CRITICAL THINKING AND INFORMATION LITERACY

Andi Pogue
Consumes River College

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Critical Thinking and Information Literacy

Andi Pogue

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9.1: Research Process and Scope

9.1.1 - What is Your Information Need?

In this section, you'll learn about the first pillar of information literacy. While the pillars are often presented in a certain order, it's important to remember that they're not intended to be a step-by-step guide to be followed in a strict order.

In most research projects, you will find that you move back and forth between the different pillars as you discover more information and come up with more questions about your topic.

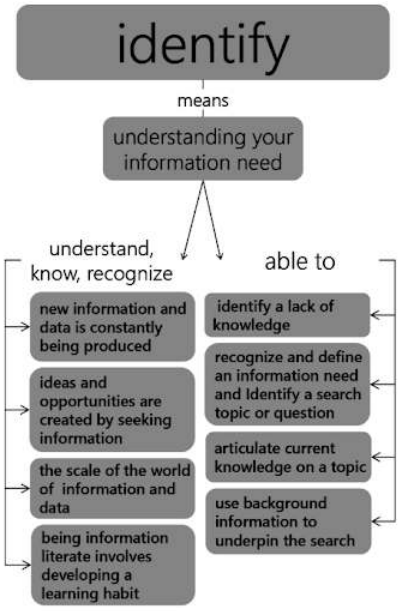
The first step is to identify your information need so that you can begin your research, but as you start researching, it's likely that you'll revisit some of the ideas in this chapter to make sure you are actually meeting that need with your research findings. I've provided a text and graphic representation below of the "Identify" pillar.

A person proficient in the Identify pillar is expected to be able to identify a personal need for information. They understand:

- That new information and data is constantly being produced and that there is always more to learn
- That being information literate involves developing a learning habit so new information is being actively sought all the time
- That ideas and opportunities are created by investigating/seeking information
- The scale of the world of published and unpublished information and data

They are able to:

- Identify a lack of knowledge in a subject area
- Identify a search topic/question and define it using simple terminology
- Articulate current knowledge on a topic
- Recognize a need for information and data to achieve a specific end and define limits to the information need
- Use background information to underpin the search
- Take personal responsibility for an information search
- Manage time effectively to complete a search



9.1.2 - Identifying Your Personal Need for Information

One of the first things you need to do when beginning any information-based project is to identify your personal need for that information. This may seem obvious, but it is

something many of us take for granted. We may mistakenly assume that we already know enough to proceed.

Such an assumption can lead us to waste valuable time working with incomplete or outdated information. Information literacy addresses a number of abilities and concepts that can help us to determine exactly what our information needs are in various circumstances. These will be discussed more coming up.

9.1.3 - Information Context

When you realize that you have an information need it may be because you thought you knew more than you actually do, or it may be that there is simply new information you were not aware of. One of the most important things you can do when starting to research a topic is to scan the existing information landscape to find out what is already out there. We'll get into more specific strategies for accessing different types of information later in the unit, but for now it pays to think more broadly about the information environment in which you are operating.

For instance, any topic you need information about is constantly evolving as new information is added to what is known about the topic. Trained experts, informed amateurs, and opinionated laypeople are publishing in traditional and emerging formats; there is always something new to find out. The scale of information available varies according to topic, but in general it's safe to say that there is more information accessible now than ever before.

Due to the extensive amount of information available, part of becoming more information literate is developing habits of mind and of practice that enable you to continually seek new information and to adapt your understanding of topics according to what you find. Because of the widely varying quality of new information, evaluation is also a key element of information literacy, and will be addressed in future weeks.

Finally, you will be asked to explore your topic this week. As you begin searching for information on your topic, be sure to keep your mind open for new avenues or angles of research that you haven't yet considered. Often the information you find for your initial need will turn out to be the pathway to a rich vein of information that can serve as raw material for many subsequent projects.

When you understand the information environment where your information need is situated, you can begin to define the topic more clearly and you can begin to understand where your research fits in with related work that precedes it. Your

information literacy skills will develop against this changing background as you use the same underlying principles to do research on a variety of topics.

9.1.4 - Information Need Leads to Questions

Your lack of knowledge on a topic might reveal itself in lots of different ways. When reading an article or textbook, you may notice that something the author refers to is completely new to you. You might realize while out walking that you can't identify any of the trees around your house. You may be assigned a topic you have never heard of.

9.1.4.1 - Furthering Your Thinking

Let's explore this idea further. Wherever you are right now, look around you. Find one thing in your immediate field of view that you can't explain.

- What is it that you don't understand about that thing?
- What is it that you need to find out so that you can understand it?
- How can you express what you need to find out?

For example: You can't explain why your coat repels water. You know that it's plastic, and that it's designed to repel water, but can't explain why this happens. You need to find out what kind of plastic the coat is made of and the chemistry or physics of that plastic and of water that makes the water run off instead of soaking through. (The terminology in your first explanation would get more specific once you did some research.)

9.1.5 - Identify What You Don't Know

All of us lack knowledge in countless areas, but this isn't a bad thing. Once we step back and acknowledge that we don't know something, it opens up the possibility that we can find out all sorts of interesting things, and that's when the searching begins.

Taking your lack of knowledge and turning it into a search topic or research question starts with being able to state what your lack of knowledge is. Part of this is to state what you already know. It's rare that you'll start a search from absolute zero. Most of the time you've at least heard something about the topic, even if it is just a brief reference in a news story, lecture, or reading.

Taking stock of what you already know can help you to identify any erroneous assumptions you might be making based on incomplete or biased information. If you think you know something, make sure you find at least a couple of reliable sources to

confirm that knowledge before taking it for granted. You'll be exploring your chosen topic this week and you'll be asked to think about what you already know and what questions still need to be answered.

9.1.6 - Taking a Wider View

While the identification of an information need is presented in this reading as the first step in the research process, many times the information need you initially identified will change as you discover new information and connections. Other chapters in this book deal with finding, evaluating, and managing information in a variety of ways and formats.

As you become more skilled in using different information resources, you will likely find that the line between the various information literacy skills becomes increasingly blurred, and that you will revisit your initial ideas about your topic in response to both the information you're finding and what you're doing with that information.

Continually think about your relationship to the information you find. Why are you doing things the way you are? Is it really the best way for your current situation? What other options are there? Keeping an open mind about your use of information will help you to ensure that you take responsibility for the results of that use, and will help you to be more successful in any information-intensive endeavor.

9.1.7 - The Point of Research

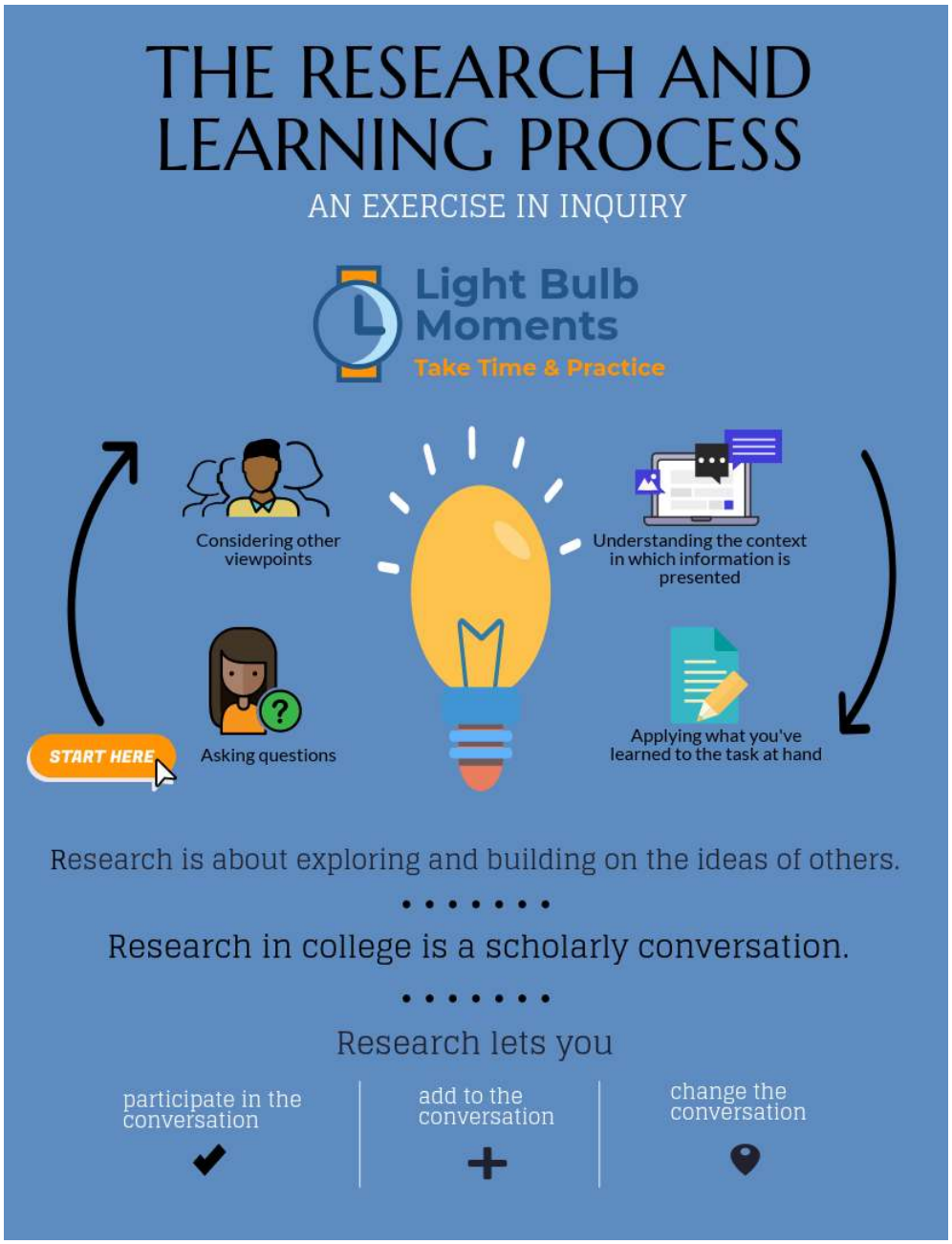
Why do we research? Research is an exercise in inquiry. In other words, it's about asking new, interesting, or challenging questions about things that spark our curiosity. The purpose of research should extend beyond your college classes. We as humans are naturally curious and research helps us make sense of our world.

Research can help solve complex problems and help us make better decisions. Research helps us investigate multiple points of view and use what we learn to accomplish specific tasks. Research is about learning, and learning is not a simple transaction. Facts and figures can be memorized, but thinking critically and becoming knowledgeable about something is a process, and the research process takes time.

The research and learning process is about:

- asking questions
- considering alternative points of view
- learning to understand the circumstances or facts surrounding a specific event or issue, also also known as context, and
- applying this knowledge to the task in front of you - writing a paper, giving a presentation, responding to an online discussion, or raising your hand in class.

These activities, no matter how small, are what make you a part of the scholarly community. Scholarship is a conversation. It's much like talking at a party about current events where many voices are heard. Research enables you to participate in, add to, or change the conversation.



Research requires experimentation and patience. Searching for the right sources of information is like exploring a brand new place.

9.1.8 - The Research Process

The research process is usually not simple, and it is iterative -- meaning it involves a lot of trial and error. When you begin researching, you may sometimes feel like you are

travelling in circles and retracing your steps. But it's worth it! This uneasy feeling is necessary in order to get you moving on the road to research victory and finding those perfect pieces of information.

Learning to do research will not only improve your success in college courses, but it will also improve your ability to interpret and respond to the issues that are most important in your professional and personal life.

9.1.9 - Scope: Knowing What's Available

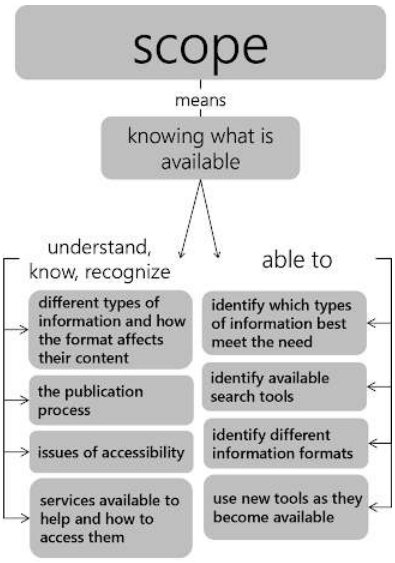
A person who is information literate in the Scope pillar is able to assess current knowledge and identify gaps.

The above statement is from the Seven Pillars of Information Literacy, the model of information literacy presented in the Introduction of your textbook. The following list, from the creators of the Seven Pillars model, provides more detail about the Scope pillar. Components include:

- “Know what you don’t know” to identify any information gaps
- Identify which types of information will best meet the need
- Identify the available search tools, such as general and subject specific resources at different levels
- Identify different formats in which information may be provided
- Demonstrate the ability to use new tools as they become available

Additionally the information literate person in the Scope pillar understands

- What types of information are available
- The characteristics of the different types of information source available to them and how they may be affected by the format (digital, print)
- The publication process in terms of why individuals publish and the currency of information
- Issues of accessibility
- What services are available to help and how to access them



9.1.10 - College Research

As a student, you're going to be asked to do academic research.

In college assignments, it's important to understand what's expected of you. Take some time to critically read through the assignment instructions and look for details like:

- Type of project - examples: informative, pro/con, persuasive
- Length requirements - examples: number of pages/words to write or required time of presentation/speech
- Number and types of sources required - examples: journal articles, books, websites, etc.

If these details are missing or unclear, don’t be afraid to ask your instructor for clarification.

It’s important to understand your assignment because these details will guide your research process. Think of it this way, you’ll need a whole lot more information and sources to write a 15-page paper than a 3-page paper, so knowing the assignment requirements might make a difference when choosing between a broader or more narrowed topic idea.

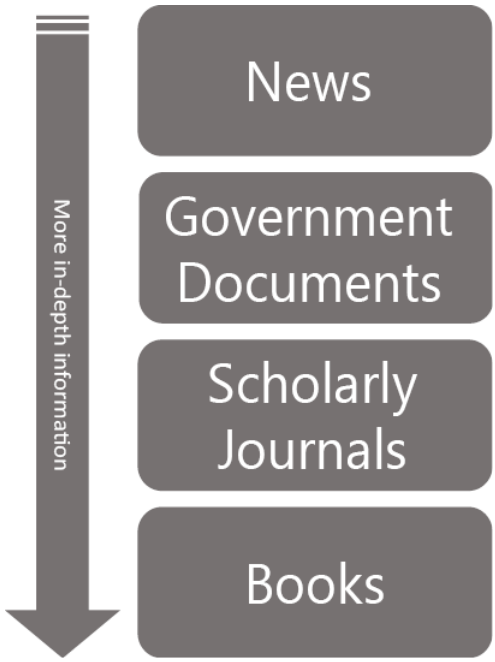
The type of paper or project you're working on is also key when deciding on a topic. Some of the most common types of college research assignments are:

- Informative: With informative assignments, your job is to learn all you can about the topic and then summarize it.
- Pro/Con: When working on pro/con assignments you'll need to research an issue from two different perspectives, then explain both sides.
- Persuasive (also known as argumentative): Persuasive assignments ask you to clearly take a stance on an issue and then support that stance with evidence.

9.1.11 - Information Production

In addition to knowing that you are missing essential information, another component of information literacy is understanding that the information you seek may be available in different formats such as books, journal articles, government documents, blog postings, and news items.

Each format has a unique value. The graphic below represents a common process of information production. When an event happens, we usually hear about it from news sources: broadcast, web, and print. Over time, more in-depth exploration and analysis of the event often comes from government studies and scholarly journal articles. Deeper exploration, as well as an overview of much of the information available about the event, is often published in book format.



9.1.12 - Characteristics of Sources

When you start exploring a research topic, your first stop might be Google, where you'll find websites and other freely available content. Websites can be great, but as you saw, the results can often be overwhelming and sometimes it's hard to pick out the best content.

By using a library, you'll have access to many different types of sources, including more scholarly content. Using a variety of source types will help build your knowledge on a

subject. Here are some of the types and characteristics of sources you'll find in the library.

9.1.12.1 - Books

Books are usually the first thing that come to mind when you think about libraries. And books can be very useful for all types of research projects. What are some of the benefits of using a book?

- They often provide in-depth coverage on a topic.

- They can give you good background, history, or provide a thorough analysis of a topic.
- Authors consult many different sources and synthesize information into one book.
- Physical books (and some ebooks too) are often hand-selected by librarians because of the quality of the author and/or content.
- They often contain a bibliography, footnotes, or endnotes that can be used as jumping-off points to find other relevant sources.

You might be thinking, “I don’t have time to read a whole book!” You don’t have to (unless you really want to). When using a book for research, check out the table of contents or the index to figure out which sections will be most relevant to you. It’s also helpful to read the introduction, since that’s usually where you’ll find a big-picture overview.

9.1.12.2 - Academic Journals

Often your research assignments will call for **academic journal articles**, but what are they? Academic journal articles are scholarly sources where experts and scholars publish their research findings.

Every academic discipline has scholarly journals. Their purpose is to provide a space for researchers to share information and also to maintain a record of new knowledge.

Scholars and researchers read journals to keep up with the latest research in their fields, but they’re also for students like you. This whole process becomes a kind of evolving conversation among scholars. Many journal articles are **peer-reviewed**, which means that new articles are read and critiqued by other experts in that subject before they are accepted for publication. What are the benefits of using academic journal articles?

- They can provide powerful evidence to back up claims you’ve made in a research project.
- They are considered some of the most credible types of sources because of the amount of careful work involved in writing, reviewing, and publishing them.
- They often have a very narrow focus and might try to answer a specific question through original research, or summarize research done by others on a very specific topic.
- Authors cite their sources. When you read them, look for references, footnotes, or endnotes and use these as a jumping-off point to find other relevant sources.

9.1.12.3 - News and Magazines

News & magazine articles are usually short and are written by journalists or freelance writers for a general audience. They usually focus on current issues and events.

Magazines and newspapers are often called **popular** sources because they are written for the general population, as opposed to academic or scholarly sources (such as books and journals), which are written by and for scholars and other experts.

The purpose of magazines and newspapers might be to inform, entertain, or persuade, along with the overarching purpose of selling copies or getting website clicks. What are the benefits of using newspaper or magazine articles?

- The writing style is professional, but at a level that allows most people to understand the content.
- They can provide an overview of a topic and/or interviews with a first-person account (called a primary source) or reaction to a topic or event.
- They can help you understand how the same story is covered in different parts of the country or world.
- They can help you understand issues happening in specific communities; most every city and town has a newspaper.
- They are published frequently (daily, weekly, or monthly) so it’s important to make sure the information hasn’t become outdated.
- They sometimes contain visuals like photographs or colorful graphics to keep the reader’s attention.

9.1.12.4 - Reference Material

Reference works are most often books and ebooks that give you a good snapshot of a topic. These sources are not meant to be read cover to cover, but instead offer definitions or brief entries on specific topics. Encyclopedias, dictionaries, and collections of primary source documents are examples of reference sources.

The Los Rios Libraries have print reference books and lots of eBooks that are available online. What are the benefits of using reference books?

- They may provide short entries on a lot of different topics (example: *Encyclopedia Britannica*).
- They can be specialized to focus on a very narrow subject, but cover many aspects of that topic (example: *Encyclopedia of Clothing and Fashion*).
- They can provide ideas to narrow a broad topic down to something more researchable.
- They often provide brief entries that allow you to wrap your head around difficult topics, ideas, or events, making them a great starting point for your research.

9.1.12.5 - Videos

Your college library also owns **videos** including documentaries, performances, feature films, and more. Videos might be available on DVD to check out or through a streaming media database to view online. What are the benefits of using videos?

- They are great sources if you learn well by seeing and hearing information.
- Documentary films and news clips can give you a first-person view (called a primary source) of an event or topic.
- Films and videos can sometimes present complex material in new ways so that it is easier to understand.
- Most videos include closed captioning or subtitles so they are accessible to a wide range of viewers.

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Los Rios Libraries. (2020). What is research? *Los Rios libraries information literacy tutorials.* https://lor.instructure.com/resources/44fe428e10b347bea9892a63482f55fd?shared

Scope: Knowing what is available. (2016). In G. Bobish & T. Jacobson (Eds.), *The information literacy user's guide.* Milne Publishing. https://milnepublishing.geneseo.edu/the-information-literacy-users-guide-an-open-online-textbook/chapter/scope-knowing-what-is-available/

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SECTION OVERVIEW

9.2: Research Questions and Strategy

9.2.1: Keywords Machine Readable Description

9.2.2: Research Questions and Strategy Details

9.2.3: Sarah's Keywords Machine Readable Description

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9.2.1: Keywords Machine Readable Description

Topic: violence in high schools

Concepts: Violence and High School

Keyword brainstorming for other words related to violence:

- bullying OR
- guns OR
- knives OR
- gangs

Keyword brainstorming for other words related to high school:

- secondary school OR
- 12th grade

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9.2.2: Research Questions and Strategy Details

9.2.2.1 - Scenario

Sarah's art history professor just assigned the course project and Sarah is delighted that it isn't the typical research paper. Rather, it involves putting together a website to help readers understand a topic. It will certainly help Sarah get a grasp on the topic herself! Learning by attempting to teach others, she agrees, might be a good idea.

The professor wants the web site to be written for people who are interested in the topic and with backgrounds similar to the students in the course. Sarah likes that a target audience is defined, and since she has a good idea of what her friends might understand and what they would need more help with, she thinks it will be easier to know what to include in her site. Well, at least easier than writing a paper for an expert like her professor.

An interesting feature of this course is that the professor has formed the students into teams. Sarah wasn't sure she liked this idea at the beginning, but it seems to be working out okay. Sarah's team has decided that their topic for this website will be 19th century women painters. But her teammate Chris seems concerned, "Isn't that an awfully big topic?" The team checks with the professor, who agrees they would be taking on far more than they could successfully explain on their website. He suggests they develop a draft thesis statement to help them focus, and after several false starts, they come up with:

> The involvement of women painters in the Impressionist movement had an effect upon the subjects portrayed.

They decide this sounds more manageable. Because Sarah doesn't feel comfortable with the technical aspects of setting up the website, she offers to start locating resources that will help them to develop the site's content.

Before we learn more about what happens with Sarah and her team, let's look at the components of the Plan pillar.

9.2.2.2 - Plan Pillar

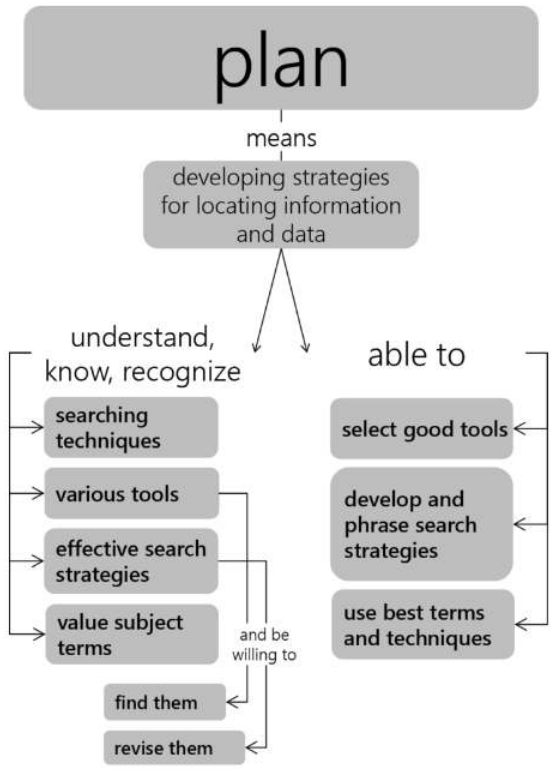
I've provided information in text and graphic form for the Plan Pillar. Mastering the Plan Pillar means you have the ability to: "construct strategies for locating information and data." That is a fairly short sentence, but it packs a punch. It includes

- Understanding a range of searching techniques
- Understanding the various tools and how they differ
- Knowing how to create effective search strategies
- Being open to searching out the most appropriate tools
- Understanding that revising your search as you proceed is important
- Recognizing that subject terms are of value

And these are just the items to understand! There are also the things you need to be able to do:

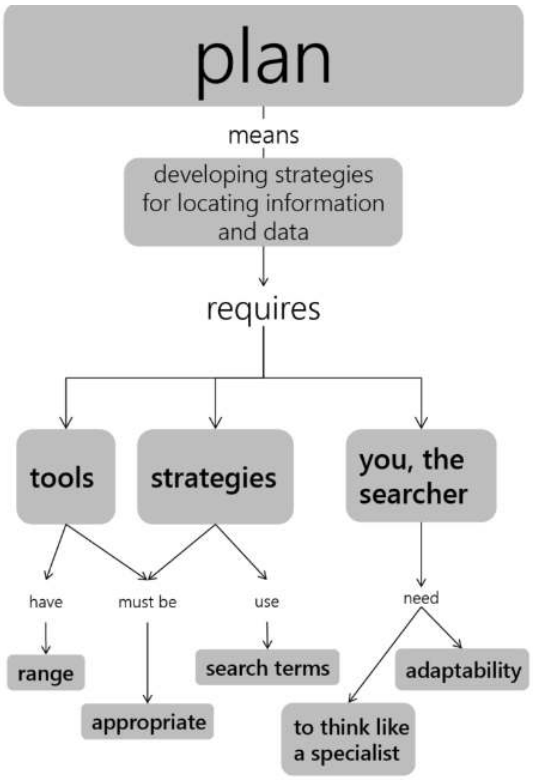
- Clearly phrase your search question.
- Develop an appropriate search strategy, using key techniques.
- Selecting good search tools, including specialized ones.
- Use the terms and techniques that are best suited to your search.

Here is a visual representation of these components:



Proficiencies in the Plan pillar

Now take a look at the essence of these items condensed into another concept map:



Proficiencies in the Plan pillar simplified

The second concept map is simplified. The focus is on the key elements: the tools and strategies that you use and the mindset that will help you as you plan your research. This may seem a bit daunting, so let's see how Sarah tackles the project.

