help weed out the unrelated (or irrelevant) sources. However, it does get a little more complex than that. Sources can be relevant without being as relevant as needed. For example, you can find one source that discusses your topic without adding any new or useful information.

If you're researching video marketing on social media and your source discusses social media marketing but not using videos specifically, then while that source is possibly relevant it isn't nearly as relevant as one specifically discussing online video marketing.

To help you identify the source's relevance consider the:

- Title: The first glance at the source's intended content.
- Depth of the information provided: Does it provide useful, new information?
- Is the timeliness appropriate?

Relevance Clues

Look for these clues to help determine the relevance of the source.

- Title
- Abstract or Summary
- Conclusion or Findings section
- Prominent quotes or highlighted information
- Tables, charts, or other presentations of data
- Source citations and/or hyperlinks to other relevant sources

Consider This

If you were conducting research into the history of the gay rights movement and healthcare, which of these sources would be more relevant to you?

Book: Stonewall: The Riots that Sparked the Gay Revolution



BOOK
Stonewall : the riots that sparked the gay revolution
Carter, David, 1952-2020, author.
2010; Second St. Martin's Griffin edition.

[Book record by Daniel Wilson, licensed [CC BY NC 4.0](#)]

Article: The Stonewall Riots, the AIDS Epidemic, and the Public's Health



ARTICLE
The Stonewall Riots, the AIDS Epidemic, and the Public's Health
Halkitis, Perry N
American journal of public health (1971), 2019-06, Vol.109 (6), p.851-852
 PEER REVIEWED

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6.5: What is Authority?

Definition: Authority

The credibility and trustworthiness of a source as determined by the creator's expertise or status.

An authoritative source is one created by someone who expertise or status that establishes their trustworthiness in that topic area. In the Western world, there is significant emphasis on the importance of professional and educational experience. People with advanced graduate degrees (such as doctoral degrees) or significant professional experience are often considered the greatest sources of authority. However, there are cultures where other sources (such as elders) are considered to be authoritative. We'll discuss this in more detail in Chapter 7.

When considering the source's authority, it can also be important to consider the company and/or website where the source is published to ensure the source is unbiased. If the creator provides citations and other evidence of their own information sources, it further helps to reinforce the authority of their arguments.

Why is Authority Important?

- Reliability of the information: If the creator is not an authoritative source, you cannot trust that the information is reliable.
- Academic requirements: In academic work, citing authoritative sources is often a requirement to demonstrate evidence of your scholarly work.
- Avoiding misinformation: By relying on authoritative sources, you can more easily avoid misinformation and bias.

Authority Clues

There are a number of clues that can help you identify the source's authority.

- Look for the author/creator's credentials. Does the source list their degree, place of employment, or other experience?
- Look for signs of bias or potential conflicts of interest for the author or the place of publication.
- Look for references or citations of the author's own information sources.

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6.6: What is Accuracy?

Definition: Accuracy

The correctness and reliability of the information.

One of the simplest and yet most critical evaluation criteria is accuracy. If your source is inaccurate then it is not useful to your research! Determining the accuracy of a source can be challenging. By relying on relevant and authoritative sources you can help to ensure accuracy, but that doesn't guarantee it. There are a number of types of inaccuracy that you should be wary of:

- Misinformation: Information that is unintentionally inaccurate.
- Disinformation: Information that is deliberately inaccurately.
- Biased information: Information that has been skewed by the author's internal bias. This may or may not be intentional.
- Scientific error (Also known as an experimental error): Inaccuracies that come from errors in how scientific variables are measured.

Scientific Error

One of the key reasons that authority is so important, is because researchers without professional or academic expertise may not know how to correctly conduct research. Inexpert researchers are more prone to bias as well as different types of scientific error. Even experienced academic researchers can fall victim to scientific errors.

- Environmental errors: Errors occurring when some factor in the environment leads to an error in the data.
- Human errors: Errors occurring due to carelessness or mistakes made by people.
- Instrumental errors: Errors occurring due to the use of a flawed instrument providing inaccurate readings.
- Observational errors: Errors occurring because an observer incorrectly reads a measurement.
- Procedural errors: Errors occurring when the procedures established for conducting the research are not followed consistently.
- Sampling errors: Errors occurring due to the research participants that were selected.

Accuracy Clues

The following can help you identify the accuracy of a source:

- Logical, well-organized writing.
- Evidence that supports their claims (cited sources/references/etc.).
- Evidence of the creator's authority.
- Articles that have been peer-reviewed.
- Avoid spelling and grammatical errors.
- Look for other sources to verify their claims.

Peer Review

Peer review is a key process in academic publishing. For many academic journals, peer reviewers are experts in that topic area who review other author's articles for quality. An academic author submits their paper to an editor who reviews it before submitting it to multiple peer reviewers. Those reviewers evaluate the paper and make recommendations for improvements. This process examines academic works looking to ensure they are new and innovative, accurate and reliable, clearly written, and significant to the field.

Lateral Reading

Lateral reading is a technique used to evaluate the accuracy and credibility of an information source. Lateral reading is particularly useful when considering information from online sources like websites and news blogs. Simply put, lateral reading involves checking a source's information by looking up other sources to compare it with. After reading information from one source, you go in search of other comparable sources; looking specifically for that same information.

This can sometimes be difficult to do with scholarly sources, as each articles tries to be original. However, by reviewing multiple scholarly sources you can often identify and establish trends that help you understand the professional consensus (or agreement)

about a topic.