She sometimes falters, but that happens even to experienced researchers. As you read through Sarah's quest for good information, think about the range and appropriateness of the strategies she uses. What would you do differently? What approaches seem to be good ones?

As you read about Sarah's quest for information, and reflect on your own information searches in the past, remember particularly the bullet within the Plan pillar that emphasizes the need to revise your search as you work. It is very important to do this, and to build time into the process so you are able to revise.

As you learn more about your topic, or the terms used in conjunction with its concepts, or key scholars in the field, it is only natural that you will need to shift focus, and, perhaps, change course. This is a natural part of the research process and indicates that your efforts are bearing fruit. Let's return to Sarah…

9.2.2.3 - Sarah Continued

The next time the class meets, Sarah tells her teammates what she has done so far:

"I thought I'd start with some scholarly sources, since they should be helpful, right? I put a search into the online catalog for the library, but nothing came up! The library should have books on this topic, shouldn't it? I typed the search in exactly as we have it in our thesis statement. That was so frustrating. Since that didn't work, I tried Google, and put in the search. I got over 8 million results, but when I looked over the ones on the first page, they didn't seem very useful. One was about the feminist art movement in the 1960s, not during the Impressionist period. The results all seemed to have the words I typed highlighted, but most really weren't useful. I am sorry I don't have much to show you. Do you think we should change our topic?"

Alisha suggests that Sarah talk with a reference librarian. She mentions that a librarian came to talk to another of her classes about doing research, and it was really helpful. Alisha thinks that maybe Sarah shouldn't have entered the entire thesis statement as the search, and maybe she should have tried databases to find articles. The team decides to brainstorm all the search tools and resources they can think of.

Here's what they came up with:

Search Tools & Resources:

- Wikipedia
- Professor
- Google search
- JSTOR database

Based on your experience, do you see anything you would add?

Sarah and her team think that their list is pretty good. They decide to take it further and list the advantages and limitations of each search tool, at least as far as they can determine.

Search Tool	Advantages	Limitations
Wikipedia	Easy access; list of references	Professor doesn't seem to like it; maybe misinformation?
Professor	The expert!	Not sure we can get to office hours; we want to appear self-directed
Google search	Lots of results	We need a better search term
JSTOR database	Authoritative, scholarly articles	None that we know of

9.2.2.4 - Self Reflection

As you work through your own research quests, it is very important to be self-reflective. The first couple of items in this list where discussed in week 2 in excerpts from the Identify chapter:

- What do you really need to find?
- Do you need to learn more about the general subject before you can identify the focus of your search?
- How thoroughly did you develop your search strategy?
- Did you spend enough time finding the best tools to search?
- What is going really well, so well that you'll want to remember to do it in the future?

Another term for what you are doing is metacognition, or thinking about your thinking. Reflect on what Sarah is going through as you read this chapter. Does some of it sound familiar based on your own experiences?

You may already know some of the strategies presented here. Do you do them the same way? How does it work? What pieces are new to you? When might you follow this advice? Don't just let the words flow over you. Instead, think carefully about the explanation of the process. You may disagree with some of what you read. If you do, follow through and test both methods to see which provides better results.

9.2.2.5 - Selecting Search Tools

Let's move away from Sarah and start thinking about this process in terms of this week's assignments and beyond. You have picked a topic that you will focus on for the next several weeks. Now is the time to begin the planning process to gather all the elements that are needed for your mid-term project.

One of the first steps is to start to think about where you can look for information. Part of planning to do research is determining which search tools will be the best ones to use. This applies whether you are doing scholarly research or trying to answer a question in your everyday life, such as what would be the best place to go on vacation.

"Search tools" might be a bit misleading, since a person might be the source of the information you need. Or it might be a web search engine, a specialized database, an association—the possibilities are endless. Often people automatically search Google first, regardless of what they are looking for. Choosing the wrong search tool may just waste your time and provide only mediocre information, whereas other sources might provide really spot-on information and quickly, too. In some cases, a carefully constructed search on Google, particularly using the advanced search option, will provide the necessary information, but other times it won't. This is true of all sources: make an informed choice about which ones to use for a specific need.

So, how do you identify search tools? Let's begin with a first-rate method. For academic research, talking with a librarian or your professor is a great start. They will direct you to those specialized tools that will provide access to what you need. If you ask a librarian for help, they may also show you some tips about searching in the resources.

If neither your professor nor a librarian is available when you need help, check your school's library website to see what guidance is provided. At CRC, we have a database directory that lists, describes, and provides links to all of our databases. We also have program research guides that might offer some clues as to which databases are a good fit for specific disciplines.

9.2.2.6 - Finding Background Information

You have picked a topic, but you'll likely need to refine it to decide exactly what aspects you will focus on in your research. One of the best ways to do that is to get some good background information. This is a time to read all you can about your topic without worrying about exactly what you want to say in your paper. Instead, pay attention to issues that interest you, and take note of concepts, organizations, people, studies, or events that you might want to research further. You've already done a little of this when you listened to your podcast. You should have taken notes that might include the names of researchers, places where studies have been conducted, or other information that might be useful. Notice what details are sticking in your mind; what aspects interest you the most. One of those aspects could become the issue you focus on in your midterm project.

Here are a few library resources that are great for background research:

- **Gale Ebooks**: Find the library's research databases page, and select Gale Ebooks from the General section (at the top). This is a database of subject encyclopedias, and it's a great place to find solid background information. Search for your topic and look

for any related or narrower topics that you've identified.

- **CQ Researcher**: If your topic is a current social issue, try the CQ Researcher database (also in the General Section on the Research Databases page). CQ Researcher provides overview reports on current issues and can be a treasure trove of information. Look for a timeline of events related to your topic, an overview of the issue, and even different perspectives on possible solutions.
- **Opposing Viewpoints**: This database also covers many current and social issues. It's found in the controversial topics section of the databases page. Featured issues are profiled each day. You can also do a keyword search or browse by topics. Results in this page are organized by source type, meaning all the scholarly articles, news articles, and other source types are grouped together.

9.2.2.7 - From Background to Research Question

Because a thesis comes in the beginning of your paper, speech, or research project, you might be tempted to start there. But instead of creating your thesis first, use your background information to ask a

research question. A research question will guide your search by giving you a goal and focus for your paper.

Here are some examples of how to narrow a few broad topics into manageable research questions:

- **Broad topic:** Homelessness
- **Research question:** What approach should cities use to help homeless people get housing?
- **Broad topic:** Kids and sleep
- **Research question:** How does the early morning start time of high schools affect students' academic performance?
- **Broad topic:** Education
- **Research question:** How can we make sure more kids have access to high-quality preschool?

You'll notice that these questions cannot be answered with a simple "yes" or "no". Instead, you have to explain the answer using details. Good research questions often make you look for causes/effects of an issue, relationships between events and ideas, and/or solutions to a problem.

9.2.2.8 - Keywords

Once you've selected some good background sources for your topic, it is time to move on to identifying words you will use to search for more detailed and in-depth information to help answer your research question.

This is sometimes referred to as building a search query. When deciding what terms to use in a search, break down your topic into its main concepts. Ask yourself, what are the most important words in this question? They are often the nouns.

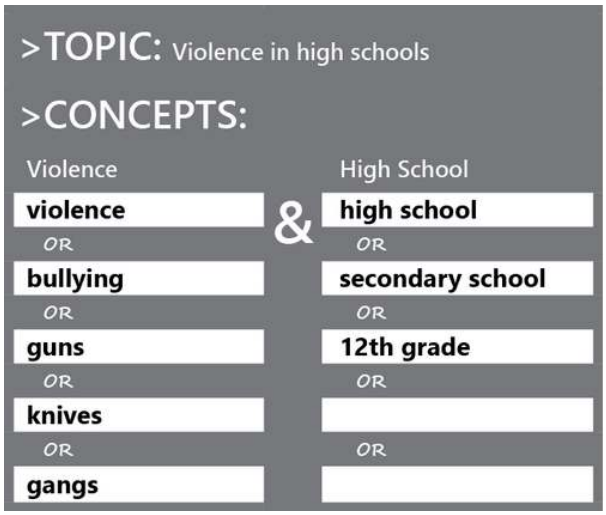
Don't enter an entire sentence, or a full question. Different databases and search engines process such queries in different ways, but many look for the entire phrase you enter as a complete unit, rather than the component words.

While some will focus on just the important words, such as Sarah's Google search that you read about earlier, more often, the results are still unsatisfactory. The best thing to do is to use the key concepts involved with your topic.

You'll also want to think of synonyms or related terms for each concept. If you do this, you will have more flexibility when searching in case your first search term doesn't produce any or enough results. This may sound strange, since if you are looking for

information using a Web search engine, you almost always get too many results. Databases, however, contain fewer items, and having alternative search terms may lead you to useful sources. Even in a search engine like Google, having terms you can combine thoughtfully will yield better results.

The following image is an example of a process you can use to brainstorm search terms. It illustrates how you might think about the topic of violence in high schools. Notice that this exact phrase is not what will be used for the search. Rather, it is a starting point for identifying the terms that will eventually be used.



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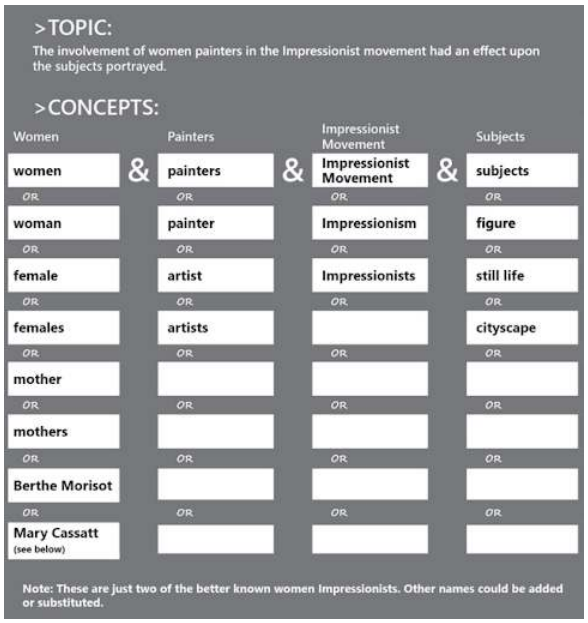
9.2.2.9 - Sarah's Topic

Now, let's think of this process using the topic Sarah's team is working on. They have divided their topic into four concepts and brainstormed multiple search terms for each concept.

Keep in mind that the number of concepts will depend on what you are searching for. And that the search terms may be synonyms or narrower terms. Occasionally, you may be searching for something very specific, and in those cases, you may need to use broader terms as well.

Let's see what Sarah's team came up with:



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Plan: Developing research strategies. (2016). In G. Bobish & T. Jacobson (Eds.), *The information literacy user's guide.* Milne Publishing. https://milnepublishing.geneseo.edu/the-information-literacy-users-guide-an-open-online-textbook/chapter/plan-developing-research-strategies/

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9.2.3: Sarah's Keywords Machine Readable Description

Topic: The involvement of women painters in the Impressionist movement had an effect upon the subjects portrayed.

Concepts: Women and Painters and Impressionist Movement and Subjects

Keyword brainstorming for other words related to Women:

- Women OR
- Woman OR
- Female OR
- Females OR
- Mother OR
- Mothers OR
- Berthe Morisot OR
- Mary Cassatt

A note about the last two bullets: These are just two of the better known women Impressionists. Other names could be added or substituted.

Keyword brainstorming for other words related to painters:

- Painters OR
- Painter OR
- Artist OR
- Artists

Keyword brainstorming for other words related to Impressionist Movement:

- Impressionist Movement OR
- Impressionism OR
- Impressionists

Keyword brainstorming for other words related to Subjects:

- Subjects OR
- Figure OR
- Still life OR
- Cityscape

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SECTION OVERVIEW

9.3: Advanced Searching Techniques

9.3.1: Advanced Searching Techniques Details

9.3.2: Sarah's Keywords With Truncation Machine Readable Description

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9.3.1: Advanced Searching Techniques Details

9.3.1.1 - Advanced Searching

All of the searching we've done in this class and that you probably do on a regular basis is general keyword searching. But, there are many tips and tricks hidden in databases and Internet search engines that can help you become an advanced-level searcher. That's what the next several tabs are about and you'll have a chance to practice some of these techniques in this week's assignments.

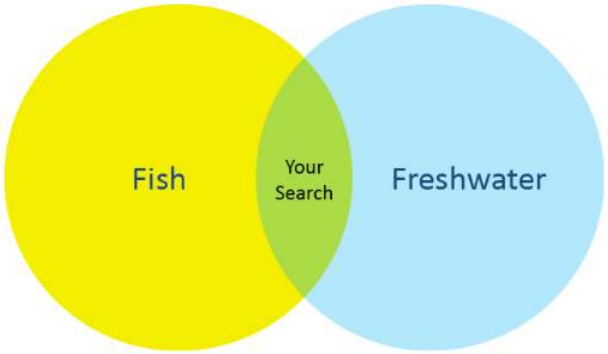
9.3.1.2 - Boolean Operators

One way to limit a database search is to use Boolean operators; words you can add to a search to narrow or broaden your search results.

Boolean operators are the words And, Or, and Not. You can usually find these words and the searching technique in the advanced search query area of a database. You can still use Boolean operators without being in an advanced search screen, but, ***this is important:*** in most databases, in order for Boolean operators to work properly in a keyword search box, the operators must be in all caps. That is why I have kept the operators in all caps throughout this section, so that you understand the importance of remembering to use all caps when using the Boolean operators searching technique.

9.3.1.2.1 - AND

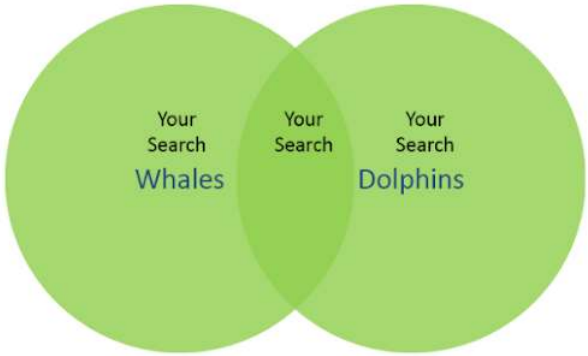
AND will narrow your search. For example, if you are interested in fresh water fishing you would enter the terms “fish and freshwater.” Your results would then include records that contained ***both*** of these words. In the image below, your results are represented by the green area where the two circles intersect.



9.3.1.2.2 - OR

The Boolean operator OR will broaden your search and is usually used with synonyms (different words that have the same meaning). If you are interested in finding information on mammals found in the Atlantic Ocean, you could enter the terms “whales or dolphins.”

The circles below represent the OR search. All of the records that contain one, or another, or both of your search terms will be in your results list.



9.3.1.2.3 - NOT

The Boolean operator NOT will eliminate a term from your results. If you were looking for information on all Atlantic Ocean fish ***except*** Bluefish, you would enter “fish not bluefish.”

The larger green circle represents the results that you would retrieve with this search. Notice how Bluefish is excluded from the results.

Remember Sarah and her team researching women painters from last week? Let's apply Boolean operators to Sarah and her team's research. They've started their research by looking for sources about the women creating Impressionist art and they've identified two search strings:

- women painters
- women artists

They could do two separate searches by typing one or the other of the search strings into the search box of whatever tool they are using, but they'd end up with two separate result lists and have the added headache of trying to identify unique items from the lists.

They could also lump everything together and search on the phrase:

- women painters AND women artists

But once you understand Boolean operators, that last strategy won’t make as much sense as it seems to.

There are three Boolean operators: AND, OR, and NOT.

AND is used to get the intersection of all the terms you wish to include in your search. With this example:

women painters AND women artists

Sarah's team is asking the database to retrieve both of those search strings, meaning all the results would include women painters AND women artists. If a source only has one string, it won’t show up in the results.

This isn't what the team had in mind. They are interested in both artists and painters, but because they don't know which term might be used, they want to search both.

Instead, OR would be a better choice.

OR is used when you want at least one of the terms to show up in the search results. If both do, that's fine too, but it isn't a condition of the search. The OR Boolean operator makes a lot more sense for this search:

women painters OR women artists

Now, the team could get fancy with this search, and use both AND as well as OR:

women AND (painters OR artists)

The parentheses mean that these two concepts, painters and artists, should be searched as a unit, and the search results should include all items that use one word or the other. The results will then be limited to those items that contain the word women.

When using parentheses for appropriate searches, make sure that the items contained within those parenthesis are related in some way. With OR, as in the previous example, it means either of the terms will work. With AND, it means that both terms will appear in the source.

Try this out on your own. Type both of these searches in Google Scholar and compare the results (please note, you must capitalize OR when using it as a Boolean operator in Google products). Were they the same? If not, can you determine what happened? Which result list looked better?

9.3.1.3 - Truncation

Using Boolean operators isn't the only way you can create more useful searches. This and the next few tabs will give you more tools for your searching tool box.

Look at this search string:

Entrepreneurs AND (adolescents OR teens)

You might expect that the items that are retrieved from the search can refer to entrepreneurs plural or entrepreneur singular. But, that's not always the case. Because computers are very literal, they usually look for the exact terms you enter.

While it is true that some search functions are moving beyond this model, you want to think about alternatives, just to be safe. In this case, using the singular as well as the plural form of the word might help you to find useful sources. Truncation, or searching on the root of a word and whatever follows, lets you do this.

So, if you modify the search string to this:

Entrepreneur* AND (adolescents OR teens)

You will get items that refer either to the singular or plural version of the word entrepreneur, but also entrepreneurship.

Look at these examples:

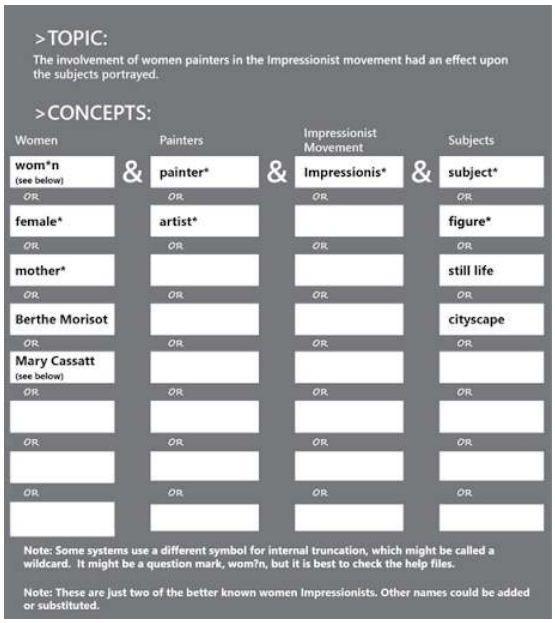
adolescen*

educat*

Think of two or three words you might retrieve when searching on these roots. It is important to consider the results you might get and alter the root if need be. An example of this is polic*. Would it be a good idea to use this root if you wanted to search on policy or policies? Why or why not? Try it out and see what you find.

In some cases, a symbol other than an asterisk is used. To determine what symbol to use, check the help section in whatever resource you are using. The topic should show up under the truncation or stemming headings.

Here is the same search terms worksheet you saw last week for Sarah's team, but with truncation acknowledged:



>TOPIC:

The involvement of women painters in the Impressionist movement had an effect upon the subjects portrayed.

>CONCEPTS:

Women		Painters		Impressionist Movement		Subjects
wom*n (see below)	&	painter*	&	Impressionis*	&	subject*
OR		OR		OR		OR
female*		artist*				figure*
OR		OR		OR		OR
mother*						still life
OR		OR		OR		OR
Berthe Morisot						cityscape
OR		OR		OR		OR
Mary Cassatt (see below)						
OR		OR		OR		OR
OR		OR		OR		OR
OR		OR		OR		OR

Note: Some systems use a different symbol for internal truncation, which might be called a wildcard. It might be a question mark, wom?n, but it is best to check the help files.

Note: These are just two of the better known women Impressionists. Other names could be added or substituted.

Machine readable text description of preceding graphic

OK - back to that polic* example. If you actually tried it, you'll find that police and policing also came up with this search. That's because policy, policies, police, and policing all have the same root. Keep this in mind when using truncation or wild card searching.

9.3.1.4 - Phrase Searching

Phrase searches are particularly useful. If you put the exact phrase you want to search in quotation marks, you will only get items with those words as a phrase and not items where the words appear separately in a document, website, or other resource.

Your results will usually be fewer, although surprisingly, this is not always the case. Try these two searches in the search engine of your choice:

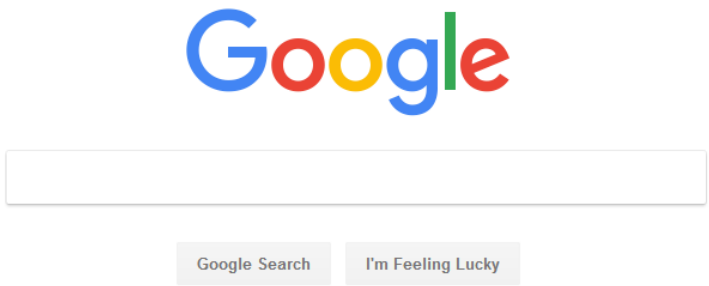
“essay exam”

essay exam

Was there a difference in the quality and quantity of results? Most databases allow phrase searching with the use of quotation marks. You'll also often see phrase searching when you enter an advanced search screen of a resource.

9.3.1.5 - Advanced Web Searching

Advanced web searching allows you to refine your search query and prompts you for ways to do this. Consider the basic Google.com search box.



It is very minimalist, but that minimalism is deceptive. It gives the impression that searching is easy and encourages you to just enter your topic, without much thought. You certainly do get many results. But are they really good results? Simple search boxes

aren't always the best way to go.

Advanced search screens show you many of the special searching options available to you to refine your search, and, therefore, get more manageable numbers of better items. Many web search engines and research databases include advanced search

screens. Advanced search screens will vary from resource to resource and from web search engine to research database, but they often let you search using

- Implied Boolean operators (for example, the “all the words” option is the same as using the Boolean and)
- Limiters for date, domain (.edu, for example), type of resource (articles, book reviews, patents)
- Field (a field is a standard element, such as title of publication or author’s name)
- Phrase (rather than entering quote marks)

9.3.1.5.1 - Explore on Your Own

Go to the advanced search option in Google. Did you even know this page existed?!

Take a look at the options Google provides to refine your search. Compare this to the basic Google search box. One of the best ways you can become a better searcher for information is to use the power of advanced searches, either by using these more complex search screens or by remembering to use Boolean operators, phrase searches, truncation, and other options available to you in most search engines and databases.

While many of the text boxes at the top of the Google Advanced Search page mirror concepts already covered in this week's reading (for example, “this exact word or phrase” allows you to omit the quotes in a phrase search), the options for narrowing your results can be powerful.

You can limit your search to a particular domain (such as .edu for items from educational institutions) or you can search for items you can reuse legally (with attribution, of course!) by making use of the “usage rights” option.

However, be careful with some of the options, as they may excessively limit your results. If you aren’t certain about a particular option, try your search with and without using it and compare the results. If you use a search engine other than Google, check to see if it offers an advanced search option, many do.

The CRC Library has an online searching tips guide that covers all the searching tips included in this week's reading. You might want to bookmark this web address:

https://researchguides.crc.losrios.edu/searchtips

The guide will be available even after you have completed this course.

9.3.1.6 - Scenario

Harry is feeling overwhelmed by one of his class assignments. Harry would have been happy if the assignment was to write a traditional research paper, but his professor has asked the class to solve a real life problem.

The professor has asked the class to imagine a small city undergoing a natural disaster such as a flood or a tornado. Each group in the class is required to plan a hypothetical information command center for this city. The professor explains that the government needs to obtain accurate, up-to-date information on the scope of the damage and injuries sustained due to the disaster. This information is vital for the city to be able to provide adequate emergency and medical assistance to its citizens.

Harry can see that this is an important function for any city in the midst of a crisis but he is not sure about where to get reliable information to help him construct a plan for the city.

Harry and his classmates do some brainstorming and decide to approach this assignment as if they were actually producing a research paper. Their first step will be to research recent disasters. They reason that this will provide some information about the way some cities have gathered information during disasters.

If an information gathering strategy worked for other cities, it will work for their hypothetical city. There certainly have been a lot of natural disasters recently, so it shouldn’t be too hard to find some information. Super Storm Sandy and Hurricane Irene are two events that have happened in recent years. The group starts to research Super Storm Sandy with Google and Wikipedia.

9.3.1.7 - Gather Pillar

Harry and his classmates are engaging in the Gather pillar of the Seven Pillars of Information Literacy model. Just as municipalities needed to gather reliable information in order to provide vital services to their citizens, Harry and his group members need to gather information that will help them complete this assignment.

These information needs are components of the Gather pillar, which states that the information literate individual understands:

- How information and data are organized
- How libraries provide access to resources
- How digital technologies provide collaborative tools to create and share information
- The issues involved in collection of new data
- The different elements of a citation
- The use of abstracts
- The need to keep up to date

They are able to:

- Use a range of retrieval tools and resources effectively
- Construct complex searches appropriate to different digital and print resources
- Access full text information, both print and digital, read and download online material and data
- Use appropriate techniques to collect new data
- Keep up to date with new information
- Engage with their community to share information
- Identify when the information need has not been met
- Use online and printed help and can find personal, expert help
- The abilities connected with the Gather pillar overlap, in some aspects, with those in other chapters. Where this is the case, those abilities are not addressed in this chapter.

The following is a graphic representation of the bulleted list that describes the Gather Pillar:

- The difference between free and paid resources
- The risks involved in operating in a virtual world
- The importance of appraising and evaluating search result

9.3.1.8 - Information and the Internet

Traditionally, information has been organized in different formats, usually as a result of the time it took to gather and publish the information. For example, the purpose of news reporting is to inform the public about the basic facts of an event. This information needs to be disseminated quickly, so it is published daily in print, online, on broadcast television, and radio media. More in-depth treatment of information takes longer to research, write, and publish and traditionally was published in scholarly journals and books.

Today, information is still published in traditional formats as well as in newly evolving formats on the Internet. These new information formats are loosely defined as Web 2.0 formats and can include electronic journals, books, news websites, blogs, Twitter, Facebook, and location postings. The coexistence of all of these information formats is messy and chaotic. The process for finding relevant information is not always clear.

One way to make some sense out of the current information universe is to thoroughly understand traditional information formats. We can then understand the concepts inherent in the information formats found online. There are some direct correlations such as books and journal articles, but there are also some newer formats like tweets that didn't exist until recently.

Let's look at the news industry. Many traditional newspapers are shutting down and those that remain are retrenching. While there are many reasons for this, one of the major trends has been the rise of the Internet. In the United States, more than 50 percent of the population reads the news online.

Indeed, online news sites provide a different and, some might argue, a more relevant experience for the reader. They offer video and sound, up-to-the-minute updates on breaking news, and the ability to interact with the content by posting comments. Another important feature of online news is that search engines can deliver content from the site in response to a query. In other words, readers don't have to visit a site such as the New York Times in order to read its content.

This has both positive and negative consequences. The positive consequence is that readers can quickly and conveniently obtain information from a variety of sources on a topic or event. The negative consequence is that it is more difficult to evaluate the credibility of the sources. We'll be exploring evaluating sources more later in this unit.

For Harry and his group, all of this means they will have to research many different kinds of information resources in order to create an effective information command center.

9.3.1.8.1 - Twitter and Blog Postings

Many of the group's Google results are from Twitter feeds and blog postings. These did not provide a lot of information. After all, a tweet consists of only 280 characters. However, these resources did help Harry's group by suggesting key people, cities, technologies, and other resources associated with Super Storm Sandy to research.

Often a blog posting will provide a link to a longer, more useful resource. The students' review of blogs and tweets also provided an otherwise unthought-of insight. As Harry and his group were reviewing Twitter feeds posted during Super Storm Sandy, they noted that people were using Twitter to inform their friends and relatives about their whereabouts, their health, and the conditions of their surroundings. Since electricity was not available, most televisions and radios did not work, but mobile technologies like Twitter served as effective communication tools. Once Harry realized this, a Twitter feed was quickly incorporated into his command center's communication plan.

9.3.1.8.2 - Newspaper Articles

One of the members of Harry's group suggested they should consult a newspaper to see what role the newspaper played to help the city understand the destruction caused by the storm. The group chose the New York Times. The New York Times can be accessed online and articles from the day of the storm can be viewed.

However, the group found that more useful information was published in the New York Times in the days after the storm. Harry's initial search of the New York Times for articles containing the phrase super storm Sandy published on October 29, 2012 resulted in some blog postings from reporters and many stories about damage from the storm. But when Harry reentered his search without a date limit, he retrieved articles that analyzed how the region's municipalities performed during the storm. It takes time to conduct this type of analysis, so looking for information that was published days, weeks, or months after the storm took place was a good strategy.

One limitation Harry encountered was a paywall on the New York Times website. He was able to access a few articles for free, but after viewing five articles, the website restricted access without a New York Times subscription. This is where library databases can become extremely valuable. Your college will subscribe to databases that give you access to important newspaper content, including the New York Times, which is included in the US Major Dailies and Opposing Viewpoints databases.

9.3.1.9 - Primary Sources

Another member of Harry's group recalled that he had cousins in New York City who experienced Super Storm Sandy firsthand. He offered to interview his cousins about their experiences during the storm. This type of information is known as a primary information or source. Primary sources are accounts from a person or persons who have firsthand knowledge of an event. Speeches, photographs, diaries, autobiographies, and interviews are all primary sources.

In this case, the primary source is still alive and is accessible to Harry's group. However, some researchers are not so fortunate. If this is the case, primary sources can still be found in a variety of locations and formats. There are many online sites that have created digitized collections of copies of diaries and letters from historical events. It is important to remember that primary sources are not limited to a single format. You may find them in books, journals, newspapers, email, websites, and artwork.

The CRC Library has a guide to source types (bookmark this page - it will remain published even after you finish this course) that can help you differentiate the kind of source you're using.

9.3.1.10 - Scholarly Articles

The results of the research that Harry and his group has done are useful, but Harry is concerned that there might be too much focus on Super Storm Sandy. He wants to find more information on crisis and disaster management in general. Harry thinks that there might be general standards or practices that should be incorporated into his group's plan. Journal articles and books might provide this information.

Harry starts his search for journal articles by using a multidisciplinary database because he is not sure which specific disciplines will cover the information he seeks. He constructs and executes a search query and finds that the abstracts included in the results help him choose several peer-reviewed, or scholarly, articles to read.

Scholarly journal articles usually include an abstract at the beginning of the article. An abstract summarizes the contents of the article. In an abstract, key points as well as conclusions are briefly described. Abstracts are often included in the database record.

Researchers find this information helpful when deciding whether or not to retrieve the whole article.

Most of the articles that Harry chooses are available in PDF format from the database, but there are a few articles that look very relevant that don't have links to a PDF. Harry really wants to read these articles so he decides to try to find out if there is another way to obtain the full text. He consults a librarian who instructs him to look for the title of the journal (not the article) in the online catalog. The catalog record will provide information on whether the journal is available online from another database.

Journals, and the articles they contain, are often quite expensive. Libraries spend a large part of their collection budget subscribing to journals in both print and online formats. You may have noticed that a Google Scholar search will provide the citation to a journal article but will not link to the full text. This happens because Google does not subscribe to journals. It only searches and retrieves freely available web content.

However, libraries do subscribe to journals and have entered into agreements to share their journal and book collections with other libraries. If you are affiliated with a library as a student, staff, or faculty member, you have access to many other libraries' resources, through a service called interlibrary loan. Do not pay the large sums required to purchase access to articles unless you do not have another way to obtain the material, and you are unable to find a substitute resource that provides the information you need.

There is one more feature Harry found while searching in databases: some offer the option of an alert service. This feature allows Harry to enter the most productive search strings, as well as his email address. When new items are added to the database that fit his search, he receives an alert. Harry found this to be a great way to keep up to date with new articles on his topic without having to initiate a new search.

9.3.1.11 - Books

Next, Harry's group looks for books on the topic. They search the library's online catalog using search terms that were successful in their database searches. They find some great titles and head to the library book cases to retrieve them.

Most academic libraries use the Library of Congress classification system to organize their books and other resources. The Library of Congress classification systems divides a library's collection into 21 classes or categories. A specific letter of the alphabet is assigned to each class. More detailed divisions are accomplished with two and three letter combinations. Book shelves in most academic libraries are marked with a Library of Congress letter-number combination to correspond to the Library of Congress

letter-number combination on the spines of library materials. This is often referred to as a call number and it is noted in the catalog record of every physical item on the library shelves.

Harry uses the call numbers to locate some books that he found in the catalog. He is happily surprised to find that there are also some really useful books sitting on the shelf right next to the books he previously identified. This is a handy way to find additional information resources on a topic. It is more efficient to first search the online catalog to locate relevant resources and then search the shelves.

9.3.1.12 - Conclusions

Harry and his classmates have spent time gathering information to help them create a realistic and accurate crisis command center. They accessed and used Web 2.0 information sources in the form of Twitter feeds and blogs. They used online newspapers and the library's online databases to find journal articles. They even gathered some very useful hard copy books.

During this process, the students learned about different ways that information is organized including the Library of Congress classification system. Harry was amazed at the wealth of quality information he was able to gather. It took him a while and the process was more complicated than just searching the web, but Harry now feels more confident about acing the assignment. He also feels that he learned more than how to set up a command center. He learned how to engage in academic research!

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Gather: Finding what you need. (2016). In G. Bobish & T. Jacobson (Eds.), *The information literacy user's guide*. Milne Publishing. https://milnepublishing.geneseo.edu/the-information-literacy-users-guide-an-open-online-textbook/chapter/gather-finding-what-you-need/

Plan: Developing research strategies. (2016). In G. Bobish & T. Jacobson (Eds.), *The information literacy user's guide*. Milne Publishing. https://milnepublishing.geneseo.edu/the-information-literacy-users-guide-an-open-online-textbook/chapter/plan-developing-research-strategies/

Scope: Knowing what is available. (2016). In G. Bobish & T. Jacobson (Eds.), *The information literacy user's guide*. Milne Publishing.

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9.3.2: Sarah's Keywords With Truncation Machine Readable Description

Topic: The involvement of women painters in the Impressionist movement had an effect upon the subjects portrayed.

Concepts: Women and Painters and Impressionist Movement and Subjects

Keyword brainstorming for other words related to Women using truncation to capture all forms of the search term:

- Wom*n OR
- Female* OR
- Mother* OR
- Berthe Morisot OR
- Mary Cassatt

A note about the last two bullets: These are just two of the better known women Impressionists. Other names could be added or substituted.

Keyword brainstorming for other words related to painters using truncation to capture all forms of the search term::

- Painter* OR
- Artist* OR

Keyword brainstorming for other words related to Impressionist Movement using truncation to capture all forms of the search term:

- Impressionis*

Keyword brainstorming for other words related to Subjects using truncation to capture all forms of the search term:

- Subject* OR
- Figure* OR
- Still life OR
- Cityscape

Note: Some systems use a different symbol for internal truncation, which might be called a wildcard. It might be a question mark: woma?n, but it is best to check the "help" or "how to" section of a searchable resource.

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9.4: Evaluating Sources

9.4.1 - Introduction to Evaluation

In 2010, a textbook being used in fourth grade classrooms in Virginia became big news for all the wrong reasons. The book, *Our Virginia* by Joy Masoff, had caught the attention of a parent who was helping her child do her homework, according to an article in The Washington Post. Carol Sheriff was a historian for the College of William and Mary and as she worked with her daughter, she began to notice some glaring historical errors, not the least of which was a passage which described how thousands of African Americans fought for the South during the Civil War.

Further investigation into the book revealed that, although the author had written textbooks on a variety of subjects, she was not a trained historian. The research she had done to write *Our Virginia*, and in particular the information she included about Black Confederate soldiers, was done through the Internet and included sources created by groups like the Sons of Confederate Veterans, an organization which promotes views of history that de-emphasize the role of slavery in the Civil War.

How did a book with errors like these come to be used as part of the curriculum and who was at fault? Was it Masoff for using untrustworthy sources for her research? Was it the editors who allowed the book to be published with these errors intact? Was it the school board for approving the book without more closely reviewing its accuracy?

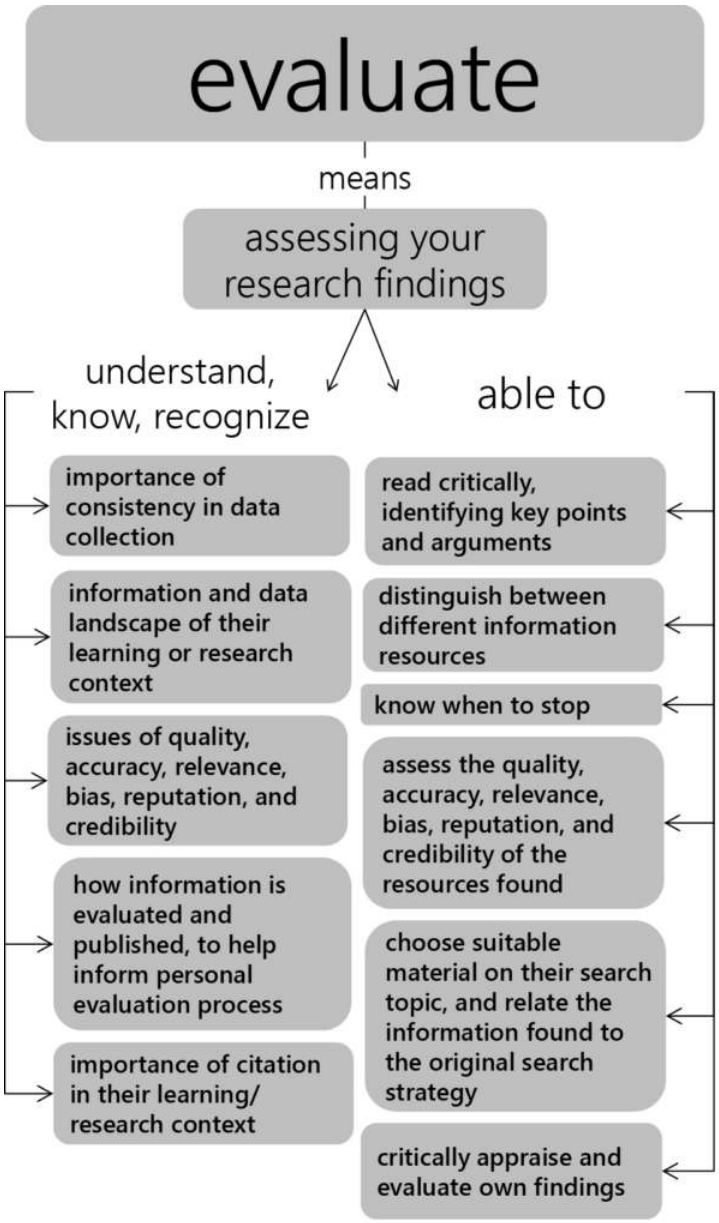
There are a number of issues at play in the case of *Our Virginia*, but there's no question that evaluating sources is an important part of the research process and doesn't just apply to Internet sources. Using inaccurate, irrelevant, or poorly researched sources can affect the quality of your own work. Being able to understand and apply the concept of evaluating sources is crucial to becoming a more savvy user and creator of information.

9.4.2 - Evaluate Pillar

The Evaluate pillar states that individuals are able to review the research process and compare and evaluate information and data. It encompasses important knowledge and abilities.

They understand

- The information and data landscape of their learning/research context
- Issues of quality, accuracy, relevance, bias, reputation and credibility relating to information and data sources
- How information is evaluated and published, to help inform their personal evaluation process
- They are able to
- Distinguish between different information resources and the information they provide
- Choose suitable material on their search topic, using appropriate criteria
- Assess the quality, accuracy, relevance, bias, reputation and credibility of the information resources found
- Assess the credibility of the data gathered
- Read critically, identifying key points and arguments
- Relate the information found to the original search strategy
- Critically appraise and evaluate their own findings and those of others
- Know when to stop
- The importance of consistency in data collection
- The importance of citation in their learning/research context



9.4.3 - Distinguishing between Information Sources

We read about types of sources way back in one of the first weeks of class. Here's a little refresher. Information is published in a variety of formats, each with its own special considerations when it comes to evaluation. Consider the following formats.

9.4.3.1 - Social Media

Social media is a quickly rising star in the landscape of information gathering. Facebook updates, Tweets, wikis, and blogs have made information creators of us all and have a strong influence not just on how we communicate with each other but also on how we learn about current events or discover items of interest.

Anyone can create or contribute to social media and nothing that's said is checked for accuracy before it's posted for the world to see. So do people really use social media for research? Currently, the main use for social media like tweets and Facebook posts is as primary sources that are treated as the objects under study rather than sources of information on a topic. But now that the Modern Language Association has a recommended way to cite a Tweet social media may, in fact, be gaining credibility as a resource.

9.4.3.2 - News Articles

These days, social media will generally be among the first to cover a big news story, with news media writing an article or report after more information has been gathered. News articles are written by journalists who either report on an event they have witnessed firsthand, or after making contact with those more directly involved.

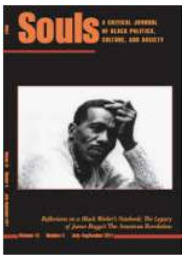
The focus is on information that is of immediate interest to the public and these articles are written in a way that a general audience will be able to understand. These articles go through a fact-checking process, but when a story is big and the goal is to inform readers of urgent or timely information, inaccuracies may occur. In research, news articles are often best treated as primary sources, especially if they were published immediately after a current event.

9.4.3.3 - Magazine Articles

While news articles and social media tend to concentrate on what happened, how it happened, who it happened to, and where it happened, magazine articles are more about understanding why something happened, usually with the benefit of at least a little hindsight.

Writers of magazine articles also fall into the journalist category and rely heavily on investigation and interviews for research. Fact-checking in magazine articles tends to be more accurate because magazines publish less frequently than news outlets and have more time to get facts right. Depending on the focus of the magazine, articles may cover current events or just items of general interest to the intended audience. The language may be more emotional or dramatic than the factual tone of news articles, but the articles are written at a similar reading level so as to appeal to the widest audience possible. A magazine article is considered a popular source rather than a scholarly one, which gives it less weight in an academic research context, but doesn't take away the value of these sources.

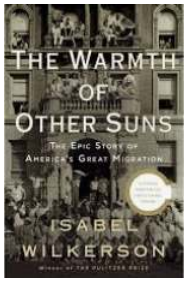
9.4.3.4 - Scholarly Articles



Scholarly articles are written by and for experts and scholars in a field and generally describe formal research studies or experiments conducted to provide new insight on a topic rather than reporting current events or items of general interest. You may have heard the term “peer review” in relation to scholarly articles. This means that before an article is published, it undergoes a review process in order to confirm that the information is accurate and the research it discusses is valid. This process adds a level of credibility to the article that you would not find in a magazine or news article.

Scholarly articles tend to be long and feature specialized language that is not easily understood by someone who does not already have some level of expertise on the topic. Though they may not be as easy to use, they carry a lot of weight in a research context (academic or otherwise), especially if you are working in a field related to science or technology. These sources will give you information to build on in your own original research.

9.4.3.5 - Books



Books have been a staple of the research process since Gutenberg invented the printing press because a topic can be covered in more depth in a book than in most other types of sources. Also, the conventional wisdom for books is that anyone can write one, but only the best ones get published. This is becoming less true as books are published in a wider variety of formats and via a wider variety of venues than in previous eras, which is something to be aware of when using a book for research purposes. For now, the editing process for formally published books is still in place and research in the humanities, which includes topics such as literature and history, continues to be published primarily in this format.

9.4.4 - Choosing Sources

When choosing a source for your research, what criteria do you usually use? Gauging whether the source relates to your topic at all is probably one. How high up it appears on the results list when you search may be another. Beyond that, you may base your decision at least partly on how easy it is to access.

These are all important criteria, to varying degrees, but there are other criteria you should keep in mind when deciding if a source will be useful to your research.

9.4.4.1 - Quality

Scholarly journals and books are traditionally considered to be higher quality information sources because they have gone through a more thorough editing process that ensures the quality of their content. Generally, you also pay more to access these sources or may have to rely on a library or university to pay for access for you. Information on the Internet can also be of a high quality but there is less of a quality assurance process in place for much of that information. In the current climate, the highest quality information, even on the Internet, often requires a subscription or other form of payment for access.

Clues to a source's level of quality are closely related to thinking about how the source was produced, including what format it was published in and whether it is likely to have gone through a formal editing process prior to publication.

9.4.4.2 - Accuracy

A source is accurate if the information it contains is correct. Sometimes it's easy to tell when a piece of information is simply wrong, especially if you have some prior knowledge of the subject. But if you're less familiar with the subject, inaccuracies can be harder to detect, especially when they come in subtler forms such as exaggerations or inconsistencies.

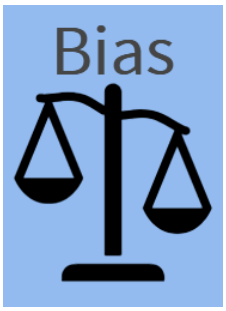
To determine whether a source is accurate, you need to look more deeply at the content of the source, including where the information in the source comes from and what evidence the author uses to support their views and conclusions. It also helps to compare your source against another source. A reader of *Our Virginia* may not have reason to believe the information the author cites from the Sons of Confederate Veterans website is inaccurate, but if they compared the book against another source, the inconsistencies might become more apparent.

9.4.4.3 - Relevance

Relevance has to do with deciding whether the source actually relates to your topic and, if it does, how closely it relates. Some sources may be an exact match; for others, you may need to consider a particular angle or context before you can tell whether the source applies to your topic. When searching for relevant sources, you should keep an open mind—but not too open. Don't pick something that's not really related just because it's on the first page or two of results or because it sounds good.

You can assess the relevance of a source by comparing it against your research topic or research question. Keep in mind that the source may not need to match on all points, but it should match on enough points to be usable for your research beyond simply satisfying a requirement for an assignment.

9.4.4.4 - Bias



An example of bias is when someone expresses a view that is one-sided without much consideration for information that might negate what they believe. Bias is most prevalent in sources that cover controversial issues where the author may attempt to persuade their readers to one side of the issue without giving fair consideration to the other side of things. If the research topic you are using has ever been the cause of heated debate, you will need to be especially watchful for any bias in the sources you find.

Bias can be difficult to detect, particularly when we are looking at persuasive sources that we want to agree with. If you want to believe something is true, chances are you'll side with your own internal bias without consideration for whether a source exhibits bias. When deciding whether there is bias in a source, look for dramatic language and images, poorly supported evidence against an opposing viewpoint, or a strong leaning in one direction.

9.4.4.5 - Reputation

Is the author of the source you have found a professor at a university or a self-published blogger? If the author is a professor, are they respected in their field or is their work heavily challenged? What about the publication itself? Is it held in high regard or relatively unknown? Digging a little deeper to find out what you can about the reputation of both the author and the publication can go a long way toward deciding whether a source is valuable.

You can investigate the reputation of an author by looking at any biographical information that is available as part of the source. Looking to see what else the author has published and whether this information has positive reviews is also important in establishing whether the author has a good reputation. The reputation of a publication can also be investigated through reviews, word-of-mouth by professionals in the field, or online databases that keep track of statistics related to a journal's credibility.

9.4.4.6 - Credibility

Credibility has to do with the believability or trustworthiness of a source based on evidence such as information about the author, the reputation of the publication, and how well-formatted the source is. How likely would you be to use a source that was written by someone with no expertise on a topic or a source that appeared in a publication that was known for featuring low quality information? What if the source was riddled with spelling and formatting errors? Looking at sources like these should inspire more caution.

Objectively, credibility can be determined by taking into account all of the other criteria discussed for evaluating a source. Knowing that some types of sources, such as scholarly journals, are generally considered more credible than others, such as self-published websites, may also help. Subjectively, deciding whether a source is

credible may come down to a gut feeling. If something about a source doesn't sit well with you, you may decide to pass it over.

9.4.5 - Evaluating Your Findings

In the case of *Our Virginia*, the author used a biased source as part of her research and the inaccurate information she got from that source affected the quality of her own work. Likewise, if anyone had used her book as part of their research, it would have set off a chain reaction, since whatever information they cited from *Our Virginia* would naturally have to be called into question, possibly diminishing the value of their own conclusions.

Evaluating the sources you use for quality, accuracy, relevance, bias, and credibility is a good first step in making sure this doesn't happen, but have you ever thought about evaluating the sources used by your own sources? This takes extra time, but looking at the reference list, bibliography, or notes section of any source you use to gauge the quality of the research done by the author of that source can be an important extra step.

9.4.6 - The 5 Ws of Source Evaluation

The five Ws refer to five W questions. You've probably explored these W questions in other classes - but here, we'll apply them to source evaluation.

The beauty of the who, what, when, where, and why questions of information evaluation is that they can be applied to any source. They help you determine whether a source is relevant (meets your information need) and credible (provides reliable, accurate information). Relevant, credible sources are the foundations for strong research papers. Here's what to ask when you're looking at a possible source:

1. **Who** is the author of the source? Who published the source? Are they experts?
2. **What** is the purpose of the information source?
3. **When** was the source created? Has it been updated?
4. **Where** can I verify the information?
5. **Why** would I use this source instead of another one?

Let's take a deep dive into the Ws to see how to apply these questions effectively when looking at sources.

9.4.7 - Who & What

9.4.7.1 - Who

Who is the author of the source? Who published the source? Are they experts?

You should explore the “who” for every source you’re considering (examples: book, website, article, etc.). Look for author names and credentials (examples: job title or degrees). Look for professional connections that might be notable, such as membership in an organization or employment with an institution.

The who also applies to publishing. Who is responsible for publishing the source? Was it an individual posting on a personal blog? Or was it a book published by a university? The publisher can provide clues about the quality of the source and what kind of review process it’s gone through before it was released to the public.

9.4.7.1.1 - Where to find information about the author/publisher:

Photo by Jon Collier 2.0

- **Books:** Look inside the book cover or at the end of the book for a biography of the author. Check the title page or OneSearch record for publisher information.
- **Newspapers/Magazines/Journals:** Look at the top or bottom of an article for an author’s name and credentials (like their level of education), or information about where they work. Check the top of the page or OneSearch record for the name of the publication.
- **Websites:** Look for hyperlinks on authors’ names, which often link to short biographies. Look at the top or bottom of the page for an “About” section for publisher information. Don’t assume that the webmaster is also the author of the website’s content.
- **Films:** Look at the opening or closing credits for writer, director, and performers. For YouTube content, take a look at the channel and look for links to external pages with more information.

For all of these sources, it’s not enough to simply identify the author or publisher - you need to use that information to establish credibility. Questions you might ask yourself:

- Has the author studied and written a lot about the topic, making them an expert?
- Has the author’s life and experiences given them a unique perspective? Consider the fact that there may be different types of experts for any given topic, and the expertise you seek might differ based on the purpose of your research or how you plan to use that particular source.
- Is the publisher well-respected?

If you can’t find answers to these questions inside the source, Google the author/publisher to find any related news, credentials, or affiliations.

9.4.7.2 - What

What is the purpose of the information source?

People can have lots of reasons for creating and sharing information. They may want to use that information to sell you something, to persuade you, to share research findings, to inform or entertain you. This purpose may be obvious or it may be hidden.

For example, the purpose of a well-respected newspaper like the *New York Times* is to report on current events in a variety of spheres (politics, culture, sports, etc.), and share informed opinions with the public. An academic journal like the *Journal of the American Medical Association* is designed to share original research and scholarly communication with a professional community. A website promoting tourism in a particular city will provide information portraying that place in the best possible light and carry glowing reviews and advertisements for local restaurants, hotels, and other businesses.