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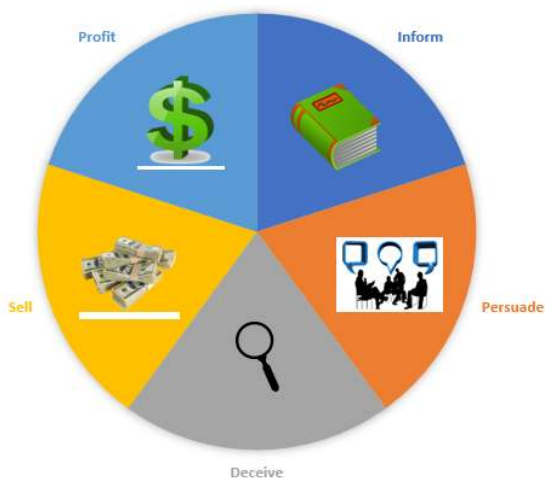
6.7: What is Purpose?

Definition: Purpose

The reason that a creator or author published a work.

Every type of information is created with a purpose in mind. From websites to books, each is created with a purpose and an audience. Understanding the purpose of a source is an important step in evaluating its usefulness to your research. Sources can be created with any of the following purposes:

- To inform you
- To persuade you
- To deceive you
- To sell something to you
- To profit off of you



[Purpose Chart by Daniel Wilson, licensed [CC BY NC 4.0](#)]

Consider for a moment how each of these purposes might shape a website differently. If someone wanted to inform you, their website might stick to facts and provide evidence supporting their information. If someone wanted to persuade you, perhaps on a politician topic, they might provide significant facts and evidence but they also might skew information in a way that is biased to their point of view. If the goal of a website were to make money, it might be focused on getting you in to view and click ads; with much less concern about the information that's provided.

Identifying the purpose of a source is important for three key reasons:

1. **Identifying Bias:** Knowing why a source was created will help you to identify any potential bias. For example, knowing that a blog reviewing insurance companies was sponsored by one of the insurance companies would certainly make you question its honesty.
2. **Understanding Context:** Understanding a source's purpose can help you understand the context in which it was created. If a newspaper article is an opinion piece intended to share personal views and persuade readers about a topic, you know that it is not necessarily well researched.
3. **Judging Relevance:** Identifying the purpose of a source can help you decide how relevant it is to your information need. If you are working on a project where you need good academic sources, you'll want to avoid sources created solely for profit.

Identifying bias, understanding context, and judging relevance help you to evaluate the credibility of the source. If you aren't sure that you can trust it, it isn't usually a good research source!

Identifying Purpose

Identifying the purpose of a source involves some detective work, but it doesn't have to be too complicated. Most often, you will have to read or at least skim through the source to identify any potential bias or conflicts of interest. However, there are a number of clues that you can look for as well.

Purpose Clues

- **Ads:** If a source has ads, its main purpose is likely to make a profit or to sell you something
- **Sponsorships:** If the source or its publishing website has any information about sponsors or owners then you should consider if they are related to the information you're reviewing.
- **Author affiliation:** If the author(s) is connected to a business or organization related to the topic, they may have a biased view on it.
- **Evidence:** If the source provides citations or references to show where their data or claims came from, that is a good sign that its purpose is to inform.
 - Bear in mind that not all evidence is of the same quality. Just as you have to use your critical thinking skills to select academic sources, so too should other authors.
- **About Us or Mission Statements:** If your source is a website, they may have an About Us or Mission Statement page that gives you important information about them and their goals.

In order to identify the source's purpose you can check for ads, look up information about the publisher (journal, website, etc.), and look up information about the author. You'll also need to consider the purpose as you read through the source. Look carefully at its writing and at the references provided for their own information sources. Is their writing supported by evidence or largely opinion-based? Does the writing sound objective and unbiased?

The format or medium of the information will give you clues as well. For instance, journal articles are almost always informational while websites can be many things!

Examine the Sources' Neighborhood

The "neighborhood" of an information source refers to its relationships with other sources and its location within the broader network of information. This can help give you insights into its credibility, relevance, and purpose. This often involves looking at the format/medium of the information source. For example, consider a source that is a book. A book could be part of a carefully selected academic library collection, a public library collection that includes many fiction works, or a bookstore collection intended for sale. Each of these neighborhoods have different purposes and so too do the works found within them!

The Center for News Literacy divides information neighborhoods into five specific categories: journalism, entertainment, publicity, propaganda, and raw information. This explains this concept more from the standpoint of news and journalism.

Journalism	Entertainment	Publicity	Propaganda	Raw information
• Informs • Empowers citizens	• Amuses • Increases sales	• Promotes • Raises awareness	• Builds mass support • Increases a groups' power	• Bypasses authorship • Outlet for self-expression

[News Neighborhood Chart by Daniel Wilson, licensed [CC BY NC 4.0](https://creativecommons.org/licenses/by-nc/4.0/)]

For a website things can be a little more complicated, as there aren't readily available groupings. But you can look at a few things to identify its neighborhood.

- **Format:** Is it a website article, a blog, a wiki, or a social media website?
- **Author:** Do you know anything about the author, their affiliations, or their credentials?
- **Ad placements:** The location of a lot of ads tells you about the type of website it is.

Ultimately, the "neighborhood" is about identifying the type of information source that it is and comparing it to what you know about similar types of sources.

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6.8: Identifying Bias

Identifying bias is crucial for evaluating the source's reliability and objectivity. In western academia, research authors are supposed to present information in an unbiased and objective way that is purely intended to inform people. Bias can skew the presentation and interpretation of facts, leading to misinformation and a distorted understanding of a topic. It's important to note that everyone has some degree of bias and it can be very difficult to ensure that bias does not affect our writing and research at all. All sources are likely to be biased in some way. However, professional researchers and academics study to minimize the impact of bias on their research. When evaluating sources, you have to judge whether or not a source is too biased to be useful.

Types of Bias

There are six main types of bias to look out for:

- **Confirmation Bias:** The tendency to seek out information that agrees with or reaffirms your existing ideas and beliefs. For example, someone who believes in capital punishment performing searches like "benefits of capital punishment". The search itself is designed to produce confirming results.
- **Funding Bias:** When a scientific study is funded by a group that supports a specific outcome for the research. For example, if a study on the effects of drinking soda was paid for by the Coca-Cola Corporation.
- **Observer Bias:** The tendency of research participants to see what they expect or want to see. For example, if someone who is sexist is observing women's behavior, that might skew how they perceive it.
- **Publication Bias:** When certain types of studies are published over others. For example, when racial bias leads to publishers approving more white-authored papers than those from people of color.
- **Recall Bias:** When people are asked to recall events in the past and they fail to do so accurately.
- **Selection Bias:** When a researcher sets up an experiment and chooses samples or groups that aren't representative of the population they are studying. For example, if a researcher is investigating the effects of a drug on the general population but does not include many women in the study.

Some of these sources of bias might come up in the research process while others might come up during the writing of a paper or other information source. This is one reason why it is important to review the methods used in a research study. Unless you take a look at how they conducted their research, you sometimes cannot identify if there was a biased or flawed process involved.

Bias Clues

The following are clues that indicate potential bias.

- Opinions
- Data or evidence provided without a referenced source
- A non-neutral tone of voice in the writing
- Sources that only present a single point-of-view
- Lacking information about the author(s)
- Funding from a source related to the topic
- Publication by an organization with a particular bias on the topic

The Scholarly Conversation

Another way to help combat bias is to review multiple sources of information. When it comes to academic research, each researcher, student, and publication is a part of an ongoing scholarly conversation. People don't put out just one paper on a topic and have that become the source of all information on it. Instead, when one person publishes an article about the topic other scholars will review their findings. They may even attempt to replicate their findings and then publish their own work as well. The back and forth of these articles and presentations creates an ongoing conversation. As a student, you can participate in this conversation by reviewing their works and identifying common trends in the literature. These trends can form a sort of consensus where multiple authors agree with each other.

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6.9: Determining Quality

Now that you know how to identify Timeliness, Relevance, Authority, Accuracy, and Purpose, it's time to determine the quality of your sources! To evaluate your sources you should read them critically, avoid overly simplistic and emotionally charged material, avoid bias, and use the TRAAP test. As you note these different elements in your source you can combine them to get a general idea of the source's overall quality.

Generally, there is no absolute right or wrong to whether or not a source is of good quality. It all depends on your information need. That being said, there are some sources that are generally very poor quality. Think of it like giving the information source a score. You can rate each TRAAP category from 1-5 with 1 being very poor and 5 being excellent. Any category with a 3 is probably questionable for use.

Timeliness

If you're researching a current topic, then an article from 10 years ago might be scored with a 1. However, an article from 3 years ago on a similar incident might still be a 3 or a 4.

Relevance

If you're researching an oil spill and you find a source talking about past oil spills, it could be a 4 or 5 if you want to include historical information. However, if you don't need historical information then it might be notably lower.

Authority

If you find an author with a Ph.D. in environmental science who is talking about oil spills, that might be rated as a 5 in authority. However, a journalist talking about oil spills might be rated lower.

Accuracy

If your source includes citations for their information and presents it in an unbiased way, that might score quite high in accuracy. However, tables or data with no sources at all could be scored very low.

Purpose

Lastly, an article on oil spills published by Shell might be notably biased and perhaps score low on purpose for an informative research assignment. However, you might find another source that has some great information, is written by an independent author, but on a page with a couple ads on it; and rate it at a 3.

As you mentally rate each of these categories you should be able to think about your source and create an average score. Do you feel like your source is a 3 overall? That isn't very good. If it averages to a 4 or a 5, that's probably a good scholarly source!

Validity and Reliability

There are two final elements that'll help you judge the quality of your information sources. Validity and Reliability are terms often used to discuss original research experiments. Reliability refers to the consistency of a method used in research. In other words, if repeated, would it get the same results? For example, if a group of researchers used a questionnaire to ask someone specific questions, but each researcher received different responses, then the questionnaire would have low reliability. Reliability issues can arise from problems related to the clarity of questions being asked in a study, as well as inconsistencies between researchers and how they use the method (such as how they ask questions).

Validity refers to the accuracy of a method used in research. For example, if a research study is using a thermometer to measure temperature but repeated uses shows different temperatures even though all other variables remain the same; then the thermometer has low validity. A study might have low validity if it uses inappropriate methods of measurement, fails to get an appropriate sample of participants, or fails to apply the research methods consistently.

By understanding the basics of validity and reliability you can begin to examine the research methodology used in research studies in order to identify potential problems.

 Definition: Research Methodology

The techniques and procedures used to identify and analyze information about a research topic.

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6.10: Conclusion

✓ Critical Thinking

Imagine that you are researching the impact of social media on student mental health for a class assignment. You find three sources:

- A peer-reviewed journal article published two years ago by a psychologist, conducting interviews on student experiences with social media.
- A blog post from this month by a popular influencer sharing personal experiences with social media.
- A news article from a well-known publication, published five years ago, that quotes a licensed therapist speaking on student mental health.

Using the criteria of Timeliness, Relevance, Authority, Accuracy, and Purpose, evaluate the quality of each source. Which is most reliable for your research? Are either of the others useful as well? Consider your reasoning for choosing or not choosing each source.