Your job as a researcher is to look at the source, read the language, observe the layout and context, and try to determine the source's purpose.

9.4.8 - When

When was the source created? Has it been updated?

Look for a date of publication or creation as you are selecting sources. Check to see if the source has been updated recently. We use the term currency to describe how up-to-date and timely an information source is. If you can't find a date of publication, look for clues in the text to figure out if the source is old. Old sources might have broken links or might refer to old news or facts.

When evaluating for currency, keep in mind that the ideal date of publication might vary depending on your topic and on the type of source you are using.

Up-to-date information is critical when you research rapidly-changing topics such as scientific information (including medical topics) and technological advancements. However, when you are researching long-standing social or political issues, or topics in history, humanities, and social sciences, the age of sources may not be as important. In these fields, interpretations change over time, but more slowly. These topics often need a balance of older and newer sources. Older sources may help you understand the historical context and reasons why we have current problems. Newer sources may describe recent events and developments related to the issue.

For sources that provide an overview or background information (e.g. encyclopedias) the facts typically remain relevant for decades.

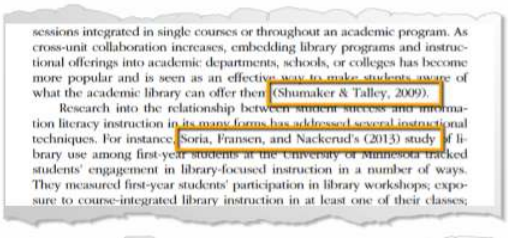
This short video can help you reinforce the things to look for when evaluating "When."

9.4.9 - Where

Where can I verify the information?

It may seem obvious, but when you're selecting sources for a research assignment you want to gather credible information. How can you tell if something is credible and accurate? This is the "Where" - Where can the information be verified? Look for the following clues inside the source:

9.4.9.1 - Source citations:


sessions integrated in single courses or throughout an academic program. As cross-unit collaboration increases, embedding library programs and instructional offerings into academic departments, schools, or colleges has become more popular and is seen as an effective way to make students aware of what the academic library can offer them (Shumaker & Talley, 2009).

Research into the relationship between student success and information literacy instruction in its many forms has addressed several instructional techniques. For instance, Soria, Fransen, and Nackerud's (2013) study of library use among first-year students at the University of Minnesota tracked students' engagement in library-focused instruction in a number of ways. They measured first-year students' participation in library workshops; exposure to course-integrated library instruction in at least one of their classes;

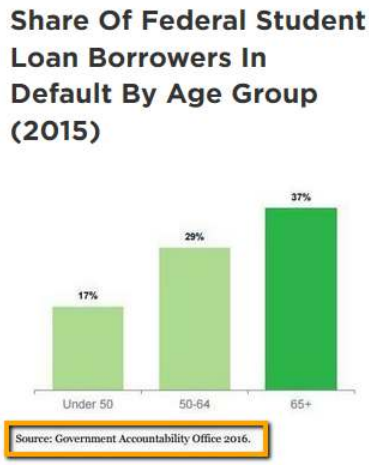
You are asked to cite sources in your research assignments, and your instructors are probably pretty critical if you don't do it up to their standards. So turn that idea around. You should be just as critical of the sources you're using, and make sure authors are telling you where they got their information and how they came to their conclusions.

Just like you, professionals and experts also research, read, and cite from others. When a source includes citations, it's a clue that the source you are reading is based on more than just one person's knowledge or opinions.

Citations can be formal (e.g. list of references or endnotes) and include all the details of consulted sources, or they can be informal with a good in-text citation. The best in-text citations give you enough detail to allow you to find the original source (e.g. names and publishers of research studies or hyperlinks to original sources).

But the mere fact that a source includes citations doesn't automatically mean it's credible. Take a look at who the author is quoting or referencing and evaluate their authority on the topic.

9.4.9.2 - Use of data as evidence:



Data can be a powerful tool to back up claims, persuade, or illustrate a point. Writers often include statistics, charts, graphs, and other forms of evidence to support their arguments or findings. As a savvy researcher, it's important to look carefully at data and ask questions including:

- How was the data gathered?
- Who gathered the data and is there any evidence of bias or conflicts of interest in the data collection? (e.g. an oil company who funded research showing few emission-related pollutants in the environment).
- Is there sufficient data to support the claims the author is making?

- Is the author “cherry-picking” facts that support their opinions or drawing conclusions that aren’t proven by the data collected?

9.4.9.3 - Agreement among experts:

Another clue for accuracy is whether experts generally agree with the information presented in a source. There will always be hot-button issues like gun violence or immigration about which there is controversy. Even though experts might disagree about the correct solutions or policies, there will be clustering or agreement on certain ideas. If you come across a source that goes against everything you’ve read or know about a topic, apply the 5 Ws to evaluate its credibility.

9.4.9.4 - Peer Reviewed Journals:

Peer-reviewed or refereed sources are articles in academic journals that have undergone an intensive screening process. The articles have been reviewed by a panel of experts in that subject area before they are published. The journal appoints this peer review panel and asks them to look for specific criteria in each article including quality of research, additions to the field of study, and making sure the research abides by the journal’s high standards.

9.4.10 - Why

Why would I use this source instead of another one?

Your final evaluation task is to decide whether the source provides relevant information that helps you answer your research question. Keep in mind that you’ll select several sources for your research assignment, and each source should serve a specific purpose.

One source might give you background information to help you understand and focus your topic. Other sources might provide specific evidence in the form of research studies to back up claims you're making. A different source might tell the personal story of someone who has lived and experienced the focus of your topic. Notice that each source has a different purpose and provides a different type of information. By using all these sources in your research paper, you’re able to discuss history, bring in credible evidence, and show the personal side of this issue. The paper will be well-rounded and thorough.

Here are some factors to look at when thinking about relevancy and the reasons why you would use a source.:

9.4.10.1 - Scope:

Scope refers to the amount of information and focus of the source. Think of a telescope. Is the source zoomed in to examine an individual or single element of your topic, or is the source zoomed out to look at the big picture examining the entire topic and the background, history, or other surrounding issues? Is the source short or long? There’s certainly more information in a 300-page book than in a 2-paragraph article.

9.4.10.2 - Perspective:

When preparing a research paper, it can be helpful to select sources that represent different perspectives on an issue. Perspective describes the point of view of the source. Is the source providing an expert’s opinion on an issue, an interview with a victim or survivor of an event, or a researcher’s view based on a new study they completed?

For a controversial issue, look for sources that agree with your position on the issue, and look for a few sources that oppose your position. The best persuasive arguments have good evidence to back up claims, while still acknowledging opposing views on an issue.

Now that we’ve covered all 5 Ws, we can put our evaluation skills together to select the best sources. Measure each source you encounter using the 5 W questions (Who, What, When, Where, Why), and then compare one source against another to select the most relevant and credible information for your topic. Remember that using credible and relevant information will help you be a thorough, thoughtful, and accurate researcher.

9.4.11 - Strategic Searching

The key to finding relevant and credible sources related to your topic is sometimes just as simple as searching in the right place. Keep in mind that you’ll have an easier time finding certain types of information using different search tools. Let’s look briefly at the differences between starting your search at Google (or any other search engine) versus starting at your college library using a library database.

	Types of Sources	Access	Authority	Relevance
Google	websites, statistics, images, social media, shopping, and more	Published content like books, journal articles, and news often require payment to access	Can range from very good to very bad and can be difficult to verify.	Results are based on search terms and popularity of links. Some searches include irrelevant or duplicate links.
Library Database	books, ebooks, journal articles, newspapers, magazines, films, and more	All resources are paid for by the college and provided to students for **FREE**.	Authority is easier to confirm. Many sources are published through formal processes including editing before release. Database contains filters to distinguish scholarly material, including limiting results to peer-reviewed journals.	Relevancy is controlled by using keywords. Users can focus search with limiters (e.g. subject, source type, etc.). Duplicate results are generally removed.

9.4.12 - Knowing When to Stop

For some researchers, the process of searching for and evaluating sources is a highly enjoyable, rewarding part of doing research. For others, it's a necessary evil on the way to constructing their own ideas and sharing their own conclusions. Whichever end of the spectrum you most closely identify with, here are a few ideas about the ever-important skill of knowing when to stop.

9.4.12.1 - You've satisfied the requirements for the assignment and/or your curiosity on the topic

If you're doing research as part of a course assignment, chances are you've been given a required number of sources. Novice researchers may find this number useful to understand how much research is considered appropriate for a particular topic. However, a common mistake is to focus more on the number of sources than on the quality of those sources. Meeting that magic number is great, but not if the sources used are low quality or otherwise inappropriate for the level of research being done.

9.4.12.2 - You have a deadline looming

Nothing better inspires forward motion in a research project than having to meet a deadline, whether it's set by a professor, an advisor, a publisher, or yourself. Time management skills are especially useful, but since research is a cyclical process that sometimes circles back on itself when you discover new knowledge or change direction, planning things out in minute detail may not work. Leaving yourself enough time to follow the twists and turns of the research and writing process goes a long way toward getting your work in when it's expected.

9.4.12.3 - You need to change your topic

You've been searching for information on your topic for a while now. Every search seems to come up empty or full of irrelevant information. You've brought your case to a research expert, like a librarian, who has given advice on how to adjust your search or how to find potential sources you may have previously dismissed. Still nothing. It could be that your topic is too specific or that it covers something that's too new, like a current event that hasn't made it far enough in the information cycle yet. Whatever the reason, if you've exhausted every available avenue and there truly is no information on your topic of interest, this may be a sign that you need to stop what you're doing and change your topic.

9.4.12.4 - You're getting overwhelmed

The opposite of not finding enough information on your topic is finding too much. You want to collect it all, read through it all, and evaluate it all to make sure you have exactly what you need. But now you're running out of room on your flash drive, your Dropbox account is getting full, and you don't know how you're going to sort through it all and look for more. The solution: stop looking. Go through what you have. If you find what you need in what you already have, great! If not, you can always keep looking. You don't need to find everything in the first pass. There is plenty of opportunity to do more if more is needed!

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9.5: Critical Reading

9.5.1 - Reading for Understanding

Reading is a much harder skill to master than we think, and many instructors take this for granted when assigning academic material. We forget how hard it is to read and actually understand information that might be completely new to us.

The next bit of reading is an excerpt from the book, *Reading for understanding: How reading apprenticeship improves disciplinary learning in secondary and college classrooms*. I included it here because it really defines reading and how learning to read critically will help you become a better researcher.

Read: Excerpt from chapter 2: The Reading Apprenticeship Framework

9.5.2 - Read, Re-read, Read Again

Reading critically takes skill and time. In order to really grasp hard material, it's recommended that you read it at least three times:

1. **Read for an Overview** - Read quickly, to get a general picture of the writer's purpose (central arguments), methods, and conclusions. The author is not going to explicitly spell everything out for you - it's up to you to figure out what the information is about.
2. **Read for Understanding** - Once you have a general idea, read a second time more carefully to gain a critical, thoughtful understanding of the key points. Think about what the author is presenting - do they provide evidence and do you find the arguments convincing? (Use some of your evaluation skills here.)
3. **Read for Note Taking and Summary** - As you read a third time, begin to take brief notes about arguments, evidence, conclusions, or questions you still have.

9.5.3 - Identifying Key Points and Arguments

Step one is relatively easy - this is how we read most everything. We skim through an article or online post to get the general meaning and an overview. Steps two and three become more difficult. When looking for key points and arguments, you are trying to determine how (or even if) you will use the source for your own research.

There are some places that commonly contain this type of information so these sections might be good places to start.

9.5.3.1 - Abstract

If it's an academic journal article, it often includes an abstract. this is a one to two paragraph summary of the article that might include a research question, information on research subjects, and a very quick summary of findings. It is an excellent place to look to determine whether the research article is going to help you further your arguments.

9.5.3.2 - Introduction

The purpose of the introduction to any piece that has one is to give information about what the reader can expect from the source as a whole. There are different types of introductions, including forewords and prefaces that may be written by the author of the book or by someone else with knowledge of the subject. Introductory sections can include background information on why the topic was chosen, background on the author’s interest in the topic, context pertaining to why the topic is important, or the lens through which the topic will be explored. Knowing this information before diving in to the body of the work will help you understand the author’s approach to the topic and how it might relate to the approach you are taking in your own research.

9.5.3.3 - Table of Contents

Most of the time, if your source is a book or an entire website, it will be divided into sections that each cover a particular aspect of the overall topic. It may be necessary to read through all of these sections in order to get a “big picture” understanding of the information being discussed or it may be better to concentrate only on the areas that relate most closely to your own research. Looking over the table of contents or menu will help you decide whether you need the whole source or only pieces of it.

9.5.3.4 - List of References

If the source you're using is research-based, it should have a list of references that usually appears at the end of the document. Reviewing these references will give you a better idea of the kind of work the author put into their own research. Did they put as much work into evaluating their sources as you are? Can you tell from the citations if the sources used were credible? When were they published? Do they represent a fair balance of perspectives or do they all support a limited point of view? What information does the author use from these sources and in what way does he or she use that information? Use your own research skills to spy on the research habits of others to help you evaluate the source.

9.5.4 - Taking Notes about a Text

Note taking is sometimes referred to as annotating. Annotating simply means to take notes about the text you are reading. Some people hand-write directly on the document, some people hand-write separate notes on another piece of paper or in a notebook, and some people type up notes - you should do what feels best to you. There is research that shows that hand-writing notes with a good old fashioned paper and pen will help you retain more information than note taking on a computer (Goodwin, 2018).

9.5.4.1 - Strategies for Connecting Reading and Writing

If you want to become a critical reader, you need to get into a habit of writing as you read. You also need to understand that complex texts cannot be read just once. Instead, they require multiple readings, the first of which may be a more general one during which you get acquainted with the ideas presented in the text, its structure and style. During the second and any subsequent readings, however, you will need to write, and write a lot. The following are some critical reading and writing techniques which active readers employ as they work to create meanings from texts they read.

- **Underline interesting and important places in the text**: Underline words, sentences, and passages that stand out, for whatever reason. Underline the key arguments that you believe the author of the text is making as well as any evidence, examples, and stories that seem interesting or important. Don't be afraid to "get it wrong." There is no right or wrong here. The places in the text that you underline may be the same or different from those noticed by your classmates, and this difference of interpretation is the essence of critical reading.
- **Take notes**: Take notes on the margins. If you do not want to write on your book or journal, attach post-it notes with your comments to the text. Do not be afraid to write too much. This is the stage of the reading process during which you are actively making meaning. Writing about what you read is the best way to make sense of it, especially, if the text is difficult. Do not be afraid to write too much. This is the stage of the reading process during which you are actively making meaning. Writing about what you read will help you not only to remember the argument which the author of the text is trying to advance (less important for critical reading), but to create your own interpretations of the text you are reading (more important).
- **Keep a double entry journal**: Many writers like double-entry journals because they allow us to make that leap from summary of a source to interpretation and persuasion. To start a double-entry journal, divide a page into two columns. As you read, in the left column write down interesting and important words, sentences, quotations, and passages from the text. In the right column, right your reaction and responses to them. Be as formal or informal as you want. Record words, passages, and ideas from the text that you find useful for your paper, interesting, or, in any, way striking or unusual. Quote or summarize in full, accurately, and fairly. In the right-hand side column, ask the kinds of questions and provide the kinds of responses that will later enable you to create an original reading of the text you are working with and use that reading to create your own paper
- **Don't give up**: If the text you are reading seems too complicated or "boring," that might mean that you have not attacked it aggressively and critically enough. Complex texts are the ones worth pursuing and investigating because they present the most interesting ideas. Critical reading is a liberating practice because you do not have to worry about "getting it right." As long as you make an effort to engage with the text and as long as you are willing to work hard on creating a meaning out of what you read, the interpretation of the text you are working with will be valid.

In this video, the instructor is addressing an English class as she explains how to annotate a text. Many of the tips and suggestions she gives can apply to any type of critical reading for research. Take note of the suggestions she offers when annotating (underlining, highlighting, making notes in the margins). You'll be asked to annotate a source this week so you should decide what methods are most effective for you.

Click to access the link to open the video in a new tab.

9.5.5 - Guiding Questions

As you take notes - you should be having a conversation with the text - this is called "talking to the text" and it will help you better understand what you're reading. This is also a time to pick out those pieces of the source that are going to help answer your research question or support your thesis.

Reading critically means you are analyzing the logic of the article and/or chapter or section of a book. We'll be getting more into logical arguments next week. For now, here are some questions or prompts you can use to analyze logic while talking to the text:

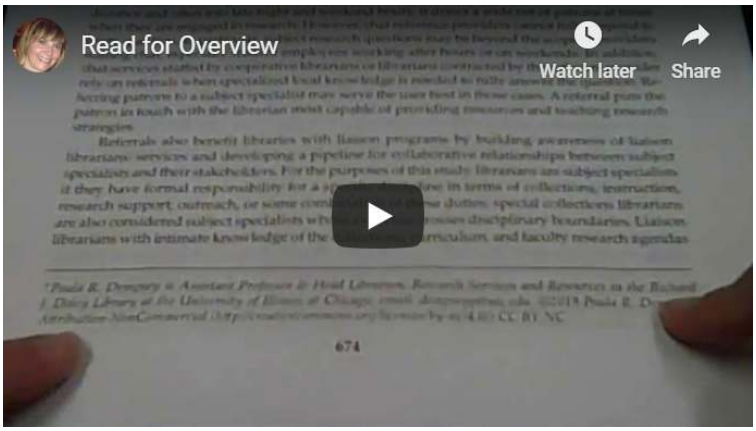
1. What is the main purpose of this article or chapter/section?
2. What are the key questions the author is addressing?
3. What is the most important information in this article or chapter/section and how can I use this to support my research and thesis?
4. What are the main conclusions in this article or chapter/section? Can I use them to support my thesis?

In this series of videos, I go through some of the steps I've outlined in the reading this week to give you an example of how one might "talk to the text."

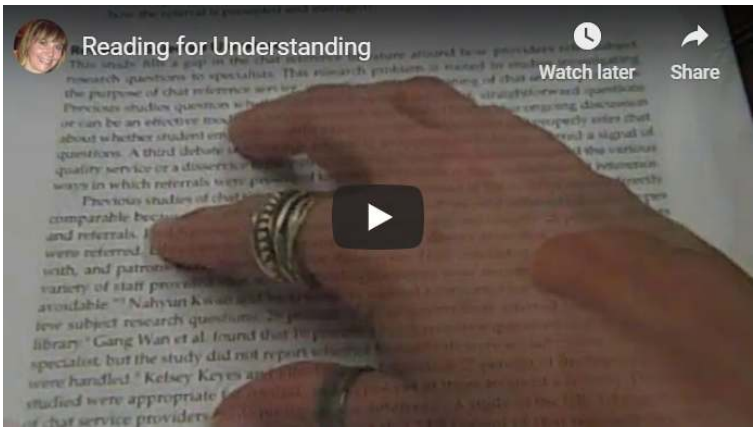
You will be challenged this week to practice "talking to the text" with one of your sources. You'll share your findings with me in an assignment and with your small-group.

9.5.5.1 - Video One: Reading for an Overview

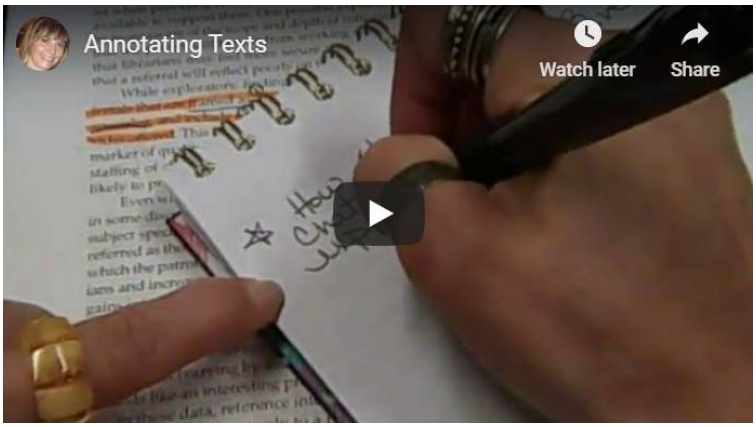
Click on the image to access the link to open the video in a new tab.



9.5.5.2 - Video Two: Reading for Understanding



9.5.5.3 - Video Three: Reading to Annotate (Taking Notes)



9.5.5.3.1 - Another Example of Talking to the Text

Zoe Fisher is a librarian at Pierce College in Washington. She is using a popular-type source (magazine article) to model talking to the text using the reader apprenticeship model.

All of the notes she makes could potentially become ideas she might use and pull out in a research assignment or other writing project.

If you're curious, the article she is reading and talking to is: Jabr, F. (2013). Why the Brain Prefers Paper. *Scientific American, 309*(5), 48.

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9.6: Persuasive Appeals

9.6.1 - Rhetorical Analysis and the Rhetorical Triangle

A rhetorical analysis refers to the process of analyzing a text, source, or artifact. It may be in written form (like your sources) or some other form of communication like a speech. The goal of a rhetorical analysis is to take into consideration the purpose, audience, and the occasion (or the context in which the text will be written or read).

The term rhetoric is often connected to argument or criticism, and often carries a negative connotation (e.g., "The political rhetoric is so divisive."). But rhetoric is really a neutral term. It's the effort to use rhetorical appeals to influence an audience and achieve a certain set of purposes and outcomes.

The principles Aristotle laid out in his Rhetoric nearly 2,500 years ago still form the foundation of much of our contemporary practice of argument. Aristotle argued that rhetoric was present in every situation. Have you ever heard the phrase, "Everything's an argument"? - This refers to Aristotle's definition of rhetoric, which he defined as "the faculty of observing in any given case the available means of persuasion" (Aristotle). The rhetorical situation Aristotle argued was present in any piece of communication is often illustrated with a triangle to suggest the interdependent relationships among its three elements:

- Ethos or the voice of the speaker or writer and how they establish their credibility
- Pathos or the audience and the emotional connection that's established with the intended listeners or readers
- Logos or the message and how logically it is conveyed

If each corner of the triangle is represented by one of the three elements of the rhetorical situation, then each side of the triangle depicts a particular relationship between two elements:

- Tone - The connection established between the speaker and the audience.
- Attitude - The orientation of the speaker toward the message; the purpose of the message
- Reception - The manner in which the audience receives the message conveyed

9.6.2 - Rhetorical Appeals

In this section, we'll focus on how the rhetorical triangle can be used in service of argumentation, especially through the balanced use of ethical, logical, and emotional appeals: ethos, logos, and pathos, respectively. In the rhetorical triangle, you'll note that each appeal has been placed next to the corner of the triangle with which it is most closely associated:

- Ethos - Appeals to the audience's ethics. Ethos relies on the credibility, reputation, and trustworthiness of the speaker or writer (most closely associated with the voice).
- Logos - Appeals to the audience's logic. Logos relies on reason, logic, and facts in the argument (most closely associated with the message).

- Pathos - Appeals to emotion. Pathos relies on stirring the emotions (sympathy, anger, pride, etc.) of the listeners or readers (most closely associated with the audience).

Each of these appeals relies on a certain type of evidence: logical, emotional, or ethical. Based on your audience and purpose, you have to decide what combination of techniques will work best as you present your case. Some of the best arguments use a combination of all three.

9.6.2.1 - The Appeal to Ethics (Ethos)

Ethos is an appeal to the audiences' ethics and relies on the credibility of the author. When reading a source, you should ask yourself, "Why should I trust you?" In other words, "How has the author established their credibility?" The same holds true when you are writing. You want to establish reasons for your audience to trust you.

For example, a college professor who places a college logo on a website gains some immediate credibility from being associated with the college. An advertisement for tennis shoes using a well-known athlete gains some credibility. You might create an ethical appeal in an essay on solving a campus problem by noting that you are serving in student government.

Three of the best ways to demonstrate ethos are:

- By personal experience: Although your lived experience might not set hard and-fast rules about the world, it is worth noting that you may be an expert on certain facets of your life. For instance, a student who has played rugby for fifteen years of their life is in many ways an authority on the sport.
- By education or other certifications: Professional achievements demonstrate ethos by revealing status in a certain field or discipline.
- By citing other experts: The common expression is “Stand on the shoulders of giants.” This is actually the tag line of Google Scholar. You can develop ethos by pointing to other people with authority and saying, “Look, this smart/experienced/qualified/important person agrees with me.”

As a student, you might not have enough experience to persuade your audience that you're an expert. In these cases, you can establish your credibility by using reliable sources and acknowledging those who've helped you learn more about the topic (citing your sources). The appeal to ethics can add an important component to your argument, but keep in mind that ethos is only as strong as the credibility of the association being made. In other words, if you're not citing very good sources, then you're harming your ethical appeal to the audience.

9.6.2.2 - The Appeal to Logic (Logos)

Logos refers to an appeal to the audience's logical reasoning. Logos will often employ statistics, data, or other quantitative facts to demonstrate the validity of an argument. For example, in an essay proposing that participating in high school athletics helps students develop into more successful students, you could show graphs comparing the grades of athletes and non-athletes, as well as high school graduation rates and post–high school education enrollment. These statistics would support your points in a logical way and would probably work well with a school board that is considering cutting a sports program.

Keep in mind that stating a fact or a statistics does not alone constitute logos.You need to make sure your interpretation of the logic is sound. If it's not, it's described as a logical fallacy. We'll explore this further in the next page of reading.

9.6.2.3 - The Appeal to Emotions (Pathos)

The goal of an emotional appeal is to garner sympathy, develop anger, instill pride, inspire happiness, or trigger other emotions. When authors choose this method, their goal is for the audience to react emotionally regardless of what they might think logically.

There are two especially effective techniques for cultivating pathos:

- Make the audience aware of the issue’s relevance to them specifically. “How would you feel if this happened to you? What are we to do about this issue?”
- Tell stories. A story about one person or one community can have a deeper impact than broad, impersonal data or abstract, hypothetical statements. Consider the difference between these two appeals:
  - About 1.5 million pets are euthanized each year
  - Scooter, an energetic and loving former service dog with curly brown hair like a Brillo pad, was put down yesterday.