Source evaluation is one of the most important steps in the research process. By effectively following the TRAAP model and considering each sources' Timeliness, Relevance, Authority, Accuracy, and Purpose, you can ensure that you use reliable and trustworthy sources for your research. Sometimes the research you're doing doesn't require high value academic sources, but oftentimes you'll be conducted research for academic, health, or professional reasons. In these instances you'll need to ensure that you are using trustworthy sources.

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CHAPTER OVERVIEW

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7.1: Chapter Scenario- Considering Cultural Perspectives on Digital Literacy

✓ Scenario 7.1.1

An international non-profit organization aims to collect information on the teaching and learning practices of a country in Africa. The project leads consider that they may need to account for varying levels of technology access and proficiency, and differing educational backgrounds. What other things might they need to consider?

A few things to consider:

- Not every culture is equally willing to share their information and resources. Some find it to be very personal, or have a history of other cultures stealing from them.
- Not every culture may agree on how to share or experience information: such as putting it online.



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7.2: Cultural Considerations on Information

Cultures around the world vary in how they perceive, interpret, and value information. These differences often stem from distinct cultural norms and values that shape how individuals within a culture think and share information. By considering the ways that social dynamics and values may vary, we can gain a better appreciation of the means of information creation and sharing around the world.



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Cultural Influences and Practices

Masuda and Nisbett (2001), note that individual behavior differs when you compare people from notably different cultures. For example, Hall (1976) describes the United States and some Western European countries as low-context cultures using articulated messages (such as a descriptive sentence) and Korea, Japan, and Taiwan as high-context cultures preferring indirect and ambiguous messages (such as an image and mood). It should be noted, however, that one criticism of some of these types of studies is that they do not account for cultural change over time. A number of studies have found that Hispanic and Latine peoples are prone to seeking information from their local community before other sources, but newer research shows an increasing reliance on the internet (Lee, et. al).

There are many societal and cultural elements that may influence how someone perceives information, the authority of its source, and the correctness of their choices. Pornpitakpan and Francis (2000) note a number of elements that can be considered including that:

- People living in high power distance (notably unequal) cultures tend to rely more on information from people in high status positions.
- People in high uncertainty avoidance cultures (those that rely on set rules and ways of doing things) seek absolute truths and have more difficulty with relativism (or the view that knowledge and morality are not absolute).
- People in collectivism-focused societies (those highly valuing social harmony and group needs) may value the opinions of others more highly.

Cultural practices and preferences can also shape the methods of communication as well. While many forms of information sharing take a written form, there are cultures that value and prioritize oral traditions. These sorts of traditions often rely on speech and generational knowledge-sharing to share and preserve their knowledge. While we may each be most familiar with our own cultural customs and beliefs, it is important to note that the ethical and social standards of each culture will vary.

Consider This!

If someone's culture places a higher value on the opinions of others and on the needs of the group, how might that affect how they evaluate the quality of an information source?

Global Examples

Below, we have some examples of cultural differences observed in research. It should be noted that study findings of this sort are often contested, leading to discussions among scholars about the findings. As with all research, this type of scholarship exists as an ongoing conversation. Rather than establishing 'fact', it often leads to groups of scholars discussing and creating a common consensus or agreement about the world. It should also be noted that many cultures and their perspectives change over time. And yet, these serve as reasonable examples of how certain cultures might vary in sharing information and in the types of information they value.

Collectivist vs. Individualist Societies

- **Example: Japan vs. the United States**

Japan is often viewed as a collectivist society, where sharing of information is viewed through a lens of group harmony and consensus. Japanese culture is noted as valuing group cohesion and an avoidance of confrontation. The United States, on the other hand, is portrayed as a more individualistic society where information is often direct and individual-centered. People are encouraged to speak their minds and share personal opinions openly. (Kavanagh, 65, 67-69)

High-Context vs. Low-Context Communication

- **Example: China vs. Germany**

China is generally described as a high-context culture, meaning that they rely heavily on non-verbal cues and context in their communication. This can lead to needing to read between the lines or understanding gestures and tone to get the full-context of what is being communicated. Low-context cultures, like Germany, prefer explicit and clear communication. Information is often shared directly with an emphasis on clarity (Ming-Jer).

Book Banning in the United States

Differences in information access and the culture of information sharing isn't just about comparing different countries. Even within the United States, there can be dramatic differences between states or even counties! Book bans have long been a challenge for libraries. Book bans are attempts to remove or limit access to specific books. These types of efforts are made for a variety of reasons, but sometimes they are requested by people who haven't even read the books. While some argue that there are legitimate reasons to censor access to certain books, others argue that the decisions of what books can be read should be up to individual choice and parental supervision. Below is a list of a few top-banned books in the United States and some reasons given for banning them:

- Adventures of Huckleberry Finn - Course Language, Racial Stereotypes
- Adventures of Tom Sawyer - Course Language, Racial Stereotypes
- The Awakening - Sexual Content
- Beloved - Themes of Slavery
- Black Boy - Themes of Communism and Racism
- Brave New World - Anti-religion, Anti-family
- Call of the Wild - Author's pro-socialist views
- Carrie - Violence, Anti-religious Themes
- A Child Called "It" - Child Abuse
- The Color Purple - Offensive Language, Sexually Explicit
- Dreaming in Cuban - Sexual Content
- Lord of the Rings - Supernatural Themes
- My Sister's Keeper - Homosexuality

Florida provides a recent case study in censorship. New legislation was passed in 2022 which made it easier to challenge access to books in Florida schools. Over 2022-2023, roughly 300 book titles were removed from school libraries (Rodriguez). This means

that as students learn in school, the titles and information they have available will vary based on the location they live in.