- Both are impactful, but the latter is more memorable and more specific.

Unfortunately, emotional appeals are also often used unethically to sway opinions without solid reasoning.

Whether your argument relies primarily on ethos, logos, pathos, or a combination of these appeals, plan to make your case with your entire arsenal of facts, statistics, examples, anecdotes, illustrations, figurative language, quotations, expert opinions, discountable opposing views, and common ground with the audience. Carefully choosing these supporting details will control the tone of your writing as well as the success of your argument.

9.6.2.4 - How to Use Rhetoric to Get What You Want

This video by Camille Langston from from TED-Ed gives you another quick overview of rhetorical appeals.

9.6.3 - Inductive and Deductive Reasoning

There are two basic approaches to how you believe something is true. These are called inductive and deductive reasoning.

9.6.3.1 - Inductive Reasoning

Inductive reasoning presents facts and then wraps them up with a general conclusion. For instance, you visit your local grocery store daily to pick up necessary items. You notice that on Friday, two weeks ago, all the clerks in the store were wearing football jerseys. Again, last Friday, the clerks wore their football jerseys. Today, also a Friday, they're wearing them again. From just these observations, you can conclude that on all Fridays, these supermarket employees will wear football jerseys to support their local team. This type of pattern recognition, leading to a conclusion, is known as inductive reasoning.

9.6.3.1.1 - The Power of Inductive Reasoning

You have been employing inductive reasoning for a very long time. Inductive reasoning is based on your ability to recognize meaningful patterns and connections. By taking into account both examples and your understanding of how the world works, induction allows you to conclude that something is likely to be true. By using induction, you move from specific data to a generalization that tries to capture what the data "mean."

Imagine that you ate a dish of strawberries and soon afterward your lips swelled. Now imagine that a few weeks later you ate strawberries and soon afterwards your lips again became swollen. The following month, you ate yet another dish of strawberries, and you had the same reaction as formerly. You are aware that swollen lips can be a sign of an allergy to strawberries. Using induction, you conclude that, more likely than not, you are allergic to strawberries.

- **Data:** After I ate strawberries, my lips swelled (1st time).
- **Data:** After I ate strawberries, my lips swelled (2nd time).
- **Data:** After I ate strawberries, my lips swelled (3rd time).
- **Additional Information:** Swollen lips after eating strawberries may be a sign of an allergy.
- **Conclusion:** Likely I am allergic to strawberries.

The results of inductive thinking can be skewed if relevant data are overlooked. In the previous example, inductive reasoning was used to conclude that you are likely allergic to strawberries after suffering multiple instances of lips swelling after eating them.

Would you be as confident in your conclusion if you were eating strawberry shortcake on each of those occasions? Is it reasonable to assume that the allergic reaction might be due to another ingredient besides strawberries?

This example illustrates that inductive reasoning must be used with care. When evaluating an inductive argument, consider

- the amount of the data,
- the quality of the data,
- the existence of additional data,
- the relevance of necessary additional information, and
- the existence of additional possible explanations.

Inductive reasoning can never lead to absolute certainty. Instead, induction allows you to say that, given the examples provided for support, the claim more likely than not is true. Because of the limitations of inductive reasoning, a conclusion will be more credible if multiple lines of reasoning are presented in its support.

9.6.3.2 - Deductive Reasoning

Knowledge can also move the opposite direction. Deductive reasoning presents a generalization (think thesis statement), then provides supportive facts to back up that generalization.

Say that you read in the news about a tradition in a local grocery store, where employees wore football jerseys on Fridays to support the home team. This time, you're starting from the overall rule, and you would expect individual evidence to support this rule. Each time you visited the store on a Friday, you would expect the employees to wear jerseys. Such a case, of starting with the overall statement and then identifying examples that support it, is known as deductive reasoning.

9.6.3.2.1 - The Power of Deductive Reasoning

Deductive reasoning is built on two statements whose logical relationship should lead to a third statement that is an unquestionably correct conclusion. In other words, one fact plus one fact equal a third fact. Here's an example:

1. All raccoons are omnivores.
2. This animal is a raccoon.
3. This animal is an omnivore.

If the first statement is true (All raccoons are omnivores) and the second statement is true (This animal is a raccoon), then the conclusion (This animal is an omnivore) is unavoidable. If a group must have a certain quality, and an individual is a member of that group, then the individual must have that quality.

Going back to the very first example from the introduction, we could frame it this way:

1. Grocery store employees wear football jerseys on Fridays.
2. Today is Friday.
3. Grocery store employees will be wearing football jerseys today.

Unlike inductive reasoning, deductive reasoning allows for certainty only as long as the evidence is a true fact.

What this means is that inductive reasoning can often be hidden inside a deductive argument. That is, a generalization reached through inductive reasoning can be turned around and used as a starting "truth" for a deductive argument. Here's an example:

1. Most Labrador retrievers are friendly.
2. Kimber is a Labrador retriever.
3. Therefore, Kimber is friendly.

In this case we cannot know for certain that Kimber is a friendly Labrador retriever. The structure of the argument may look logical, but it is based on observations and ***generalizations*** rather than indisputable facts.

One way to test the accuracy of a premise is to apply the same questions asked of inductive arguments. As a recap, you should consider:

- the amount of the data,
- the quality of the data,

- the existence of additional data,
- the relevance of the additional data, and
- the existence of additional possible explanations.

Determine whether the starting claim is based upon a sample that is both representative and sufficiently large, and ask yourself whether all relevant factors have been taken into account in the analysis of data that leads to a generalization.

Here is a video that briefly explains the difference between inductive and deductive reasoning.

9.6.4 - Logical, Emotional, or Ethical Fallacies

Rhetorical appeals used in argumentation have power. They can be used to motivate or to manipulate. When they are used irresponsibly, they lead to fallacies, which are misleading statements and constructions used in argumentation.

Fallacies are, at best, unintentional reasoning errors, and at worst, they are deliberate attempts to deceive. Fallacies are commonly used in advertising and politics, but they are not acceptable in academic arguments and won't serve you well in the workplace either. The following are some examples of three kinds of fallacies that abuse the power of logical, emotional, or ethical appeals (logos, pathos, or ethos).

Logical Fallacies	Definition	Examples
Begging the question (or circular reasoning)	The point is simply restated in different words as proof to support the point.	Of course animals have rights, just look at how they're being treated.
Either/or fallacy.	A situation is presented as a an "either/or" choice when in reality, there are more than just two options	Either I start college this fall or I work in a factory for the rest of my life.
Hasty generalization	A conclusion is reached with insufficient evidence.	Mrs. Dobson's Rottweiler bit a neighbor boy. All Rottweilers are violent dogs.
Red herring	The writer inserts an irrelevant detail into an argument to divert the reader's attention from the main issue.	My room might be a mess, but I got an A in math.
Straw man	The writer rebuts a competing claim by offering an exaggerated or oversimplified version of it.	Our campus is "dry" and doesn't allow alcohol. Obviously the administration is composed of a bunch of puritans who don't speak for the majority and can be ignored.

Emotional Fallacies	Definition	Examples
Flattery	The writer suggests that readers with certain positive traits would naturally agree with the writer's point.	You are a calm and collected person, so you can probably understand what I'm saying.
Group think (or group appeal).	The reader is encouraged to decide about an issue based on identification with a popular, high-status group	The varsity football players all bought some of our fundraising candy. Do you want to buy some?
Riding the bandwagon	The writer suggests that since "everyone" is doing something, the reader should do it too.	The hot thing today is to wear black socks with tennis shoes. You'll look really out of it if you wear those white socks.
Scare tactics (or veiled threats)	The writer uses frightening ideas to scare the readers into agreeing or believing something.	If the garbage collection rates are not increased, your garbage will likely start piling up.
Stereotyping	The writer uses a sweeping, general statement about a group of people in order to prove a point.	Women won't like this movie because it has too much action and violence. OR Men won't like this movie because it's about feelings and relationships.

Ethical Fallacies	Definition	Examples
Guilt by association	An adversary's credibility is attacked because the person has friends or relatives who possibly lack in credibility.	We do not want people like her teaching our kids. Her father is in prison for robbery.
Personal attack (or ad hominem)	An adversary's personal attributes are used to discredit his or her argument.	I don't care if the government hired her as an expert. If she doesn't know enough not to wear jeans to court, I don't trust her judgment about anything.
Poisoning the well	Negative information is shared about an adversary so others will later discredit his or her opinions.	I heard that he was charged with aggravated assault last year, and his rich parents got him off.
Scapegoating	A certain group or person is unfairly blamed for all sorts of problems.	Jake is such a terrible student government president; it is no wonder that it is raining today and our spring dance will be ruined.

Do your best to avoid using these examples of fallacious reasoning, and be alert to their use by others so that you aren't "tricked" into a line of unsound reasoning. Getting into the habit of reading academic, commercial, and political rhetoric carefully will enable you to see through manipulative, fallacious uses of verbal, written, and visual language. Being on guard for these fallacies will make you a more proficient college student, a smarter consumer, and a more careful voter, citizen, and member of your community.

9.6.5 - Spotting Fallacies

It takes time and practice to be able to spot fallacies in arguments. This is a fun website you can use to help you think more critically and test your knowledge on spotting fallacies.

9.6.6 - Rhetorical Theory of Reading

We got into critical reading last week. It's vital to use critical reading to understand a text and to spot rhetoric. You are constantly making meaning from texts. To understand this further, we're going to look at the rhetorical theory of reading.

The work that best describes and justifies the rhetorical reading theory is Douglas Brent's 1992 book *Reading as Rhetorical Invention: Knowledge, Persuasion, and the Teaching of Research-Based Writing*. Brent's ideas do a good job demystifying critical reading's main claims.

Brent treats reading not only as a vehicle for transmitting information and knowledge, but also as a means of persuasion. To Brent, knowledge equals persuasion because, in his words, "Knowledge is not simply what one has been told. Knowledge is what one believes, what one accepts as being at least provisionally true." (xi).

This short passage contains two assertions which are key to the understanding of what's happening when you are reading critically. Notice that simply reading "for the main point" will not necessarily make you "believe" what you read. Surely, such reading can fill our heads with information, but will that information become our knowledge in a true sense, will we be persuaded by it, or will we simply memorize it to pass the test and forget it as soon as we pass it?

All of us can probably recall many instances in which we read a lot to pass a test only to forget, with relief, what we read as soon as we left the classroom where that test was held. The purpose of reading and research, then, is not to get as much information out of a text as possible, but to change and update one's system of beliefs on a given subject (Brent 55-57).

Brent further states:

The way we believe or disbelieve certain texts clearly varies from one individual to the next. If you present a text that is remotely controversial to a group of people, some will be convinced by it and some not, and those who are convinced will be convinced in different degrees. The task of a rhetoric of reading is to explain systematically how these differences arise— how people are persuaded differently by texts (18).

Critical and active readers not only accept the possibility that the same texts will have different meanings for different people, but welcome this possibility as an inherent and indispensable feature of strong, engaged, and enjoyable reading process. To answer his own questions about what factors contribute to different readers' different interpretations of the same texts, Brent offers us the following principles that have been summarized from his book:

- Readers are guided by personal beliefs, assumptions, and pre-existing knowledge when interpreting texts. This is called information bias and we'll be exploring it further later in the course.
- Readers react differently to the logical proofs presented by the writers of texts.
- Readers react differently to emotional and ethical proofs presented by writers. For example, an emotional story told by a writer may resonate with one person more than with another because the first person lived through a similar experience and the second one did not, and so on.

The idea behind the rhetorical theory of reading is that when we read, we not only take in ideas, information, and facts, but instead we "update our view of the world." You cannot force someone to update their worldview, and therefore, the purpose of writing is

persuasion and the purpose of reading is being persuaded. Persuasion is possible only when the reader is actively engaged with the text and understands that much more than simple retrieval of information is at stake when reading.

Applied to research, Brent's theory of reading means the following:

- The purpose of research is not simply to retrieve data, but to participate in a conversation about it. Simple summaries of sources is not research, and writers should be aiming for active interpretation of sources instead.
- There is no such thing as an unbiased source. Writers make claims for personal reasons that critical readers need to learn to understand and evaluate.
- Feelings can be a source of shareable good reason for belief. Readers and writers need to use, judiciously, ethical and pathetic proofs in interpreting texts and in creating their own.
- Research is recursive. Critical readers and researchers never stop asking questions about their topic and never consider their research finished.

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SECTION OVERVIEW

9.7: Using and Organizing Information

9.7.1: Using and Organizing Information Details

9.7.2: Common Knowledge Information Graphic Description

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9.7.1: Using and Organizing Information Details

9.7.1.1 - The Scholarly Conversation

As a student you're participating in a scholarly conversation anytime you write a paper, complete a research project, or make a speech describing, arguing, or synthesizing information on a topic you've studied. In this conversation, you are *listening* to lots of different voices such as your professors, the authors of your textbooks, journalists reporting on an issue, and researchers who have performed studies or analyzed that issue.

Through your academic assignments, you're adding your voice to the discussion. Depending on the purpose of the assignment you may be:

- synthesizing and drawing connections between what others have said on an issue
- explaining your personal experiences related to the topic, and/or
- expressing your own opinions or conclusions about what the research shows.

For this scholarly conversation to be successful, you have to **approach your academic assignments with honesty,use information sources effectively**, and **give proper credit** to the other *voices* in the conversation through attribution and citation.

These terms - attribution and citation - are going to come up a lot over the next two weeks. Before moving on, here are some quick definitions of the terms:

- **Attribution** (noun): Crediting ideas, words, or works to a particular author, artist, or person.
- **Cite** (verb): To give information from a source as support or evidence in a research paper or project.
- **Citation** (noun): A note describing the original source of ideas, words, or works included in a research paper or project.

9.7.1.2 - Manage Pillar

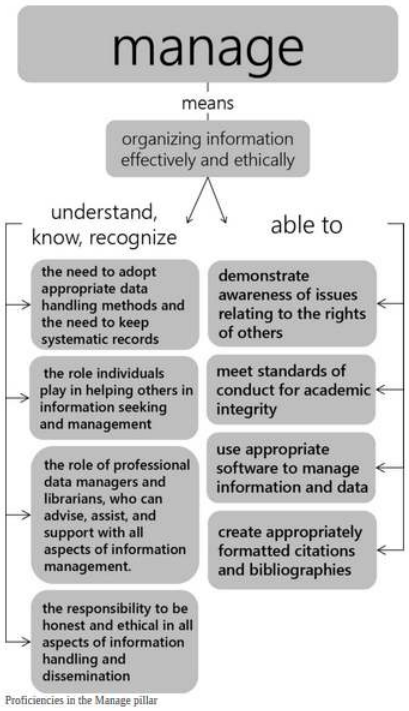
Being a part of the scholarly conversations means you know how to effectively use and organize information. This is where the Manage pillar comes in. It focuses on the need to use and organize information professionally and ethically. This means:

Individuals understand:

- Their responsibility to be honest in all aspects of information handling and dissemination (e.g. copyright, plagiarism, and intellectual property issues).
- The need to adopt appropriate data-handling methods.
- The role they play in helping others in information seeking and management.
- The need to keep systematic records.
- The importance of storing and sharing information and data ethically.
- The role of professionals, such as data managers and librarians, who can advise, assist, and support with all aspects of information management.

They are able to

- Use reference management software, if appropriate, to manage information.
- Cite printed and electronic sources using suitable referencing styles.
- Create appropriately formatted bibliographies.
- Demonstrate awareness of issues relating to the rights of others including ethics, data protection, copyright, plagiarism, and any other intellectual property issues.
- Meet standards of conduct for academic integrity.
- Use appropriate data management software and techniques to manage data.



Proficiencies in the Manage pillar

9.7.1.3 - Scenario

In order to manage information and take part in a scholarly conversation, we often rely on the works of others. We are using information to help build our knowledge, form educated opinions, and create our own contributions.

So how should we handle this product of creativity (a.k.a information)? Let's think about a simple example: apple picking in the fall. It is a popular thing to do, especially in our Sierra foothills. Have you ever been to Apple Hill? People come to orchards, get bags or baskets, gather apples, and then line up to weigh them and pay. The farmers' hard work is being rewarded.

Now imagine a different situation. You worked hard to research and write a very good article that is being published in the college newsletter. You've discovered that your roommate has copied a couple of paragraphs and inserted them into one of her assignments because the topics were related. Was this fair? How were you rewarded for your hard work? Bottom line - she should not have used your intellectual capital without attribution to you. What she did was an act of plagiarism.

Once your ideas become tangible - meaning they're written down on paper, on a computer, on your phone, they become your intellectual personal property and you hold the copyright. This means that no one has the right to reproduce all or any part of it (i.e. copy it) without your permission. If your roommate decides to use some information from your article in her own paper, she should provide a citation. If she is using direct quotes from your article, again, she would need to put double quotes around your words and provide information about the author (you, in this instance) to avoid plagiarism.

There is a lot to learn about using information legally and ethically, copyright and plagiarism are just two aspects of intellectual property. This knowledge will empower you in your academic work and help you be successful.

9.7.1.4 - Plagiarism Defined

Plagiarism is using someone else's words or ideas in your academic work without giving credit to the original author. In college, the way we most often give credit is in the form of a citation. Plagiarism can include:

- Summarizing the ideas, statements of fact, or conclusions made by another without citing the source.
- Word-for-word copying (CTRL + V) of work written by someone else without quotation marks and/or a citation.
- Close or extended paraphrasing of another person's work without acknowledging the source. In other words, you've taken someone else's ideas and changed a few words here and there, but haven't acknowledged where you got the idea from.
- Using an image, video, or music without permission and/or proper attribution.

In the classroom (and in the world of publishing), documenting your information sources is the only way others can tell how thorough and careful you've been in researching your topic. If you don't tell readers where your information came from, they may think (and many do) that you either made up the information or "stole" it . Failing to cite your sources is plagiarism.

9.7.1.5 - Unintentional Plagiarism

Plagiarism can be intentional, meaning you knowingly copied the words of another person in your paper. Or it can be unintentional, meaning you weren't trying to pass off someone else's ideas as your own, but you didn't properly cite your sources. Unintentional plagiarism often happens when students don't know citation rules, fail to keep track of their research, or are rushing and/or disorganized when completing an assignment.

9.7.1.5.1 - Scenario

Jackie was working on her 10-page research paper at the last minute. It was 3:30 am and her paper was due in class at 9:00 am. She finished the last sentence at 5:15 am, did a spellcheck and voila! Done! Groggy yet awake she went to class, turned in the paper and waited for her grade. She received an email from her professor that read, "There are some major issues with your research paper that I need to discuss with you. Please see me." Uh oh.

When she nervously went to see him, the professor told Jackie that she hadn't cited any of her sources, and because she included a lot of direct quotes in her paper, she was guilty of plagiarism. She received an F on her paper and may be referred to the school administration for academic dishonesty.

9.7.1.6 - Academic Honesty

In your college courses, it's expected that you (and only you) will do the assigned work. By completing the assignments, papers, quizzes, and exams, you are showing that you have mastered the content of the course - meaning you have learned the information and gained the skills covered in that class. (Your grade shows how well you've done that.)

When you are dishonest in your academic work, either by cheating or plagiarizing another person's work, the learning process breaks down.

9.7.1.6.1 - Plagiarism Detection

You should be aware that our Learning Management System (Canvas) includes a plagiarism detection tool called Vericite. If your instructor is using this tool, your papers and assignments could be compared to a large database of material to search for signs of matching text. If you have not quoted, paraphrased, or cited sources properly, you could be accused of academic dishonesty.

9.7.1.6.2 - Consequences of Academic Dishonesty

There are big consequences for academic dishonesty. If you plagiarize or cheat at a Los Rios college, you could face one or more of these consequences:

- Receiving a failing grade on the assignment
- Receiving a lower overall grade in the class
- Failing the class altogether
- Being referred to the College's Disciplinary Officer and/or
- Being placed on disciplinary probation, suspension or even expulsion from the College.

Even if you are not ***caught*** cheating or plagiarizing, you are still damaging your opportunity to **learn** from the coursework.

9.7.1.7 - Real World Scenario

Students often feel that they are being singled out in regard to plagiarism and academic dishonesty. But that is far from the case. There are numerous examples of scholars and other professionals who have been caught plagiarizing.

Take a look at these headlines...

Another example, with a dramatic outcome, is that of Eugene Tobin. He was the president of Hamilton College in New York State, when it was discovered that he had included plagiarized material in speeches he had given over the course of almost a decade. He resigned from his position as the head of this prestigious institution, admitting his guilt (Isserman, 2003). Other college presidents and administrators have also been caught violating academic trust. If you try a search using the terms *plagiarism* and *college president*, you may be dismayed at the number of results.

If you plagiarize in your career, you could face job penalties like firing or suspension, your reputation could be damaged, and you could even face lawsuits.

Clearly, plagiarism and cheating are things you want to avoid.

Plagiarism can be avoided when you learn to give proper credit through attribution and citation and when you learn to use information sources effectively by staying organized throughout the research and writing process. More on that is coming up next.

9.7.1.8 - Why We Cite

One of the best ways to avoid plagiarism and to follow the rules of academic writing is to cite your sources. Students often think about plagiarism and wanting to avoid it when they talk about the reasons to cite a source. It is more than that though. This very short video from North Caroline State University Library explains exactly what a citation is and why we use them.

In your research projects, it’s important to seek out a variety of sources like books, articles, websites, films, etc. These sources will help you define and describe your topic, identify new developments, current events, or emerging research, and see what conclusions or opinions other people have come up with related to your topic.

When you write your paper and present the information you found in your research, you need to say where this information came from. This is called attribution or acknowledging your sources, and it’s usually done through a citation. Again, a citation is a brief note that describes the original source of the ideas.

Citing your sources serves a few purposes:

- It **shows your preparation** for your research assignment and illustrates the conversation surrounding your topic.
- When you use ***credible sources***, it helps **strengthen your argument.**

- It allows your reader to **learn more** by referring them back to the original source.
- It helps you **avoid plagiarism** by giving credit to the thinkers and authors whose works you are drawing from.

A citation is required anytime you:

- **Summarize** someone's ideas on a topic.
- Use a **direct quote** or copy and paste from a source.
- **Paraphrase** information you read in a source - meaning you've taken someone else's idea and put it into your own words.
- State a fact that is **not** considered **common knowledge.**

9.7.1.9 - Summarizing

Summarizing is when you describe or explain the central ideas or most important information found in a source. You might read a whole 5-page article about an issue, but in your research paper you just describe the **main points** of that article in one sentence. Summarizing is taking a lot of information and explaining it in as few words as possible. But because you are explaining what you *learned from a source*, you need to include a citation at the end of the summarizing sentence.

9.7.1.9.1 - How to Summarize: An Overview

A summary is a brief explanation of a longer text. Some summaries, such as the ones that accompany annotated bibliographies, are very short, just a sentence or two. Others are much longer, though summaries are always much shorter than the text being summarized in the first place.

Summaries of different lengths are useful in research writing because you often need to provide your readers with an explanation of the text you are discussing. This is especially true when you are going to quote or paraphrase from a source.

Of course, the first step in writing a good summary is to do a thorough reading of the text you are going to summarize in the first place. Beyond that important start, there are a few basic guidelines you should follow when you write summary material:

- Stay "neutral" in your summarizing. Summaries provide "just the facts" and are not the place where you offer your opinions about the text you are summarizing. Save your opinions and evaluation of the evidence you are summarizing for other parts of your writing.
- Don't put quotes inside your summary. Summaries will be more useful to you and your colleagues if you write them in your own words.
- Don't "cut and paste" from database abstracts. Many of the periodical indexes that are available as part of the library's database system include abstracts of articles. Do no "cut" this abstract material and then "paste" it into your own annotated bibliography. For one thing, this is plagiarism. Second, "cutting and pasting" from the abstract defeats one of the purposes of writing summaries and creating an annotated bibliography in the first place, which is to help you understand and explain your research.

9.7.1.9.2 - Machine readable text description of preceding graphic

9.7.1.9.2.1 - Summarizing Information Graphic Description

The information graphic shows a definition of summarizing:

Summarizing is taking the main themes or ideas from your source and explaining or describing them in just a few sentences. An entire chapter of a book or a 5-page article might be summarized in just one or two sentences.

The book, *Geek Girl Rising*, by Heather Cabot and Samantha Walravens is the featured example. In a paper, a summary in APA style would be written as follows:

In their book, *Geek Girl Rising*, Heather Cabot and Samantha Walravens, highlight success stories of women working in technology and provide inspiration for girls wanting to break into this male-dominated industry (2017).

9.7.1.10 - Quoting

Writer's quote (and paraphrase) from research in order to support their points and to persuade their readers. A quote from a piece of evidence in support of a point answers the reader's question, says who?"

This is especially true in academic writing since scholarly readers are most persuaded by effective research and evidence. For example, readers of an article about a new cancer medication published in a medical journal will be most interested in the scholar's research and statistics that demonstrate the effectiveness of the treatment. Conversely, they will not be as persuaded by emotional stories from individual patients about how a new cancer medication improved the quality of their lives. While this appeal to emotion can be effective and is common in popular sources, these individual anecdotes do not carry the same sort of "scholarly" or scientific value as well-reasoned research and evidence.

Of course, your instructor is not expecting you to be an expert on the topic of your research paper. While you might conduct some primary research, it's a good bet that you'll be relying on secondary sources such as books, articles, and Web sites to inform and persuade your readers. You'll present this research to your readers in the form of quotes and paraphrases.

A **direct quote** includes the exact word-for-word sentences or phrases that you found in a source. When you copy and paste text into your paper, you are directly quoting that source. A direct quote ***must*** have quotation marks around it and it must include a citation to show the reader where those words came from.

While quotes and paraphrases are different and should be used in different ways in your research writing (as the examples in this section suggest), they do have a number of things in common. Both quotes and paraphrases should:

- be "introduced" to the reader, particularly the first time you mention a source;

- include an explanation of the evidence which explains to the reader why you think the evidence is important, especially if it is not apparent from the context of the quote or paraphrase; and
- include a proper citation of the source.