Indigenous Knowledge Systems and Western Scientific Knowledge

Definition: Indigenous Knowledge (or Traditional Knowledge)

The "environmental, socio-economic, cultural, and other elements of overall knowledge held by Indigenous peoples and practiced within Indigenous communities" ("[TEK and Indigenous Knowledge Systems](#)")

Definition: Scientific Method

"The process of observing, asking questions, and seeking answers through tests and experiments" (Encyclopedia Britannica).

The Scientific Method is an approach to knowing that emphasizes asking questions, making observations, and running tests and experiments. The dominance of Western knowledge and the scientific method has often marginalized other ways of knowing, such as Indigenous Knowledge. Indigenous Knowledge refers to "environmental, socio-economic, cultural, and other elements of overall knowledge held by Indigenous peoples and practiced within Indigenous communities" ("[TEK and Indigenous Knowledge Systems](#)"). Western science, generally through what is called the Scientific Method, tries to establish understanding by simplifying complex issues. Values or issues that might create bias or interfere with the results of research are purposefully removed from the process in an attempt to get accurate, repeatable results. While this is the predominant approach for scientific approaches and western knowledge-building, that does not mean it is the only valid means for pursuing knowledge.

Ezeanya-Esiobu (2019) discusses how colonialism imposed Western scientific paradigms on African societies, viewing their indigenous knowledge as inferior. This suppression led to the loss of cultural knowledge and practices. This "acceptable knowledge" has often been dictated by those who prevail through military or economic domination. There are many different Indigenous Knowledge Systems with varying views. Some examples include that:

- All aspects of life are interconnected (including spirituality, history, language, etc.)
- Collective knowledge is intergenerational and passed along orally
- Time, patterns, and migrations are cyclical
- Much knowledge is based on observation

"Existing copyright law, steeped in Western concepts and values, does not adequately protect Indigenous traditional cultural expressions, nor does it sufficiently reflect or account for Indigenous cultural values." (Vezina)

As we'll discuss in more detail in the next section, there are flaws built into the U.S. system of copyright laws that favors western means of expression and knowledge-building.

Examples of Indigenous Knowledge Sharing

Corridos

Celestino Fernández, provides a good example of indigenous knowledge and oral tradition, in explaining the Corridos of Mexico. A Corrido is "a way of documenting the experiences of people who often have no other voice". According to Fernández, they are songs written from the perspective of the everyday person. This tradition originally became popular in central Mexico in the 1830s. Many of these original songs were passed along verbally and had unknown authors. As such, existing U.S. copyright law does not cover a great many of these historic, cultural methods of knowing.

Sankofa

Sankofa is a concept based out of West Africa. Sankofa theory is an approach based in oral traditions and cultural practices that has been shaped into an academic theory at "highlights the importance of learning from the past to build the future" (Stanley & Chukwuorji). This approach emphasizes the importance of elders and the value of their memory as a source of knowledge. Akalimat talks about the importance of this principle to Black intellectual work in the world today and how respecting all forms of knowledge is important to modern life and humanity.

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7.3: What is Open Education

Definition: Open Access

"Open access (OA) is a set of principles and a range of practices through which ... copyrightable publications are delivered to readers free of access charges or other barriers" ("Open Access").

Open Education is a movement to provide educational resources, tools, and practices that are free of legal and financial barriers to use and re-use. Simply put, it's an effort to create and provide educational materials that can be freely accessed, freely shared, and freely edited. This has a number of benefits including reducing the cost of class materials and textbooks. However, there is a great deal more to it than that!

"Open" resources allow for educators to customize content for their courses. Instead of relying on for-cost textbooks that have a rigid perspective, open education resources (or OERs) can be customized to represent student views and cultures. They can be adapted to perfectly fit a course or to include different elements that enrich the content or consider equity needs.

Open content is reflected in higher education in a number of ways, sometimes using different terms or acronyms such as OER. At California Community Colleges, ZTC (or Zero Textbook Cost) is often used in a way that's almost synonymous with open education resources. Many courses are labeled as ZTC to show students that they have been designed so that students have no costs to pay for course materials.

What Does This Have to Do With Information Literacy?

A part of being information literate is knowing where and how to find information. The "open" movement extends well beyond education. In many ways, the internet is one of the biggest supporters of open information. While not all online information can be described as "open", the internet provides a vast amount of freely accessible information sources. It's also important to understand how information is being shared and developed.

Open research is another part of the movement. Scholars from every academic field are working to make their research more freely accessible. Open access journals exist to publish scholarly journals and share that research more freely. Open research also helps to diversify the voices that are heard in academic research.

Challenges to Open Access of Information

There are a number of challenges to providing information that people can freely access. First and foremost is the cost! We can assume that most people have, at some point, accessed information on the internet; but is it really free?

Cost

Websites and videos are created by people. That work takes up time and often that work is performed as a part of their job as a part of an organization of some sort. Hosting websites and content also costs money. The amount of data you need to host online and the amount of people visiting your website increases the cost to host that resource. So where does the money for this come from?

- Ad revenue
- Donations
- Subscriptions

These are a few examples of how people afford to provide information on the internet. Creating and hosting a video on YouTube is free for the creator and for the user, but then the viewers have to watch ads.

This causes a very similar problem for open education. Educators and researchers generally do not want to use advertisements, as it makes their content seem less reputable. So websites hosting open content have to find money elsewhere. This is often through donations or through requiring the researchers themselves to pay for publishing their articles!

Accessibility

Accessibility, or the ability of people to be able to view and/or use something, is a key concern with information. Particularly with providing "open" resources, we want people to be able to access them without barriers. Common barriers to information access include cost, technology access, technology proficiency, or personal disability. Without the resources of big companies paying for resources to be created, it can be challenging to ensure that the information we put out there is accessible.