9.7.1.10.1 - When to Quote

the question of when to quote and when to paraphrase depends a great deal on the specific context of the writing and the effect you are trying to achieve. Learning the best times to quote and paraphrase takes practice and experience.

In general, it is best to use a quote when:

- The exact words of your source are important for the point you are trying to make. This is especially true if you are quoting technical language, terms, or very specific word choices.
- You want to highlight your agreement with the author's words. If you agree with the point the author of the evidence makes and you like their exact words, use them as a quote.
- You want to highlight your disagreement with the author's words. In other words, you may sometimes want to use a direct quote to indicate exactly what it is you disagree about. This might be particularly true when you are considering the antithetical positions in your research writing projects.

9.7.1.10.2 - Tips for Quoting

- Introduce your quotes to your reader, especially on first reference.
- Explain the significance of the quote to your reader.
- Cite your quote properly according to the rules of style you are following in your essay.
- Quote when the exact words are important, when you want to highlight your agreement or your disagreement.

9.7.1.10.3 - Quoting in APA Style - An Example

Consider this BAD example in APA style, of what NOT to do when quoting evidence:

"If the U.S. scallop fishery were a business, its management would surely be fired, because its revenues could readily be increased by at least 50 percent while its costs were being reduced by an equal percentage." (Repetto, 2001, p. 84).

Again, this is a potentially valuable piece of evidence, but it simply isn't clear what point the research writer is trying to make with it. Further, it doesn't follow the preferred method of citation with APA style.

Here is a revision that is a GOOD or at least BETTER example:

Repetto (2001) concludes that in the case of the scallop industry, those running the industry should be held responsible for not considering methods that would curtail the problems of over-fishing. "If the U.S. scallop fishery were a business, its management would surely be fired, because its revenues could readily be increased by at least 50 percent while its costs were being reduced by an equal percentage" (p. 84).

9.7.1.11 - Paraphrasing

Paraphrasing is when you use your own words to explain something that you learned from a source. Paraphrasing can be a useful way to clearly explain the meaning of information you uncovered through your research. It's a good way to describe what you've learned and also help the reader understand the significance of the information. Paraphrasing is a common writing technique, but it's also where many students unintentionally plagiarize.

Students unintentionally plagiarize because they:

- Take a sentence from a source and rearrange the words.
- Use the thesaurus tool to change a few words in a sentence.

To do a good job of paraphrasing, you have to make sure you are using only your words, not the author's. First, read the original source and think about it. Make a few notes of what you think it means. After that, try explaining the author's ideas in your own words. It's helpful if you wait a little while between reading the source and trying to paraphrase it so that the author's words aren't quite so fresh in your mind. If there's a word or phrase that you keep repeating when you try to paraphrase, then you probably should just quote it (with quotation marks and a citation).

9.7.1.11.1 - When to Paraphrase

In general, it is best to paraphrase when:

- There is no good reason to use a quote to refer to your evidence. If the author's exact words are not especially important to the point you are trying to make, you are usually better off paraphrasing the evidence.
- You are trying to explain a particular piece of evidence in order to explain or interpret it in more detail. This might be particularly true in writing projects like critiques.
- You need to balance a direct quote in your writing. You need to be careful about directly quoting your research too much because it can sometimes make for awkward and difficult to read prose. So, one of the reasons to use a paraphrase instead of a quote is to create balance within your writing.

9.7.1.11.2 - Tips for Paraphrasing

- Introduce paraphrases to your reader, especially on first reference.
- Explain the significance of the paraphrased material to your reader.
- Cite your paraphrased ideas properly according to the rules of style you are following in your essay.
- Paraphrase when the exact words aren't important, when you want to explain the point of your evidence, or when you need to balance the direct quotes in your writing.

9.7.1.11.3 - Paraphrasing in APA Style - An Example

Paraphrasing in APA style is slightly different from MLA style as well. Consider first this BAD example of what NOT to do in paraphrasing from a source in APA style:

Computer criminals have lots of ways to get away with credit card fraud (Cameron, 2002).

The main problem with this paraphrase is there isn't enough here to adequately explain to the reader what the point of the evidence really is. Remember: your readers have no way of automatically knowing why you as a research writer think that a particular piece of evidence is useful in supporting your point. This is why it is key that you introduce and explain your evidence.

Here is a revision that is GOOD or at least BETTER:

Cameron (2002) points out that computer criminals intent on committing credit card fraud are able to take advantage of the fact that there aren't enough officials working to enforce computer crimes. Criminals are also able to use the technology to their advantage by communicating via email and chat rooms with other criminals.

Again, this revision is better because the additional information introduces and explains the point of the evidence. In this particular example, the author's name is also incorporated into the explanation of the evidence as well. In APA, it is preferable to weave in the author's name into your essay, usually at the beginning of a sentence. However, it would also have been acceptable to end an improved paraphrase with just the author's last name and the date of publication in parentheses.

9.7.1.12 - Common Knowledge

Common Knowledge is a term for facts that are generally well-known, not controversial, and easy to look up. When you state something that is common knowledge in your paper, you don't have to include a citation because you are assuming that the reader already knows this information. Common knowledge can vary somewhat depending on who the audience for your research project is. If you aren't sure whether something you are stating in your paper is common knowledge, always play it safe and include a citation.

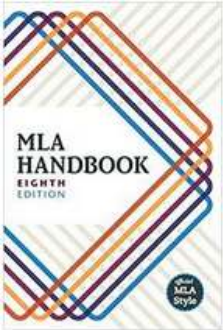
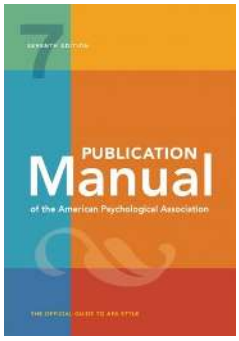
Machine readable text description of preceding graphic.

9.7.1.13 - How to Cite

Now that we know ***when*** we have to cite our sources, let's talk about ***how*** we cite our sources.

Citation styles are sets of rules to follow for citing sources and formatting research papers.

Professionals in different disciplines or subject areas have put together these styles to help writers in their field write well, convey important information, and organize their research.

MLA (Modern Language Association)	APA (American Psychological Association)	Chicago
		

You don't need to memorize all the rules of each citation style, you really just need to know where to go to get guidance and help. We'll be focusing more on this next week.

Regardless of which style you are using for your research assignment, there are generally two parts to a citation in academic writing. The first part tells the reader when you have included information from a source in your paper. This could be done through an in-text/parenthetical citation (MLA, APA) or through a footnote/endnote (Chicago, etc.).

In this first part of the citation, you are signalling to the reader that you've just provided information or ideas that you gained from someone else. You show this by including information about who's responsible for the information. This could include things like the author's last name, title, date of publication and/or page number.

The second part of a citation is generally a full description of the source organized in a list at the end of your paper. This list may be called a Works Cited List (MLA style), a References list (APA style) or a Bibliography (Chicago style). Include a citation for each source that you've referenced in your paper. This full citation will allow the reader to find the source if they want to read it.

We'll be using APA Style in this class. It is used by many disciplines, including Early Childhood Education, Psychology, Sociology, Communication Studies, and Library Science.

9.7.1.14 - Ethical Issues and Intellectual Property

Knowing how to properly cite sources shows that you understand the practice of professional and ethical use of information. Ethical treatment of information assumes that you are treating an author's rights appropriately and avoiding an act of academic dishonesty such as plagiarism.

As a creator of information yourself, you should understand the importance of respecting other authors' rights and following the general rules of academic integrity, including being cognizant of copyright, and other issues associated with intellectual property.

9.7.1.15 - Anatomy of An Academic Journal Article

In order to use and cite information effectively, you must understand what it is you're reading. Before we get into the assignments this week, I want to take a minute to explore more deeply the content of academic journal articles.

We've talked about these sources in earlier weeks of the course. These are the sources your instructors will often call "scholarly articles" or "scholarly sources." College instructors love it when you use academic journal articles because many of them see this as the most "valuable" type of academic information. We'll be exploring the value of information in coming weeks, but what I mean by that gets to the heart of most instructors' passions.

They are academics and scholars. They have chosen a field that allows them to teach other people about their discipline expertise every day. Because of this, they think very highly of academic writing and research and it will benefit you greatly as a student if you understand how to read and use these types of sources. I am going to break down one of the most common types of academic journal article, which is to present empirical research - or research that the authors have designed and collected and then presented in the form of an academic paper.

9.7.1.15.1 - Common Sections of an Empirical Research Academic Journal Article

9.7.1.15.1.1 - Title

All journal articles are going to have a title. Sometimes titles are quite descriptive and you can immediately understand what the article is about. Other times, you might need to read the abstract to get a true picture of what's included in the article.

9.7.1.15.1.2 - Abstract

An abstract is the very first thing the reader will see under the article's title. It is a one-paragraph summary and can be very useful for researchers. You should know immediately after reading the abstract whether the article is relevant to your research or if it's something you should pass up. In the databases, you can click on the little magnifying glass to the right of an article's title to read the abstract without having to open up the entire article. As you're searching for sources, don't spend a lot of time reading beyond the abstract - you'll do that later as you begin organizing your thoughts and how you will use each source in your research assignment.

9.7.1.15.1.3 - Introduction

This part of the paper will introduce the reader to the author(s)' research question. Just like in science class, researchers will pose a question, decide how they're going to go about answering that question (usually a survey or treatment of subjects), administer their study, and then analyze the results. The introduction will lay all of this out for you so you know exactly what information the researchers were trying to find.

9.7.1.15.1.4 - Literature Review

The literature review may be its own section or might be part of the introduction. This is the section in which the authors take time to summarize other research that has been done that relates to their research question. This section can be very powerful to you as a researcher because you will often find other sources that are mentioned that could also be powerful evidence for your topic. Sometimes, researchers will write an entire paper that is a review of the literature. The embedded research guide below includes an example of a single paper that is a literature review.

9.7.1.15.1.5 - Methods

This is the section in which the author(s) describe their research subjects and how they went about researching and coming to conclusions. They will sometimes describe specific research methods and ways of analysis. At this level in your college career, those sections aren't necessarily the most useful. It might be useful to describe the types and number of research subjects, and perhaps even include specific questions that were asked, but getting into the minute details of the research method probably isn't necessary for the level of academic writing you will be faced with in community college. If you continue onto graduate and/or post graduate school, these sections will become more useful.

9.7.1.15.1.6 - Results

This is the section in which authors describe what they found. This can be one of the most useful sections for you as a novice researcher. This is where you might grab quotes or evidence that could be used to make points in your own writing.

9.7.1.15.1.7 - Discussion

The discussion section allows the authors to lay out how their findings impact the body of research in that area. They might show how their research is in line with other similar studies or they might show how their findings dispute other published research. Authors will often point out limitations to their research and make suggestions of other studies that could be conducted to help flesh out questions that remain.

9.7.1.15.1.8 - Conclusion

This is the section in which the authors summarize their entire paper. They will often restate their research question, give a summary of their findings, and again point out where further research can be done. This section can be very useful to novice researchers. You might even want to start here.

On that note, I think the most useful sections to novice researchers are the Introduction, Results/Discussion, and Conclusion. You'll be able to practice this in this week's assignments and later in the course.

The embedded information below is from the Distance Education Research Guide has more information on types of academic journal articles, differences between scholarly and popular sources, and defines primary, secondary, and tertiary sources. You might want to bookmark this page as a reference for other research assignments you might encounter.

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Original sources used to create content (also licensed under CC BY-NC 4.0 unless otherwise noted):

Krause, S.D. (2016). Quoting, paraphrasing, and avoiding plagiarism. J. Kepka (Ed.) In *Oregon writes open writing text*. https://openoregon.pressbooks.pub/oregonwrites/chapter/quoting-paraphrasing-and-avoiding-plagiarism

Los Rios Libraries. (2020). Avoiding plagiarism and citing sources. *Los Rios libraries information literacy tutorials.* https://lor.instructure.com/resources/44fe428e10b347bea9892a63482f55fd?shared

Manage: Organizing information effectively and ethically. (2016). In G. Bobish & T. Jacobson (Eds.), *The information literacy user's guide.* Milne Publishing. https://milnepublishing.geneseo.edu/the-information-literacy-users-guide-an-open-online-textbook/chapter/manage-organizing-information-effectively-and-ethically/

North Carolina State University Libraries. (2014). *Citation: A (very) brief introduction.* https://youtu.be/IMhMuVvXCVw. NOTE: This source is licensed under Creative Commons 3.0 BY-NC-SA US

References

Isserman, Maurice. (2003). Plagiarism: A lie of the mind. *Chronicle of Higher Education 49*(34), p. B12.

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9.7.2: Common Knowledge Information Graphic Description

The information graphic shows a definition of common knowledge:

Common Knowledge is a fact that is generally well-known, not controversial, and easy to look up. Common knowledge statements don't require a citation because you are assuming that the reader already knows this information.

The sources featured in this example are:

- A National Public Radio headline from its website that reads, "President Trump's Inaugural Address, Annotated"
- The cover of the book, *From Civil Rights to Human Rights: Martin Luther King, Jr. and the Struggle for Economic Justice* by Thomas F. Jackson
- A headline from the Sacramento Bee website that reads, "These are the top Fourth of July celebrations you don't want to miss."

In an a paper - the following faces related to the sources would be considered common knowledge and would not require a citation:

- Donald J. Trump is the 45th president of the United States.
- The USA celebrates its independence from Britain on July 4.
- Martin Luther King, Jr. played a pivotal role in the Civil Rights Movement.

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SECTION OVERVIEW

9.8: Citing Sources and APA Style

9.8.1: Citing Sources and APA Style Details

9.8.2: Text Description - Anatomy of a Citation

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9.8.1: Citing Sources and APA Style Details

9.8.1.1 - Why We Cite - The Scholarly Conversation

Citing a source means you've taken the time to think critically about the information you're taking in. You've made sure your sources establish credibility by telling you how they gained their knowledge (citing their sources) or came to their conclusions (describing their research). Now, you are asked to do the same in your research and writing assignments; acknowledge those that helped build your knowledge by giving them credit in the form of a citation.

When you're asked to think about why it’s important to cite sources, students often go straight to the negative, "I need to cite properly or I'll be accused of plagiarizing." While it's true this is part of the reason your instructors are so big on citations, there's actually a much more positive side. Citing sources allows you to:

- Appreciate the work of others who've researched and studied topics before you. This is where the Google Scholar tagline comes from: "Standing on the Shoulders of Giants."
- Spread information and encourage future research by sharing information about the sources that were meaningful to you in your own exploration.
- Show that you belong to a scholarly community and speak the "language" of the group. This is why there are different citation formats for different disciplines of study like APA and MLA.

Think about all the conversations you might have in a day. You might text your best friend as soon as you wake up. You might answer your mother’s phone call as you walk to class. You might participate in an all-staff discussion and meeting at work. You know how to navigate these conversations; you take time to listen and take in information and you contribute by sharing your own ideas and feelings.

You will use those same skills in college to take part in a scholarly conversation. You are "listening" by exploring new topics and gaining new knowledge through lectures, discussions, readings, research, and more. You are contributing by completing assignments like research papers, speeches, and other academic projects. A writing style, like APA, is part of this. It helps you navigate this scholarly conversation in a meaningful way.

Remember that research and taking part in scholarly conversations takes time and can be complicated. You wouldn't just push your way into a table of friends and immediately take over the conversation (at least I hope you wouldn't). Instead, you ease in and listen to what's going on; maybe ask some questions to get some background and figure out how the conversation started, where it's going, and how you might contribute.

Think of your scholarly conversations in similar terms. Take time to understand your topic, look at different perspectives, find quality information to build your knowledge, and then jump in and add to the conversation with a well researched paper or speech. And when you do it, show that you respect this community of scholars by following the rules and citing your sources.

This short video from Clemson University will help you wrap your head around this idea of a scholarly conversation with a visual representation. It's another way to help you understand how you too are part of this conversation.

9.8.1.2 - Using Sources Effectively

We've established why it's important to cite sources, and we know the basics of when a citation is required, but how do we keep ourselves organized to avoid unintentional plagiarism?

Preventing plagiarism starts at the beginning of your research assignment as you gather your sources. Here are a few tips:

1. **Use Your Critical Reading Skills**: Anytime you find a source to use in your research, read it, "talk to the text," and make notes of the useful information. You can do this by printing and highlighting, saving documents with comments in Google Drive, or writing index cards with information from each source. If you create an outline for your paper, start filling in the sources that support each of the points of your outline. Whatever your organization method, make sure that you can easily identify the information you want to include in your paper ***and*** the source where it came from.
2. **Cite in the First Draft**: A common mistake that many students make is not including citations in early drafts of their paper, or only including something informal (like one word to describe the source they used). This habit can lead to confusion in later drafts when you're trying to go back and include citations. Solve this problem by writing your full citation as soon as you start inserting information from your sources in your first draft. Including the citation right away will ensure that as you reorganize and improve your drafts, you don't accidentally overlook or mistakenly cite information incorrectly.
3. **Get Help**: There's no way you can master all of the citation styles that are out there, and as a student you are still learning about the writing process. Take advantage of resources like the college reading and writing center, the tutoring center, and the library for assistance with including information from sources effectively. A librarian can review your citations and give you tips for organizing your research. Don't be afraid to ask for help.

9.8.1.3 - Rules of Academic Writing & Citation Styles

Just about everything in life has rules. There are rules on the basketball court, rules when you're playing chess, rules when you're driving a car, and there are rules in academic writing too.

As a college student, learning and understanding these rules helps show your instructors that you're a serious student and that you respect not only yourself, but the people who are helping you build your knowledge.

These rules of academic writing vary depending on what you're studying and come in different styles (APA, MLA, Chicago to name a few), but the idea behind them is the same. They help you create an organized paper, and ensure that you acknowledge the people whose words and ideas inspired your work. In this class, we're focusing on APA Style.

9.8.1.4 - What is APA Style?

APA, which stands for the American Psychological Association, is an organization devoted to the study of psychology. The organization itself dates back to the late 1800s, but in the 1920s, a group of social scientists recognized the importance of having

some consistency in their writing, and APA Style was born.

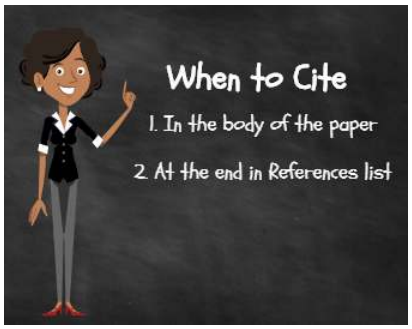
APA Style is now used by many disciplines, including social and behavioral sciences like psychology, sociology, communication studies, and library science.

These rules of writing help create consistency in communication and research, which not only helps those who are creating new content, but also those who are consuming it. As a college student you will take part in this scholarly conversation by consuming (learning and doing research) and creating (writing papers and completing other academic projects).

9.8.1.5 - When to Cite

In academic writing, you're asked to recognize those who've helped build your knowledge and ideas. This is done in the form of a citation and it tells your reader (usually your instructor) where you got your information.

You will always cite your sources twice.



1. The first time is in the body of the paper with a short citation. In APA style, it's the author's last name, date, and if it's a direct quote, a page number.
2. Then you cite a second time at the end of your paper with a references list. These references have all the details your reader would need to get back to the original source like author name(s), article or book titles, dates, and a few other key elements. We'll explore the references list later in the the lesson.

It's important to cite your sources every time you're using ideas or information from someone else. This includes when you summarize information, paraphrase, or use a direct quote.

9.8.1.6 - APA Citation Basics

The next several sections will give you a very brief overview of your in-text citations and your references list. The information is meant to introduce you to formatting, but is in no way an exhaustive list of possible scenarios.

It's not realistic or useful to try to memorize every rule or detail of an APA citation. Instead, it's better to understand the basics and then know where to go when you need more information or help. The last section of this week's lesson will point you to more resources that will be helpful when you have specific source citation questions.

9.8.1.7 - References List Basics

The second part of your citation is an entry in the references list at the end of your paper. This citation is much longer than the in-text citation and includes all the important elements to allow your reader to find the original source, including names of author(s), book or article titles, dates, and other information. Here are some details to keep in mind when formatting your references page:

- References should start on a new page with a centered and bolded References heading.
- Sources should be listed in alphabetical order by the first element of the citation (this is usually the author's last name).
- References should include a hanging indent meaning the first line of the citation is flush with the left margin and all subsequent lines are indented 1/2 inch. This allows your reader to easily see when one citation ends and a new one begins.
- When referring to books, chapters, article titles, or web pages, only the first letter of the first word of the title and subtitle is capitalized, excluding proper nouns.
- Titles of publications are italicized, including books, journals, and magazines.

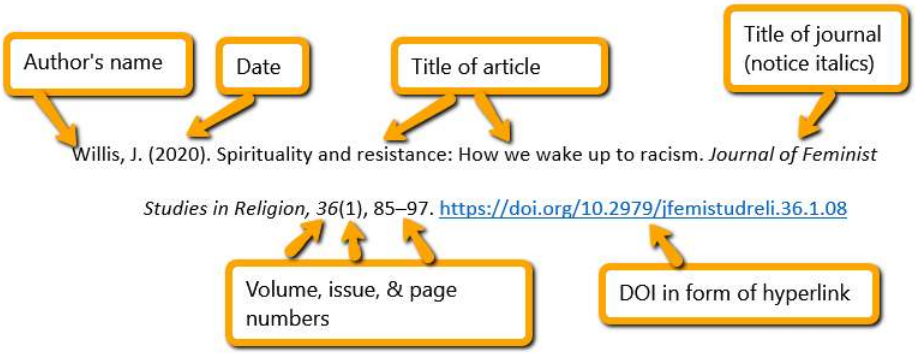
- Every source you used in the body of your paper should be included in the references list, with a couple exceptions.
  - Any personal communication like an email or interview you conducted is cited in-text only (in the body of your paper). The reason for this is that your references are designed to point the reader to the original source so they can explore it further. In these cases, your reader wouldn't have access to your personal email or notes you took during an interview, so it's not appropriate to include the information in your list of references.
  - If you describe an entire website, but don't refer to a specific fact or idea from the site, you would not need to include it in your list of references. Simply list the URL in an in-text citation.

Here is an example of a References page from an APA formatted paper.

9.8.1.8 - Anatomy of an APA Citation

APA citations contain the following information:

- Author name(s)
- Publication date
- Title of the work
- Publication data (like name of magazine, volume number, page numbers, etc.)
- DOI shown as a hyperlink (if available) - DOI stands for digital object identifier and is most often associated with academic journal articles.



Machine readable text description of preceding graphic.

9.8.1.9 - Authors

APA Style tries to alleviate any potential gender bias by only including last names and initials of authors. Even if a full name is included on the source, only list the last name and first and middle initials (if given).

9.8.1.9.1 - One Author Example

Bond, E.

9.8.1.9.2 - Two Authors Example:

Bond, E. & Adkins, A.

9.8.1.10 - Digital Object Identifier (DOI)

A DOI is a digital object identifier and it's associated with electronic content, most often academic journal articles. It is often displayed at the top header or bottom footer of the article. If no DOI is listed, you can search a website to try to find it: https://www.crossref.org/

1. In the search box at the top, select "Search metadata"
2. Search by title or author to see if you can find a DOI for your source. A DOI hyperlink is preferred over a URL to the source.

9.8.1.11 - Books

If an electronic book includes a DOI (digital object identifier), it should be included in the citation. If no DOI is present or doesn't appear on www.crossref.org, and the book was accessed from a website (other than a library database), include the website URL.

If the eBook was obtained from a Library Database, such as EBSCO, it is likely available from other providers as well, which means it's **not** necessary to include the database information or URL. It is appropriate to include the version information (e.g. Kindle version) of eBook citations. APA has more information about how to use DOIs and URLs on its website.

9.8.1.11.1 - Basic format for a print book citation:

Author last name, first/middle initial. (Year). *Title of book.* Publisher.

9.8.1.11.1.1 - Example:

McAdoo, M.L. (2010). *Building bridges: Connecting faculty, students, and the college library.* American Library Association.

9.8.1.11.2 - Basic format for an eBook citation:

Author last name, first/middle initial. (Year). *Title of book* [version information]. DOI or URL

9.8.1.11.2.1 - Example:

Brundage, E. (2016). *All things cease to appear: A novel* [Kindle version]. Knopf Doubleday Publishing Group.

https://catalog.saclibrary.org/OverDrive/98244775-9fba-428a-a741-1594bebc8470/Home

9.8.1.12 - Journal Articles

If a journal article includes a DOI (digital object identifier), it should be included in the citation. The DOI is often located in the top header or bottom footer of the page. If no DOI is present and can't be found on www.crossref.org, and the article was obtained from a website, include the website URL. If the article was obtained from a Library Database, such as EBSCO, it is likely available from other providers as well, which means it's **not** necessary to include the database information or URL. APA has more information about how to use DOIs and URLs on its website.

9.8.1.12.1 - Basic format for a journal article citation:

Author last name, first/middle initial. (Year) Title of article. *Title of journal*, *volume*(issue number), pages. DOI or URL

9.8.1.12.2 - Journal Article from a Library Database with a DOI:

Nichols-Hess, A., Greer, K., Lombardo, S.V., & Lim, A. (2015). Books, bytes, and buildings: The academic library's unique role in improving student success. *Journal of Library Administration*, *55*(8), 622-638. https://doi.org/ 10.1080/01930826.2015.1085241

9.8.1.12.3 - Journal Article from a Website, no DOI:

Sparks, K. (2017). Applying the creative process to library branding. *Marketing Libraries Journal*, *1*, 30-39. http://journal.marketinglibraries.org/dec2017/5_Branding_MLJ-v1-i1-Fall2017.pdf

9.8.1.13 - Magazine Articles

If a magazine article includes a DOI (digital object identifier), it should be included in the citation. If no DOI is present or can't be found on www.crossref.org and the article was obtained from a website, include the website URL. If the article was obtained from a

Library Database, such as EBSCO, it is likely available from other providers as well, which means it's **not** necessary to include the database information or URL. APA has more information about how to use DOIs and URLs on its website.