Discoverability

A big part of accessibility is finding the resources in the first place! If you cannot discover a new source of information then you certainly can't access it. Tools like Google tend to prioritize certain types of results, often favoring large publishers and creators that already have a big audience. Open content creators and publishers are essentially small, indie creators. It's a challenge for them to compete for visibility!

Licensing

In order for a work to be "open", it must be properly licensed or in the public domain (a state in which a work belongs to the public and is not protected by copyright law). An open resource is one that someone can share, edit, and even use to create a totally new work. Whenever you create something in a tangible form (such as recording a song, taking a photograph, painting a picture, or writing a book), you immediately have author's rights to that work. Those rights include control over the distribution (sharing and access) of your work, use and reuse of your work (whether someone can use it or reuse it in their own projects), and the right to be acknowledged and credited for your work (this is part of why we cite sources!).

In order for someone else to be able to use your content, you have to agree to let them. This usually involves a licensing agreement of some sort. This is also why social media platforms like TikTok have user agreements that require you to give up some of your author rights. They literally could not legally share your videos if you didn't. In the next section we'll talk more about author's rights and licensing. The ability to license works in a way that makes them "open" is vital to open education, as it allows educators to customize and create free educational resources such as textbooks.

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7.4: Author's Rights and Licensing

Definition: Copyright Law

"[T]he body of laws and regulations that govern the exclusive rights of an author or creator to make copies, license, and otherwise exploit their literary, musical, or artistic work." (dictionary.com)

Author's Rights and Copyright

Copyright is a legal protection that gives creators control over how their works are used. This can include writing, art, music, and more! From the moment that a "work" is created in a tangible form (that is written, recorded, painted, etc.), they automatically own the copyright to that work.

Copyright protects a creator's right to:

- Make copies of their work
- Sell or distribute copies
- Create new works based on the original (like a song remix)
- Perform or display their work in public

For example, if a musician writes a song, only they can legally sell that song, make new versions of it, or perform it publicly. However, they can give other people permission to do those things.

Unless they are given away for some reason, copyright usually lasts for a long time (usually the creator's life plus several decades). While copyright does a lot, there are certain uses that it does not prohibit.

Chiefly, you are generally allowed to use works for the purpose of criticism, parody, and to provide access for the visually impaired. An example of using works for parody, is Weird Al Yankovic, who has parodied many popular songs.



[[Man Mixing Tracks as DJ for the Party \(External Link\)](#) by [@Darren2 \(External Link\)](#), [Licensed CC0 \(External Link\)](#)]

When a work that has at least a small degree of creativity to it is created in tangible form, it automatically gains copyright protection. This work does need to be fixed into a permanent medium/form of some kind (like a digital image or written paper).

Typically, in the United States, copyright protection lasts for the life of the author plus seventy years after their death. After copyright expires, the work is put in the public domain and anyone may use it however they like (U.S. Copyright Office).

Global Aspects of Copyright

Copyright laws vary between countries; however, there are international agreements that help to standardize the laws. So what does that mean for you when you share your works on the internet? Fortunately, copyright law is locally implemented by each country - meaning that you normally only have to worry about your own country's copyright laws.

Creative Commons Licensing

Origins of Creative Commons

Creative Commons came out of legal challenges after the Sonny Bono Copyright Term Extension Act (commonly also called the Mikey Mouse Protection Act due to it occurring right before Mickey Mouse entered the public domain) extended copyright terms from the life of the author plus 50 years to the life of the author plus 75 years; or 100 years after creation for works under corporate authorship. This legal action was seen by many to be an effort made to benefit large corporations. While legal challenges by Stanford Law Professor Lawrence Lessig and web publisher Eric Eldred failed, the two went on to create Creative Commons licensing (Creative Commons).

Creative Commons (CC) is a type of license that works within copyright law so that creators can provide more customizable access and use of their works. It is vital to providing open access to information. Many different works on the internet are able to be accessed because they use a Creative Commons or a similar type of license. For example, YouTube allows creators to apply their own default license or a Creative Commons license. Without one of those agreements, they wouldn't be able to host and share other people's videos!

Many agreements allowing others to use your content are built into the user agreements when you create an account or upload content onto a social website. Creative Commons is notable because it is widely recognized and used. It serves as a simple and reliable way to identify what uses are allowed for a given work. Using [Creative Commons \(external link\)](#), you can do any combination of the following:

- Allow others to share your work publicly
- Allow others to create and edit new copies of your work
- Allows others to create altogether new creations using your work
- Prohibit others from altering your work
- Prohibit others from making money on your work
- Require that others give you credit for your work
- Require that people using your work, use the same type of Creative Commons license that you did

Creative Commons includes six commonly used licenses:

- CC BY allows any use but requires that you provide attribution (usually as a citation) if creating a new version of their work.
- CC BY-SA allows any use but requires that you provide attribution AND use the CC BY-SA license if creating a new version of their work.
- CC BY-NC-SA has the same allowances and conditions of CC BY-NC but also requires that any derivative works use the CC BY-NC-SA license.
- CC BY-NC-ND is the same as CC-BY-ND except it also prevents any use that would generate a profit for people other than the original creator.

There is also a special CC0 category, which means the creator gives up any rights to the work. This essentially puts it in the public domain. CC0 isn't technically a license, but is a way to put materials into the public domain.

CREATIVE COMMONS LICENSES		COPY & PUBLISH	ATTRIBUTION REQUIRED	COMMERCIAL USE	MODIFY & ADAPT	CHANGE LICENSE
	PUBLIC DOMAIN	✓	✗	✓	✓	✓
	CC BY	✓	✓	✓	✓	✓
	CC BY-SA	✓	✓	✓	✓	✗
	CC BY-ND	✓	✓	✓	✗	✓
	CC BY-NC	✓	✓	✗	✓	✓
	CC BY-NC-SA	✓	✓	✗	✓	✗
	CC BY-NC-ND	✓	✓	✗	✗	✓

 You can redistribute (copy, publish, display, communicate, etc.)
  You have to attribute the original work
  You can use the work commercially
  You can modify and adapt the original work
  You can choose license type for your adaptations of the work

[[Creative Commons Licenses \(External Link\)](#) by [Foter.com \(External Link\)](#), [Licensed CC BY-SA \(External Link\)](#)].

Description: This image displays Creative Commons licenses from most to least free, with CC BY being the most free and CC BY-NC-ND being the least free. It is the least free because the Non-Commercial term is limiting and the No Derivatives term is very limiting. Non-Commercial means that people cannot use the work to make a profit. No Derivatives means that people cannot edit or alter the work in any way. The image also describes the allowances for each license, already described above under the Creative Commons Licensing heading.

Video: What are Creative Commons Licenses?

This video "[What are Creative Commons Licenses](#)" ([external link](#)) by the University of Guelph McLaughlin Library explains some of the basics of Creative Commons licenses.

Creative Commons includes the licenses most commonly used for making open educational resources (OERs). However, not every CC license includes all of the rights needed to create a truly open work. In order for a work to be open, users must be able to freely access, distribute, and edit that work. Creative Commons licenses including ND (nonderivative) or SA (share alike) license terms are not considered Open, because they greatly limit how you are allowed to edit or share the work.

What is the Public Domain?

The public domain refers to all creative works that are no longer protected by copyright or never had copyright protection. This means that anyone could use these works without needing the permission of their original creator. Works enter into the public domain in a few ways:

- The copyright has expired (In the United States, copyright typically lasts for either 95 years after publication [for works by a corporation] or 70 years after the death of the creator).
- The creator chooses to give up their copyright (which can be done using Creative Commons licensing).
- The work was never protected by copyright (This includes things like government publications).

The public domain allows for anyone to use these works and this can be great for creativity, allowing for new artists, writers, and performers to take inspiration from public works. Even some of the most well-known stories (and some that have been immensely profitable in modern times) come from public domain works. Disney, in particular, has made many movies based on works in the public domain including The Hunchback of Notre Dame, Peter Pan, Alice in Wonderland, and The Princess and the Frog.

What is Fair Use?

Fair Use is (in the United States) an exception to copyright law. It allows you to use creative works in specific ways. This is primarily meant to allow use for education, criticism, news reporting, and parody. Generally, fair use allows for the use of small

portions of a work. However, there are four specific factors that determine whether or not fair use is allowed:

1. The purpose and character of use. Are you using it for a commercial/for-profit use, or a non-commercial use such as education? Education and other non-commercial uses are more likely to be allowed.
2. Nature of the original material. Is the original work published or unpublished? Is it fact or fiction? Highly creative works are less likely to be allowable for fair use.
3. The amount of the original work used. Are you only using a small part of it? The larger portion that you use, the less likely it is to be allowed.
4. Effect on the original work's value. Is your use going to have a financial impact on the work's creator? If it harms the market value of the work, your use is less likely to be allowed.

It should be noted that while parody and criticism are allowable for fair use, satire is not. Parody is a comedic commentary about a work. By its nature, it requires that you imitate the work. While satire is sometimes comedic, it is used to offer commentary or criticism about the world rather than about a specific work.

Common examples of projects where fair use is generally allowed:

- A student project
- Using short sound or video clips for teaching
- A library creating a digital copy of a work for the purpose of research
- Citing other's research in scholarly articles
- Providing access for the disabled

U.S. courts have recently placed more emphasis on the concept of transformation. Transformation refers to whether or not your use of someone's work builds on the original work in a different manner or for a different purpose. In order to rule in favor of it being fair use, the courts look to see if your use is significantly differently than the other work's original use. For example, such a transformation could include making changes to a work to use it for an entirely new purpose (such as combining clips of movies for social commentary or teaching) (Lowry).

Fair Use in Different Cultures

It is important to note that many of the laws and practices mentioned in this chapter are based on United States law. Other cultures have their own ways of viewing copyright. Goodyear (2022) suggests that the Copyright Act of 1976 is a western creation strongly influenced by the forces of racism and nationalism. In particular, Goodyear notes that until the 1960s, copyright law often failed to properly recognize and compensate Black and non-western artists and creators. They also note how U.S. Copyright Law centers the tangible form of a creation in determining copyright, a requirement that favors written over oral music; neglecting tribal music that was often not written down. Hathcock (2017) agrees that even in modern times, the continued focus of U.S. copyright on the written word excludes the "cultural production of many non-white, non-Western groups" (p. 13).

To show an example of difference in copyright, India's copyright law includes thirty very specific exceptions. For example, it specifically allows for temporary electronic storage. They have allowances similar to fair use, but they are restricted to more specific use cases (Goodyear). As we consider our own rights to protect and share our works, it's also important to consider how our own cultural laws may limit or exclude certain types of cultural expression.

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7.5: Equity and Artificial Intelligence

Artificial Intelligence (AI) is transforming classrooms and workspaces by offering new tools. However, these tools also come with a number of potential legal and ethical challenges! When it comes to the workplace, many people fear that the introduction of AI tools will limit or eliminate the jobs available for people. In education, there are notable concerns about students using generative AI tools to complete their class work for them; potentially violating rules of academic ethics.