9.8.1.13.1 - Basic format for a magazine article citation:

Author last name, first/middle initial. (Date) Title of article. *Title of magazine*, *volume*(issue number), pages. DOI or URL (if applicable)

9.8.1.13.2 - Magazine Article from a Library Database with no DOI:

Begley, S. (2016, September 26). Carla Hayden. *Time*, *188*(12), 64.

9.8.1.13.3 - Magazine Article from a Website, no DOI:

Weiner, J. (2010, April 14). The entirety of Twitter is heading to the Library of Congress. *Vanity Fair.* https://www.vanityfair.com/culture/2010/04/the-entirety-of-twitter-is-headed-for-the-library-of-congress

Note about above example: Notice Twitter and Library of Congress are capitalized in the title because they are proper nouns.

9.8.1.14 - Newspaper Articles

Newspaper article citations are slightly different than other article citations in that you'll include the abbreviation p. or pp. before listing the page numbers. If the article was obtained from a website, include the website URL. If the article was obtained from a Library Database, such as EBSCO, it is likely available from other providers as well, which means it's **not** necessary to include the database information or URL.

9.8.1.14.1 - Basic format for a newspaper article citation:

Author last name, first/middle initial. (Date) Title of article. *Title of newspaper*, pp. # (if available). URL (if from website)

9.8.1.14.2 - Newspaper Article from a Library Database:

Blakemore, E. (2017, October 17). Major libraries unite to explore the impact that a warmer climate may have on the Arctic. *The Washington Post*, p. E02.

9.8.1.14.3 - Newspaper Article from a Website:

Magagnini, S. (2015, October 23). Sacramento region's first Holocaust library opens to the public. *Sacramento Bee.*

http://www.sacbee.com/news/local/history/article110063957.html

9.8.1.15 - Web Pages

Sources found on a web page can sometimes be tricky because author and/or date information isn't immediately apparent. Do your best to find as much information as possible so that your citation is useful to your reader. Some exceptions to the basic format:

- If no date is available, writ (n.d.) in place of the date.
- If the author is an organization and not a named person or people, use the name of the organization in place of the author and omit it from where the site name usually goes (see the example below).
- If the information on the website is likely to change over time, include the date you retrieved the information.

9.8.1.15.1 - Basic format for a Web Page citation:

Author last name, first/middle initial. (Date [if no date available list n.d.]) *Title of page*. Site name. URL.

9.8.1.15.2 - Document from a Web Page with Organization as Author:

Association of College & Research Libraries. (2015, February 5). *Framework for information literacy for higher education.* http://www.ala.org/acrl/standards/ilframework

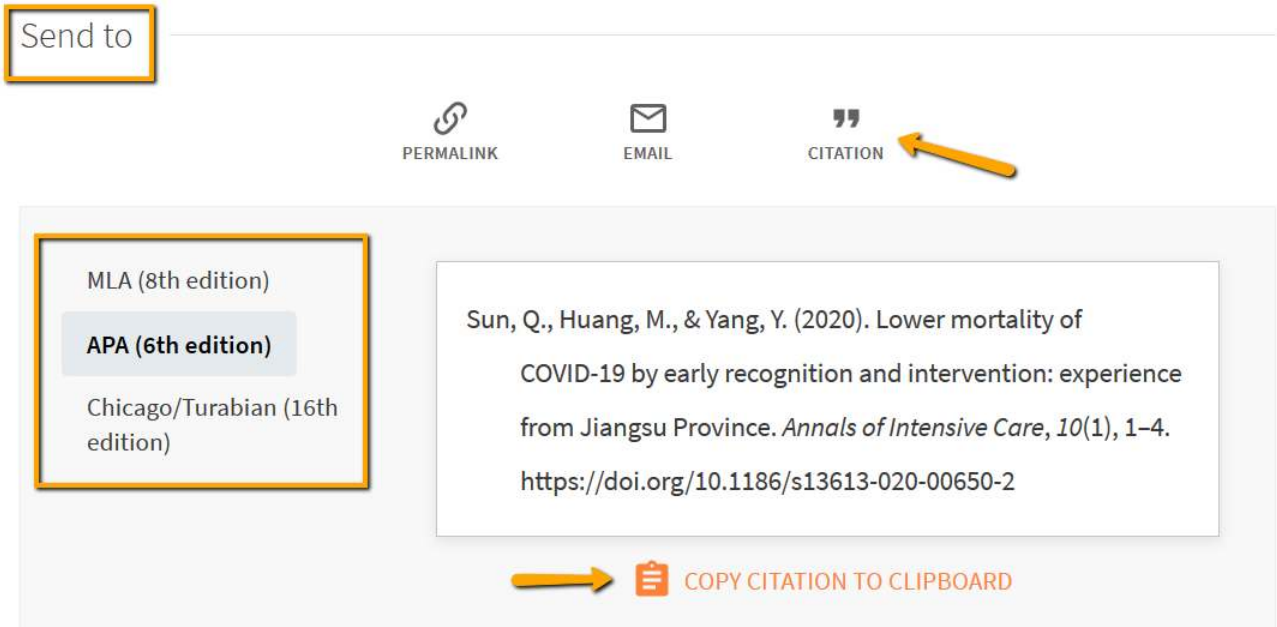
9.8.1.15.3 - Document from a Web Page with Author Identified:

Banks, M. (2017, December 19). *Ten reasons libraries are still better than the Internet.* American Libraries. https://americanlibrariesmagazine.org/2017/12/19/ten-reasons-libraries-still-better-than-internet/

9.8.1.15.4 - Document from a Web Page with no Author and likely to change:

Quantum mechanics. (2020, March 5). Wikipedia. Retrieved March 10, 2020, from https://en.wikipedia.org/wiki/Quantum_mechanics

9.8.1.16 - Using Tools in the Databases



The great thing about using your college library's research databases is that there are many useful tools built into the technology to help you. One of the most useful is the citation generator. In OneSearch it appears in the "Send To" area of the record. In most other databases, look for a "tools" menu to find the citation generator. You'll choose the APA citation, which you can copy and paste into your References list.

This is a useful time-saver, but I must include a word of caution. Citation generators are robots that are scraping the information from the source, and sometimes the formatting is off (e.g. having a title in all capital letters). It's up to you to know the basics so you can identify when something looks strange. It's always a good idea to check the generated citation against a style guide and make any needed corrections.

9.8.1.17 - Reference Management Software

There are a lot of software options to help researchers manage their source material. You may have heard of some of these reference management products. Endnote, Refworks, Mendeley, and Zotero, among others, all help manage the information gathering and retrieval process.

In addition to providing one central location for all of your references, these reference managers can:

- import bibliographic information directly from a library catalog database,
- provide additional space for personal notations,
- create a bibliography or list of references in a variety of citation styles such including APA.

When you transfer to a four-year institution, your academic library will likely provide free access to some form of reference management software.

If you'd like to try one, Zotero and Mendeley are available for free.

9.8.1.18 - APA Style Guide

We are not writing a formal paper in this class, but you'll likely encounter a research paper assignment in your college career that needs to be written in APA Style. The CRC Library's APA Style Guide has more information on formatting a paper, your references

list, in text citations, and almost any type of source you might use. This guide will remain available even after this course is complete. You might want to bookmark the link for future use.

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Clemson University Library. (2016). Joining the (scholarly) conversation. [Video file.] https://youtu.be/79WmzNQvAZY Note: Listed as CC, but specific CC licensing is not specified in this source.

Los Rios Libraries. (2020). APA style for community college researchers. *Los Rios libraries information literacy tutorials.* https://lor.instructure.com/resources/44fe428e10b347bea9892a63482f55fd?shared

Manage: Organizing information effectively and ethically. (2016). In G. Bobish & T. Jacobson (Eds.), *The information literacy user's guide.* Milne Publishing. https://milnepublishing.geneseo.edu/the-information-literacy-users-guide-an-open-online-textbook/chapter/manage-organizing-information-effectively-and-ethically/

References

American Psychological Association. (2020). *About APA Style*. https://apastyle.apa.org/about-apa-style

American Psychological Association. (2020). *Sample Papers*. https://apastyle.apa.org/style-grammar-guidelines/paper-format/sample-papers

Publication manual of the American Psychological Association: The official guide to APA style (7th ed.). American Psychological Association, 2020.

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9.8.2: Text Description - Anatomy of a Citation

9.8.2.1 - The image shows the following citation:

Willis, J. (2020). Spirituality and resistance: How we wake up to racism. *Journal of Feminist Studies in Religion*, *36*(1), 85–97. https://doi.org/10.2979/jfemistudreli.36.1.08

9.8.2.1.1 - Labels for Each Element

- Author: Willis, J.
- Date: (2020).
- Article Title: Spirituality and resistance: How we wake up to racism.
- Journal Title (italicized): *Journal of Feminist Studies in Religion*
- Volume (italicized): *36*
- Issue: (1)
- Page Numbers: 85-97
- DOI shown as hyperlink: https://doi.org/10.2979/jfemistudreli.36.1.08

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SECTION OVERVIEW

9.9: Information Power and Privilege

9.9.1: Information Power and Privilege Details

9.9.2: CCC Demographics - Machine Readable Text Description

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9.9.1: Information Power and Privilege Details

9.9.1.1 - Why Are We Reading This?

This week's readings are designed to challenge our thinking about the voices in academic spaces. Whose voices are the loudest? Are there voices that aren't being heard and why? What does this mean for you as a student? Are you hearing the voices you need to hear?

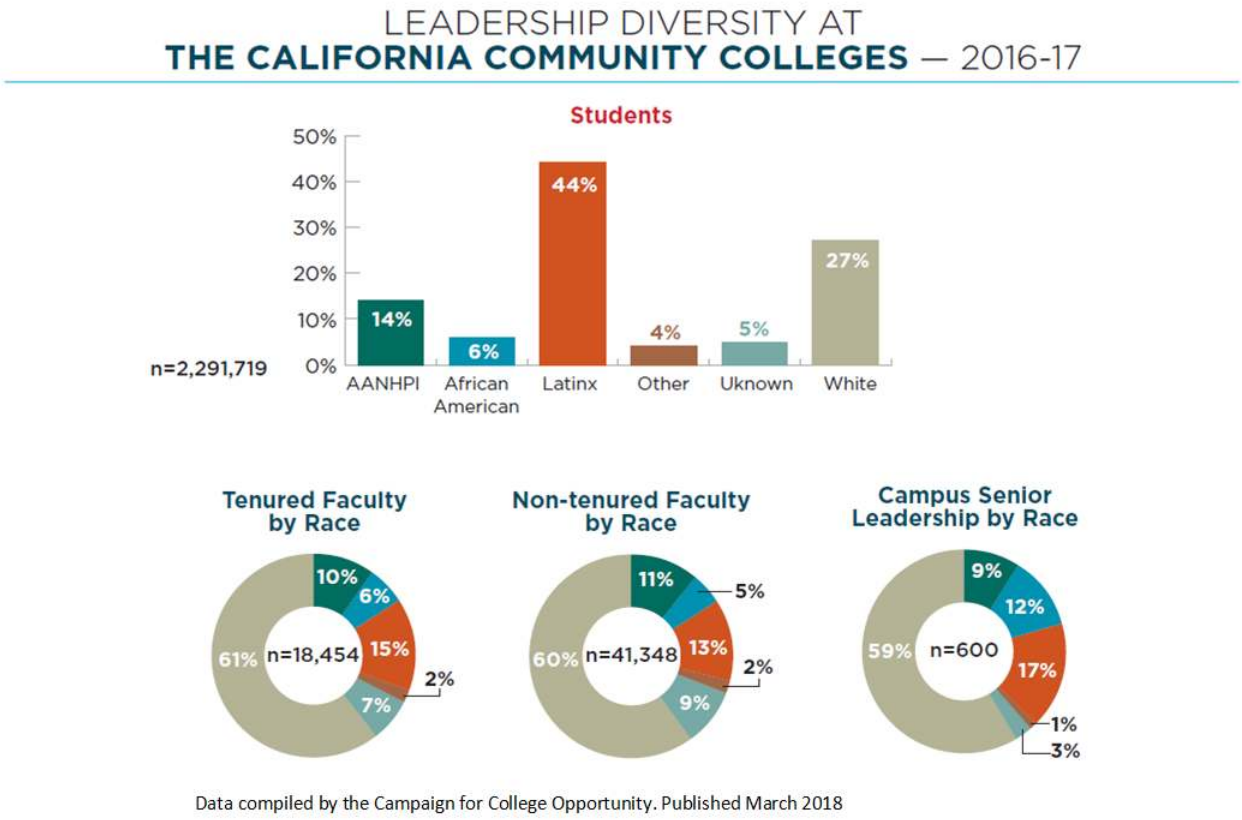
These are questions I'd like you to think about as you read selected articles this week. For some, you will find this reading empowering. Others might find it uncomfortable. And some might fall somewhere in between. I think it's important that both students and educators understand the system in which we're working. It's important to have these conversations to push the needle and create a more representative educational system. You'll have a chance to share your thoughts in one of this week's discussion forums.

9.9.1.2 - Makeup of Students, Faculty, Administrators

In 2018, The Campaign for College Opportunity (a non profit organization) released an alarming report describing the makeup of students, faculty, and administrators at California campuses. Alarming because the ethnicities and genders of faculty and administrators in no way mirror those of the students.

The report is titled, *Left Out: How Exclusion in California's Colleges and Universities Hurts Our Values, Our Students, and Our Economy*. The authors looked at 2016-17 data from databases connected to California colleges and universities as well as federal databases. They found that student populations are increasingly diverse with more than two-thirds of those enrolled identifying as something other than white. However, the data shows that campus faculty and leadership do not match the racial and gender diversity of the student populations.

This is true in all state systems: California State Universities, University of California campuses, and California Community Colleges (CCCs). For CCCs, the data shows that 68% of students identify as Asian American, Native Hawaiian and Pacific Islander, African American, American Indian and Alaska Native, and Latinx. However, only 33% of tenured faculty, 31% of non-tenured faculty, and 38% of campus leadership fall into these categories. Tenured and non-tenured faculty and campus administration is overwhelmingly white.



Machine readable text description of preceding graphic.

The authors discuss why these statistics are problematic:

College leaders set the tone, values, and direction of their institutions and when that leadership is not reflective of the diversity of the student population, student success suffers. When campuses are inclusive and reflective of the student population, the culture, practices and policies align with the needs of the students. Students experience a greater sense of belonging and have more role models who understand and validate their experiences (executive summary, 2018, p. 4).

The authors call on the state and college and university leadership to commit to racial equity in higher education, including examining hiring practices and establishing both statewide and campus-wide goals to close equity gaps.

The executive summary was used to write this section and is linked in the citation. The full title at the beginning of this page links to the full report.

9.9.1.3 - Other Readings

The rest of the readings for this week come from other voices that I want you to hear. The first is from a student who attends a predominantly white school. The second discusses the tenure process at four-year colleges and universities. And, the third is a letter from faculty members who once taught at a predominantly white institution. I have included them this week so that you can better understand what is happening in higher education and how it affects the information that is created and consumed.

9.9.1.4 - Black Students in White Spaces

This article appeared in 2018 on the National Association of Independent Schools (NAIS) website. It is written from the student's perspective and what it's like to be a Black student in a predominantly white school. She describes her experiences at independent schools, but I'm certain that students at public schools often have similar experiences.

Reading One: From the National Association of Independent Schools Website: Being Black in White Spaces by Kalah Brown

9.9.1.5 - A Call to Change the Tenure System

This essay appeared in 2014 in Inside Higher Education. The author outlines the current measures of promotion in most 4-year institutions, argues what's wrong with the system, and offers some suggestions on how to change it. I've included it this week so that you have a better idea of how professors are hired and promoted at transfer institutions and why some people feel these systems need to be revisited.

Reading Two: From Inside Higher Education Website: Change the Tenure System by KerryAnn O'Meara

9.9.1.6 - Black and Brown Faculty in Predominantly White Spaces

The last reading for this week is a letter published in 2016 on the Huffington Post website. It was written by people of color who were formerly employed by the University of Missouri (known as Mizzou). This is the perspective of one group from one institution. However, some of the experiences they had at this predominately white school (especially related to relationships with fellow faculty and administrators), are experiences that are well documented at many colleges and universities.

This letter hits at the concept of white privilege, a phrase that can often stir emotions or confusion. Emotions because some equate the phrase, white privilege, with racism; it is not the same. Confusion because some equate the phrase solely with socioeconomic status - "I'm white, but live in poverty - how can I be privileged?" But, it is about more than socioeconomic status. It is about what activist, Peggy McIntosh calls "unearned advantage." If you are not familiar with the nuances of white privilege or the phrase is stirring emotion or confusion, I encourage you to read McIntosh's short 1989 essay, "White Privilege: Unpacking the Invisible Knapsack" before you dive into this final reading.

The faculty of four-year colleges and universities tend to be even less diverse than community colleges. This letter outlines some major problems and offers some suggestions to make higher education more inclusive and diverse.

Reading Three: From Huffington Post Website: As People of Color Formerly Employed by Mizzou, We Demand Change by Bryana H. French, Ph.D., Dr. Zakiya R. Adair, and Kevin Cokley, Ph.D.

9.9.1.7 - Whiteness of Librarianship

I think it's important for me to acknowledge that my own profession struggles with this issue; librarians across the country are overwhelming middle-aged white females.

The articles I've listed below are not part of your required reading this week, but I'm including them here for the curious and to show that I am aware of this issue. I take this information very seriously and am trying to do my part to create a more inclusive world of information experts.

9.9.1.7.1 - Further Reading:

Bourg, C. (3, March 2014). The unbearable whiteness of librarianship [Blog post]. https://chrisbourg.wordpress.com/2014/03/03/the-unbearable-whiteness-of-librarianship/

Hathcock, A. (7, October 2015). White librarianship in blackface: Diversity initiatives in LIS. *In the Library with the Lead Pipe.* http://www.inthelibrarywiththeleadpipe.org/2015/lis-diversity/

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References

Campaign for College Opportunity. (March 2018). *Left out: How exclusion in California's colleges and universities hurts our values, our students, and our economy: Executive summary.* https://collegecampaign.org/wp-content/uploads/2018/03/2018-Left-Out-Executive-Summary-Final.pdf

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9.9.2: CCC Demographics - Machine Readable Text Description

The graphic shows demographic statistics from the 2016-17 school year for California Community Colleges.

For Students by Race

- 14% identify as Asian American, Native Hawaiian and Pacific Islander
- 5% identify as African American
- 44% identify as Latinx
- 4% identify as other
- 5% identify as unknown
- 27% identify as White

For Tenured Faculty by Race

- 10% identify as Asian American, Native Hawaiian and Pacific Islander
- 6% identify as African American
- 15% identify as Latinx
- 2% identify as other
- 7% identify as unknown
- 61% identify as White

For Non-Tenured Faculty by Race

- 11% identify as Asian American, Native Hawaiian and Pacific Islander
- 5% identify as African American
- 13% identify as Latinx
- 2% identify as other
- 9% identify as unknown
- 60% identify as White

For Campus Senior Leadership by Race

- 9% identify as Asian American, Native Hawaiian and Pacific Islander
- 12% identify as African American
- 17% identify as Latinx
- 1% identify as other
- 3% identify as unknown
- 59% identify as white

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SECTION OVERVIEW

9.10: Information Value and Privilege

9.10.1: Information Value and Privilege Details

9.10.2: Text Description - Invisible Knapsack of Information Privilege

9.10.3: Text Description - Digital Divide Information Graphic

9.10.4: Text Description Profits by Industry Graphic

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9.10.1: Information Value and Privilege Details

9.10.1.1 - Why Are We Reading This?

This week's readings take up where last week's readings left off. We know from last week that not all voices are being heard in academia. This leads directly to the value and privilege of information. There is a value placed on academic information (both monetary and societal value). And in academia especially, only a privileged few have access to certain types of scholarly writings.

9.10.1.2 - What is Information Privilege?

The idea that status impacts your access to information is nothing new. What is relatively new is that librarians and others are critically talking about it as it relates to higher education. There is an excellent 2018 academic paper on this topic that I will link to at the bottom, but honestly it's more information than you really need to be able to understand this concept.

Instead, I'm going to ask you to read the Wikipedia entry on Information Privilege, which is well-written and researched and actually includes information from the paper I referenced above.

Reading One: From Wikipedia: Information Privilege

9.10.1.3 - Digital Divide

We are active users of technology - I am teaching and you are learning online. When we're submerged in this kind of environment, it's sometimes easy to forget that what's known as the digital divide still exists. Our access to technology gives us advantages in accessing information that many around the world do not have. This information graphic from the International Monetary Fund illustrates that:

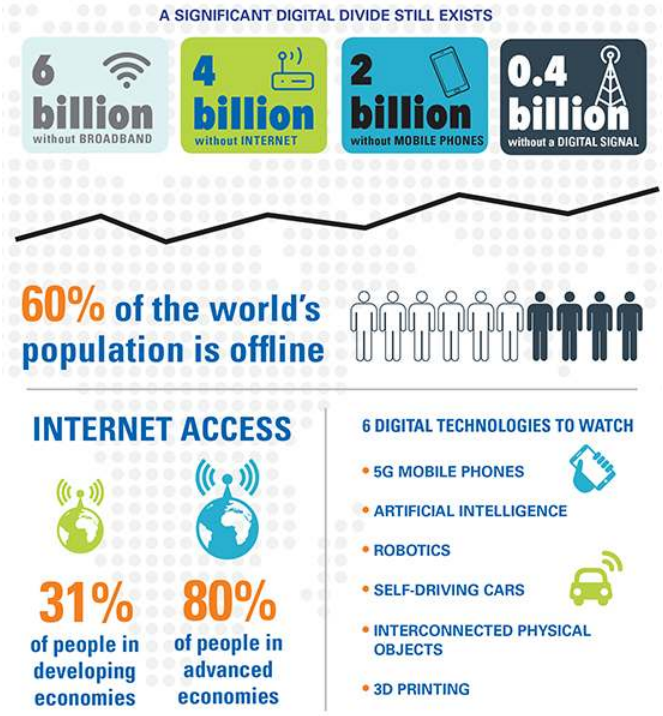
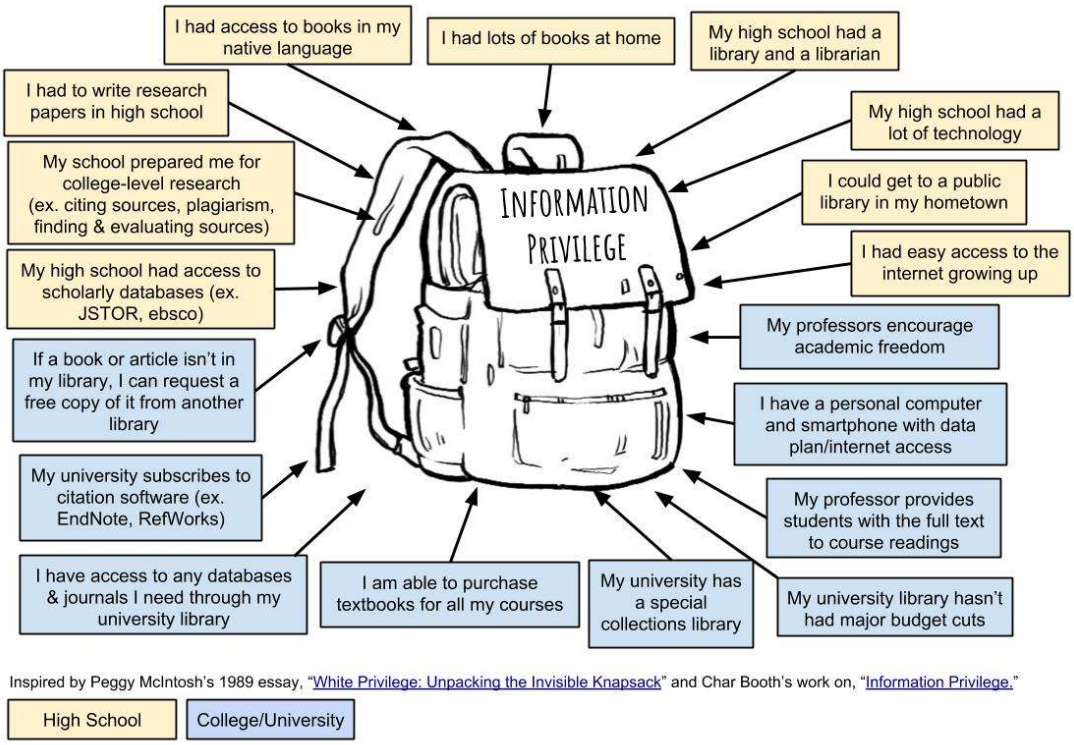


Image prepared by Natalie Ramírez-Djumena. Text and charts are based on World Development Report 2016: Digital Dividend, published by The World Bank in January 2016.

Machine readable text description of preceding graphic

9.10.1.4 - Information Privilege in High School & College

Students, even those in high school, enjoy information privileges that aren't afforded to the general public. This graphic created by Duke University Library helps you understand this privilege more fully:



Machine readable text description of preceding graphic

9.10.1.5 - The Monetary Value of Academic Publishing

Academic publishing is big business. These companies are making billions of dollars. You've undoubtedly been directly impacted by this; you've likely faced decisions on whether to buy a $100+ textbook that is required for a course. When you learn more about how the system is working, it can make you very angry with the publishers. The good news is that academics, librarians, and even the government are pushing for more open access to academic material.

This first reading is designed to introduce you to the system in which academic journals and other original research content is published.

Reading one: From Footnote website: The Exploitative Economics of Academic Publishing by Samuel Gershman

9.10.1.6 - Profits by Industry

This graphic is meant to illustrate the incredible profits experienced by academic publishers. You can see that scholarly publishing is far more profitable than being one of the biggest retailers in the world (Amazon).