However, AI can be very useful! It can help to personalize learning, make materials more accessible, and assist students who face language or disability barriers. It can also help people to be more efficient in the workplace without replacing their jobs. As AI becomes more prominent, it's essential for you to identify what it can be used for and also to understand the ethical concerns associated with its use.

How AI Can Support Classroom Equity

- **Personalized Learning:** AI can be used to adjust lessons to meet specific student needs. This can not only be done by both the teacher and also students needing extra help. For example, [tutorai.me \(external link\)](#) is an AI platform that provides tutoring in many different topics.
- **Accessibility:** AI tools can be used to improve the accessibility of class materials. They can be used to translate materials into other languages, provide text-to-speech for visually impaired learners, and to transcribe videos into text. Students with English as a second language can also use AI tools such as [Quillbot \(external link\)](#) to translate text in their first language.

How AI Can Pose Equity Problems

- **Access to Technology:** Not all students have equal access to computers or high-speed internet. Additionally, most AI tools are not free. This creates a gap between those who can and cannot use these tools freely.
- **Algorithm Bias:** AI systems are only as good as the data they're programmed on. If the data is biased or limited, the results may reinforce stereotypes or treat groups unfairly. IBM.com provides several examples of algorithm bias including:
 - Healthcare systems that diagnosed black patients with lower accuracy results.
 - Hiring algorithms that favored men's resumes over women's.
 - AI art generation software consistently showing men when asked to portray specialized professions.

Sources

- "Shedding Light on AI Bias with Real World Examples." *ibm.com*, 16 Oct. 2023, <https://www.ibm.com/think/topics/she...world-examples>.

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7.6: Conclusion

✓ Critical Thinking

Consider how western practices such as the scientific method and U.S. copyright law can exclude contributions from other cultures. How might this impact the information and research sources you're able to find online?

When it comes to doing research there are many things that you have to consider. What types of information do you need? Where is that information located? Is that information authoritative and unbiased? How can you retrieve a good representation of different perspectives? A part of this is also considering how you will communicate that information. Are you collecting it solely for your own growth, or do you need to share that with classmates, a teacher, or an employer? When trying to convey information, are there things about your intended audience's background or culture that you should consider to make sure you communicate effectively?

Throughout this book we have learned about how specific information sources can be biased. However, this chapter seeks to demonstrate that even the systems we use to create, find, and share information can be biased. The only way to address this is to be purposeful in how we seek out, interpret, and communicate information. You can't be expected to consider *every* factor, but being informed and knowing which biases and challenges might arise to hamper your research can help you to consider new perspectives and new ways of seeking out alternative viewpoints!

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Glossary

- **Accuracy:** The correctness and reliability of the information.
- **Authority:** The credibility and trustworthiness of a source as determined by the creator's expertise or status.
- **Boolean Operators:** Words or symbols used to define the relationships between keywords in your search.
- **Call Number:** A series of numbers and letters, usually provided on a book's spine label, which designates where the item should be placed on library bookshelves in order to be located with other titles of a similar subject.
- **Citation (or citing sources):** A formal process for giving credit to the original source of information, ideas, or words used in your work.
- **Confirmation Bias:** The tendency to look for, favor, or recall information that confirms or supports a person's prior beliefs or values.
- **Copyright Law:** "[T]he body of laws and regulations that govern the exclusive rights of an author or creator to make copies, license, and otherwise exploit their literary, musical, or artistic work." ([dictionary.com](https://www.dictionary.com/definition.php?word=copyright))
- **Disinformation:** Information that is purposefully inaccurate.
- **Indigenous Knowledge (or Traditional Knowledge):** The "environmental, socio-economic, cultural, and other elements of overall knowledge held by Indigenous peoples and practiced within Indigenous communities" ("[TEK and Indigenous Knowledge Systems](#)")
- **Information Hygiene:** The practice of carefully managing the information you consume, share, and believe.
- **Library Database:** A digital collection of organized information and resources, typically including academic journals, books, magazines, newspapers, and other content.
- **Literature Analysis:** The thorough examination and interpretation of scholarly journal articles in order to understand the overall trends and findings of the research that exists in that area. Literature analyses usually compare studies, identify common themes and gaps in understanding, and summarize the information.
- **Malinformation:** Information that is accurate, but used in a way to manipulate someone or cause harm.
- **Misinformation:** Information that is incorrect but not meant to deceive.
- **Open Access:** "Open access (OA) is a set of principles and a range of practices through which ... copyrightable publications are delivered to readers free of access charges or other barriers" ("[Open Access](#)").
- **Peer Review:** A process where experts in a field evaluate a researcher's work before it is published. This is intended to ensure the accuracy and credibility of published work.
- **Peer Reviewed Journal:** An academic periodical in which articles are written by experts, then reviewed by other experts in that subject area through a formal peer review process.
- **Purpose:** The reason that a creator or author published a work.
- **Plagiarism:** A form of academic dishonesty that occurs when you use another person's work or ideas without giving them credit.
- **Reference Books:** A book designed to provide specific information or facts on a topic, organized to make that information easy to look up. This includes dictionaries and encyclopedias.
- **Relevance:** The degree to which your information source is closely connect or appropriate for your information need.
- **Reliability:** The degree to which a research method measures consistently.
- **Research Methodology:** The techniques and procedures used to identify and analyze information about a research topic.
- **Scientific Method:** "The process of observing, asking questions, and seeking answers through tests and experiments" ([Encyclopedia Britannica](#)).
- **Synthesis (or synthesizing research):** The process of combining multiple sources of information together in a meaningful way.
- **Timeliness:** A measure of how well the time of publication or creation of your information source is for meeting your information need.
- **Validity:** The degree to which a research method measures what it is intended to measure.
- **Variable:** A characteristic, number, or quantity that can be observed.

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