Profit	Company	Industry
3% Of $232.9 million	amazon	Retail
7% Of $97.5 million	BMW	Automobile
22% Of $265.6 million		Computing
23% Of $136.8 million	Google	Technology
37% Of €2538 million	ELSEVIER	Academic Publishing
37% Of €533.2 million		Academic Publishing

Figures came from company websites. For more information, read an explanation of how these profits were calculated and from what sources the information came.

Machine readable text description of preceding graphic

9.10.1.7 - University of California Cuts Ties with Elsevier

I mentioned that academics have been pushing for more open access. This fight came to a head recently with the University of California system and one of the largest academic publishers, Elsivier. This article outlines UC's unprecedented decision

Reading two: UC terminates subscriptions with world's largest scientific publisher in push for open access to publicly funded research from the UC Office of the President

9.10.1.8 - Your Academic Privilege

After reading all of this information, I thought you might be interested in how much the Los Rios Community College District pays for students to have access to the library's research databases and other library resources.

For database content alone, including access to things such as Academic Search Premiere, The EBSCO Ebook Collection, Films on Demand, and other specialized databases, the district pays about $285,000/year. On top of this, each college is afforded a local budget to purchase additional books and resources that are housed locally at the campus. Cosumnes River College has received about $75,000/year to acquire these additional resources, though our budget was cut this year because of the COVID-19 crisis and the financial impact it has had across the state.

This is why librarians and your instructors are constantly asking you to take advantage of your academic privilege by using the library databases.

My hope is that someday more academic information will be freely available. Until then - we should all be part of this fight.

9.10.1.8.1 - Further Reading

Hare, S. & Evanson, C. (2018). Information privilege outreach for undergraduate students. *College & Research Libraries*, *79*(6), 726-736. https://doi.org/10.5860/crl.79.6.726

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Profits by Industry table [Image file]. (Updated to 2018), but inspired by Duke University Libraries, “Profit Margin Table" and Alex Holcombe’s profit margin tables, https://alexholcombe.wordpress.com/2015/05/21/scholarly-publisher-profit-update/

References

Ramerez-Djumena, N. (September 2016). *A significant digital divide still exists* [Image file]. https://www.imf.org/external/pubs/ft/fandd/2016/09/picture.htm

Rozear, A. (n.d.) Invisible knapsack: Information privilege [Image file]. *Duke University Libraries* https://sites.duke.edu/library101_instructors/2018/08/13/information-privilege/

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9.10.2: Text Description - Invisible Knapsack of Information Privilege

The image shows a backpack with the words "Information Privilege" on the back.

Around the backpack are text boxes with arrows pointing to the backpack.

Information privileges identified for high school students in text boxes include:

- My high school had access to scholarly databases (example: JSTOR, EBSCO).
- My high school prepared me for college-level research (example: citing sources, plagiarism, finding & evaluating sources).
- I had to write research papers in my high school.
- I had access to books in my native language in high school.
- I had lots of books at home.
- My high school had a library and a librarian.
- My high school had a lot of technology.
- I could get to a public library in my hometown.
- I had easy access to the internet growing up.

Information privileges identified for college students in text boxes include:

- If a book or article isn't in my college library, I can request a free copy of it from another library.
- My college subscribes to citation software (note, this isn't true at CRC).
- I have access to many databases and journals through my college library.
- I am able to purchase textbooks for all of my courses.
- My college has a special collections library.
- My college library hasn't had major budget cuts.
- My professors often provide students with the full text to course readings.
- I have a personal computer and/or smartphone with a data plan and internet access.
- My professors encourage academic freedom.

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9.10.3: Text Description - Digital Divide Information Graphic

A significant digital divide still exists in the world:

- 6 billion people live without broadband
- 4 billion people live without internet
- 2 billion people live without mobile phones
- 0.4 billion people live without a digital signal
- 60% of the world's population is offline

In relation to internet access:

- Only 31% of people in developing economies have access
- While 80% of people in advanced economies have access

Six digital technologies to watch:

- 5G mobile phones
- Artificial intelligence
- Robotics
- Self-driving cars
- Interconnected physical objects
- 3D printing

9.10.3: Text Description - Digital Divide Information Graphic is shared under a CC BY-NC-SA 4.0 license and was authored, remixed, and/or curated by LibreTexts.

9.10.4: Text Description Profits by Industry Graphic

The graphic is a chart showing the profit, company name and logo, and industry.

Profit	Company	Industry
3%	Amazon	Retail
7%	BMW	Automobile
22%	Apple	Computing
23%	Google	Technology
37%	Elsevier	Scholarly Publishing
37%	Taylor & Francis	Scholarly Publishing

9.10.4: Text Description Profits by Industry Graphic is shared under a CC BY-NC-SA 4.0 license and was authored, remixed, and/or curated by LibreTexts.

9.11: Confirmation Bias and Filter Bubbles

9.11.1 - What is Being Filtered Out of Your Search?

The idea of filter bubbles was introduced nearly ten years ago by Eli Pariser. The idea is that information providers are tracking your online activity in order to target what *they* have determined are *your* information needs.

Even almost ten years later, many people still haven't heard of filter bubbles. If you haven't, you might find the information a bit unnerving. This is Pariser's TED Talk from 2011.

9.11.2 - Where Are We Now?

A few years ago, Eli Pariser was interviewed by *Wired* magazine to discuss how Pariser's warning of filter bubbles had evolved over time.

Reading one: From Wired website: Eli Pariser Predicted the Future. Now He Can't Escape It by Jesse Hempel

9.11.3 - How We Confirm Our Own Beliefs

Filter bubbles are outside forces that affect the information we take in. But, there's also a lot of stuff going on in our own brains that influences the way we take in and interpret information. This is called confirmation bias.

The next reading from Scientific American explores how people can be exposed to scientific evidence, but still have doubts. It's a good introduction to confirmation bias in this context.

Wikipedia also has an extensive entry on confirmation bias that is well researched and has a lot of suggested readings if you want to explore this concept further. I included a link to it at the bottom of the page in further reading.

[NOTE TO USERS OF THIS TEXTBOOK: The following reading is not freely available online. The link goes to the Los Rios Libraries MASTERfile database. You will need to see if your databases include access to this article and if not, find an alternative.]

Reading two: Scientific American: The Science of Antiscience Thinking: Convincing people who doubt the validity of climate change and evolution to change their beliefs requires overcoming a set of ingrained cognitive biases By: Kenrick, Douglas T., Cohen, Adam B., Neuberg, Steven L., & Cialdini Robert B.

9.11.4 - Bias in News

I am a former journalist. My bachelor's degree is in journalism and I worked as a television news producer for nearly ten years before switching careers. I have been stunned to see how much the journalistic landscape has shifted in the last twenty years. Journalists used to be highly respected and objectivity was paramount.

Now, many news outlets openly discuss and tout their political leanings. It has created an environment that makes understanding our confirmation biases even more difficult.

There is a lot of information out there about media bias. One website I've been particularly impressed with is called AllSides.com. I often encourage students to seek out the same story from several different news outlets to see how it has been covered. AllSides.com does that for you, showing the same story and its coverage from left, center, and right leaning news sources.

I encourage you to check out the website and click around. Read a story that interests you to see how it has been covered in the three areas. We'll be exploring this more next week.

9.11.4.1 - Further Reading

Wikipedia. (2019, March 22). *Confirmation bias*.https://en.wikipedia.org/wiki/Confirmation_bias

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References

Pariser, E. (2011). Beware online "filter bubbles" [Video file]. *TED https://www.ted.com/talks/eli_pariser_beware_online_filter_bubbles*

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9.12: Misinformation and Fake News

9.12.1 - This Week's Content

I'll be honest - there is so much information out there on this topic, it was hard for me to narrow down what I thought were some of the best sources so you can get a well-rounded picture of misinformation and fake news. I've picked sources that I found interesting and informational. I'll include a "Further Reading" list at the end of the reading section in case you want to explore more on your own.

9.12.1.1 - Types of Misinformation

There are different types of misinformation and different reasons for spreading it. I want to start this week with a few definitions so we're all on the same page.

Shortly after the 2016 presidential election, an assistant professor of communication and media at Merrimack College, Melissa Zimdars, started an online resource with tips on spotting fake news and misinformation. This resource also included a vast list of websites. She and her students tagged each website with labels identifying the type of content it shared. These are the tags she identified and act as good definitions for the kinds of misinformation that are out there:

- **Fake News**: Sources that entirely fabricate information, disseminate deceptive content, or grossly distort actual news reports.
- **Satire**: Sources that use humor, irony, exaggeration, ridicule, and false information to comment on current events.
- **"Extreme" Bias**: Sources that come from a particular point of view and may rely on propaganda, decontextualized information, and opinions distorted as facts.
- **Conspiracy**: Sources that are well-known promoters of kooky conspiracy theories. Examples: 9/11 conspiracies, chem-trails, lizard people in the sewer systems, birther rumors, flat earth ‘theory,’ fluoride as mind control, vaccines as mind control etc.
- **Rumor**: Sources that traffic in rumors, gossip, innuendo, and unverified claims.
- **State News**: Sources in repressive states operating under government sanction.
- **Junk Science**: Sources that promote pseudoscience, metaphysics, naturalistic fallacies, and other scientifically dubious claims.
- **Hate News**: Sources that actively promote racism, misogyny, homophobia, and other forms of discrimination.
- **Clickbait**: Sources that provide generally credible content, but use exaggerated, misleading, OR questionable headlines, social media descriptions, and/or images. These sources may also use sensational language to generate interest, clickthroughs, and shares, but their content is typically verifiable.

It doesn't appear that the list is still being updated, but it contains 1001 websites, which is a bit alarming. Also in 2016, the Oxford Dictionaries picked "post-truth" as its International Word of the Year. Oxford defines post-truth as *“relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief.”* I find that pretty scary. You'll often hear people say, "We're living in a post-truth era."

So how did we get here? This TedEd video by Damon Brown helps explain it:

9.12.2 - How Does it Happen?

There is evidence that Russian operatives interfered with the 2016 presidential election, and the US Office of National Intelligence says it's not just Russia, but several other countries that continued to sow doubt in the 2020 election season. See the August 2020 press release from the NCSC Director. But, it's not only foreign actors who are spreading misinformation and fake news. The New York Times has done an excellent job with its video coverage in explaining how it's happening.

This article from the New York Times describes how one Maryland man fabricated stories from his own home on a regular basis and made a lot of money doing it.

Reading One: From New York Times: From Headline to Photograph, A Fake News Masterpiece by Scott Shane

9.12.3 - Fake News Can't Compete with the Truth

In 2018, researchers at MIT published some alarming findings after studying news on Twitter. They looked at a massive amount of data from nearly ten years and found that 126,000 rumors were spread by more than 3 million people. The study appears in the journal Science. It is available for free online, but is quite technical so I'm including a news story on the study instead.

This audio file is from National Public Radio. If you'd prefer, you can also read the story transcript, it's also linked in the source citations below. The actual study is linked in the Further Reading section.

9.12.3.1 - It's Not Just Social Media

We can't blame all of this on Social Media. These stories that are shared have to originate somewhere. In this video, Noah Tavlin explains what's known as the circular media phenomenon.

9.12.4 - Conspiracy Theories: How Seemingly Outlandish Information Gets Believed

Conspiracy theories have been around forever. Our increasingly connected society means that information and theories that were once relatively hidden and believed by a small group can now be spread rapidly to a huge number of people. Political scientist and conspiracy theory researcher, Eric Oliver says that most people can be put into one of two groups of thinkers: intuitionists or rationalists.

The rationalists look at logic, deduction, and facts and Oliver describes this thinking as pretty transparent. But the intuitionists' thinking is much more tied to emotion. When the intuitionist is feeling scared or anxious, they go in search of answers that can explain this emotional feeling. Oliver explains his theory further in the Big Brains podcast episode: [The Science of Conspiracy Theories and Political Polarization with Eric Oliver.]

This same idea is explored in this video from The New York Times opinion section. The video explores the two types of thinkers, how each type reacts to each other, and what we can do to help bridge some of the divides that have happened.

9.12.5 - Operation Infektion

The New York Times opinion section has created an excellent 3-part video series called Operation Infektion - which explains the Russian tactic of spreading misinformation; it's a different kind of warfare that's happening not only in the United States, but

around the world. I have put links to the series in the Further Readings and Resources section of this chapter (last page in the reading). I encourage you to check it out.

9.12.6 - Why Should We Care About Fake News?

It's easy to become cynical and throw up our hands. When I'm doing library instruction for classes that are working on a specific assignment, I often hear students say things like, "You can't trust any media." This is our new reality and in order to be productive contributors to our society, we must care about these things and we must be armed with the tools to recognize when something seems off.

Here are the reasons I think we all should care:

9.12.6.1 - Fake news creates threatening situations

In our information rich world, you ***deserve*** accurate and comprehensive information. Encountering lies and biased information by deceptive means is frustrating, time consuming, and sows seeds of mistrust. We have seen misinformation and fake news threaten democracy (political mistrust) and even threaten public health (COVID-19 crisis). A 2019 Pew Research Study found that Americans view fake news as a greater threat than violent crime, climate change, and even terrorism. Everyone deserves the truth.

9.12.6.2 - Fake news can be physically dangerous

We've seen how misinformation can pit people with differing views against each other. In some cases, fake news has led to physical violence. The Operation Infektion video mentioned the Pizzagate story, in which a man showed up at a Washington D.C. pizza restaurant with several loaded guns. He was acting on fake news stories and could have caused real physical harm if he hadn't have been stopped. The spreading of lies and deceit creates hostility and tensions that can lead to physical violence.

9.12.6.3 - Fake news can damage your reputation

On a personal level, the sharing of fake news or using it to support an argument diminishes your standing and credibility among your friends, peers, and colleagues. If you encounter someone spreading fake news, don't be afraid to set the facts straight. You've learned tools in this class to help you do that.

9.12.6.4 - Fake news creates distrust in all news

Accusations made against credible news organizations cause mistrust in those organizations. These accusations can lead to a general mistrust of all media sources, including quality media outlets with high journalistic standards. The same Pew Research Study mentioned before shows that most Americans don't blame journalists for fake news, but they do expect journalists to help fix the problem (Mitchell, A., et al., 2019). That's a tall order given the mistrust that many have of the media.

I've heard students say in class before, "You can't trust the New York Times." Yet this newspaper has won more Pulitzer Prizes in Journalism than any other newspaper and its editorial standards are readily available.

9.12.7 - How to Spot Fake News

The Crash Course series we've watched this semester and other readings and assignments have armed you with some great tools to evaluate information. There are many other resources available to help you gain these skills. I've selected two that I think are useful:

- Reading one: From NPR: A Finder's Guide to Facts by Steve Inskeep
- Reading two: From the TED-Ed Blog: How to Tell Fake News from Real by Laura McClure

9.12.7.1 - Further Readings

This is simply a list of other stories and information I came across while looking for content for this week. If this is a topic that fascinates you, here are some other sources you might be interested in exploring further:

- How to Spot Fake News from FactCheck.org
- The Spread of True and False News Online from Science
- The Chain Email Your Friend Sent You is (Likely) Bogus. Seriously. from FactCheck.org
- When Seeing is No Longer Believing: Inside the Pentagon's race against deepfake videos - CNN

- Snopes Field Guide to Fake News Sites
- Verification Handbook: An Ultimate Guideline on Digital Age Sourcing for Emergency Coverage. Edited by Craig Silverman - free PDF ebook.
- The Honest Truth about Fake News and How Not to Fall For It - KQED
- "Evaluating Information: The Cornerstone of Civic Online Reasoning" - Executive Summary, Stanford History Education Group
- The Society of Professional Journalists' Code of Ethics
- Facticious - Spot Fake News game

9.12.7.2 - Operation Infektion: 3-part Series from The New York Times Opinion Section

- Meet the KGB Spies Who Invented Fake News
- The Seven Commandments of Fake News
- How Disinformation is Taking over the World

9.12.7.3 - Fact Checking Sites:

- Associated Press (AP) Fact Check
- FactCheck.org (nonprofit & nonpartisan)
- Snopes
- Hoax-Slayer
- PolitiFact.com (for American political news)

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Brown, D. (2014, June 5). *How to choose your news* [Video file]. https://youtu.be/q-Y-z6HmRgI Note: This source is not licensed under a CC, but is freely available on the TED-ed YouTube channel.

Niu, I., Eaton, A. & Bracken, K. (2020, October 26). How homegrown disinformation could disrupt this US election [Video file]. https://youtu.be/_gNcYdvF1Co Note: This source is not licensed under a CC, but is freely available on the NY Times YouTube channel.

Rand, P. (Host). (2019, May 20). The science of conspiracy theories and political polarization with Eric Oliver. On Big Brains [Audio podcast]. University of Chicago News. https://news.uchicago.edu/podcasts/big-brains/science-conspiracy-theories-and-political-polarization-eric-oliver Note: This source is not licensed under a CC, but is freely available on the University of Chicago News website.

Sydell, L. (2018, March 12). Can you believe it? On Twitter, false stories are shared more widely than true ones [Audio file]. *National Public Radio*. https://www.npr.org/templates/transcript/transcript.php?storyId=592885660 This source is not licensed under a CC, but is freely available on the NPR website.

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The New York Times. (2020, October 27). What can you do about QAnon? [Video file]. New York Times Opinion Section. https://youtu.be/4lg6cZmfpeM Note: This source is not licensed under a CC, but is freely available on the NY Times YouTube channel.

Zimdaris, M. (2016). *False, misleading, clickbait-y, and/or satirical "news" sources*. https://docs.google.com/document/d/10eA5-mCZLSS4MQY5QGb5ewC3VAL6pLkT53V_81ZyitM/preview Note: This source is licensed under Creative Commons Attribution 3.0 Unported License CC BY 3.0

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9.13: Professional Conversations

9.13.1 - Writing in the Workplace

You probably know someone who has said, “I’m a lousy writer, but it doesn’t matter since I don’t write for a living and I’m not an English teacher.” You might have even made such a comment yourself. In reality, good writing can help you from the moment you apply for a job and throughout your time in the workforce. And regardless of whether you are writing in academic or professional settings, good writing involves an awareness of voice, audience, and message.

You will find that many of the skills you have learned in this class will serve you well in the workplace. Presenting a well researched and reasoned argument in your writing can be pivotal to achieving goals.

One of this week's assignments is to write a persuasive email in the workplace. I have pulled a few sections from a writing text (linked in citation) to guide you. This first section discusses etiquette for writing a workplace email. However, there is a lot of good information on professional writing in this chapter that may come in handy in other classes or as you search for employment, so you might want to bookmark it for future use.

9.13.1.1 - Using Email in the Workplace

Emailing started small in the 1960s and became more widespread by the 1990s. Today the idea of going a day without emails is incomprehensible to many people, both professionally and personally.

Even though most working people in the United States have both personal and work email, workplace email guidelines make the two quite different. Failing to follow these guidelines for workplace emails can have a range of ramifications from mild embarrassment to termination from your job.

The following guidelines are general and most of them will apply in most workplaces. You are likely to find, however, that your workplace has its own guidelines that you will need to learn and follow.

Here are some general workplace email guidelines:

- Make sure your writing has no grammatical, spelling, or punctuation errors and no typos. Any email, whether it is sent internally or externally, reflects not only on the person sending it, but also on the organization employing that person.
- Use standard wording, spelling, punctuation, and capitalization. Do not use any of the abbreviated, casual text that is common in personal online communications and texting.
- Use a subject line that targets the key point of the email so that the subject line can be a helpful sorting or searching tool. Adjust the subject line if you're replying to an email and your reply is on a completely different topic.
- Be concise.
- Be courteous.
- Use jokes sparingly since they are often misunderstood.

9.13.2 - Effective Workplace Writing

You'll find that writing in the workplace often mimics academic writing. You should be aware of your voice, audience, and message, and which appeal will work best (ethos, logos, pathos). Avoid fallacies and use solid evidence to back up your arguments.

If you need a refresher on persuasive appeals, reasoning, or fallacies, I would recommend reviewing Chapter 6: Persuasive Appeals.

The article linked in this week's reading is about writing a workplace memo, but the steps outlined could just as easily be used in other forms of workplace writing, including a persuasive email, which is one of your assignments this week.

There is one misstep in the article in which the author links to the website of a historian to guide you in writing a thesis statement. Though the website could be valuable (it does have a lot of information on doing historical research and writing), it doesn't really go into writing thesis statements. If you need some guidance in that area, I suggest checking out the Purdue Online Writing Lab section on developing a thesis statement.

Reading: From Forbes Website: How To Write A Memo That Pep People Will Actually People Will Actually Read by David Teten

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Joining the conversation. (2012). *The writer's handbook, v.1*. https://2012books.lardbucket.org/books/writers-handbook/s08-02-recognizing-the-rhetorical-sit.html NOTE: This title is licensed under CC BY-NC-SA 3.0

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9.14: Assignment Resources for Instructors

9.14.1 - Using Crash Course: Navigating Digital Information for Class Discussions

This excellent series provides concise, credible information to help students learn to navigate and evaluate digital information. I used every video in the 10-part series for discussion assignments. Sometimes, I utilized Studio in Canvas to allow students to comment directly on the video. Other times, there were specific prompts to help students practice what they had learned from the video.

The following Discussion Prompts are available for your use.

9.14.2 - All Class Discussion: Crash Course Digital Information #1

One of my favorite authors, John Green, along with his brother, Hank, started an educational YouTube series several years ago called Crash Course. In one of the newest additions to the series, they're tackling digital information and I think it has some great tie-ins to this course. We'll be watching several videos over upcoming weeks.

I am utilizing a tool that allows you to comment directly in the video. When something seems interesting or makes you think, post a comment. Your classmates can comment on your comments as well.

9.14.2.1 - Goal

The goal of this assignment is to get you to think more deeply about how we are consuming information. This discussion isn't directly tied to a unit outcome, but is a good introduction to the series, which will become more relevant as we move forward.

9.14.2.2 - What to Do:

Because this video is basically an introduction to the series, there's no formal prompt or grading rubric - just comment in at least two places in the video. You can also add to or respond to your classmates comments, though that's not a requirement for this week's assignment. We'll get more into a discussion atmosphere in future videos in the series.

9.14.2.2.1 - Posting a Comment in the Video:

To post a comment in the video, follow these steps:

1. Watch the Video: Introduction to Crash Course Navigating Digital Information #1
2. Pause the video when you're ready to comment on the section
3. Type your comment in the text box just below the video
4. Click the blue Comment at xx:xx:xx box to post the comment

9.14.3 - Crash Course Digital Information #2: Facts about Fact Checkers

In this second episode, John Green starts getting into the skills that are needed to evaluate information. Most of what he's talking about applies to the information you'll find on the open web - through a search engine or in a social media feed. We'll be digging deeper into evaluating sources in our next unit.

I am utilizing a tool that allows you to comment directly in the video. When something seems interesting or makes you think, post a comment. Your classmates can comment on your comments as well.

9.14.3.1 - Goal

The goal of this assignment is to get you to think more deeply about how we are consuming information.This discussion is related to the following unit learning outcome:

Students will be able to recognize the 5 Ws of source evaluation. (Note - we haven't actually reviewed this content yet, but this video is a nice introduction.)

9.14.3.2 - What to Do:

There is no formal prompt or grading rubric - just comment in at least two places in the video. You can also add to or respond to your classmates comments, though that's not a requirement for this week's assignment.

9.14.3.2.1 - Posting a Comment in the Video:

To post a comment in the video, follow these steps:

1. Watch the Video: Facts about Fact Checking
2. Pause the video when you're ready to comment on the section
3. Type your comment in the text box just below the video
4. Click the blue Comment at xx:xx:xx box to post the comment

9.14.4 - Crash Course Digital Information #3: Lateral Reading

In this third episode, John Green brings up some additional questions to ask yourself when evaluating digital information. Most of what he's talking about applies to the information you'll find on the open web - through a search engine or in a social media feed, but because we gather so much information online for our own personal reasons, it's vital to think about these question and know how to spot things that seem questionable.

9.14.4.1 - Goal

The goal of this assignment is to get you to think more deeply about how we are consuming information.This discussion is related to the following unit learning outcome:

Students will be able to apply evaluation techniques to determine a source's relevancy and credibility.

9.14.4.2 - What to Do:

9.14.4.2.1 - Watch Video and Initial Discussion Post due by 11:59 pm Sunday

1. Watch the video: Lateral Reading
2. Use Google or another search engine to find a website that appears to support a cause you believe in. It could be related to a hobby, or a charity, or even a professional organization that's connected to your current or future career. Take some time to explore the website and do some lateral reading as described in the video. Then, contribute to the discussion:
    1. Provide the name of the website and paste the URL
    2. What did your lateral searching and reading reveal about who is behind the website? In other words, who made it and why?
    3. Where did you go to find the answer to b above?
    4. After practicing lateral reading to learn more about the website you chose, do you trust the information this organization is providing on its website? Why?

9.14.4.2.2 - Responses to Classmates due by 11:59 pm Monday

3. Comment on the analysis of at least two of your classmates' posts. Did you use any of the same sources when practicing lateral reading to evaluate your websites? Other observations?

9.14.5 - All-class Discussion: Crash Course Digital Information #4: Who Can You Trust

In the fourth episode, John Green discusses the issue of trust. How can we trust the digital information we find? This has become a real problem in our information overloaded society. You'll see that he acknowledges that even well-respected sources can sometimes make mistakes, but it's how they deal with those mistakes that matters.

9.14.5.1 - Goal

The goal of this assignment is to continue practicing evaluation and critical reading skills. This discussion is related to the following unit learning outcomes:

Students will be able to

- Apply evaluation techniques to determine a source's relevancy and credibility.
- Demonstrate critical reading skills.

9.14.5.2 - What to Do:

9.14.5.2.1 - Watch Video and Initial Discussion Post due by 11:59 pm Sunday

1. Watch the video: Who Can You Trust?
2. Use the source you identified as your "Good" web source this week and answer the questions John posed in the video:
    1. What is the author or authors' professional background?
    2. What is the process the source used to produce this information?
    3. What systems are in place to catch mistakes and correct them. If you find a specific written policy on the website, paste the URL.

9.14.5.2.2 - Responses to at least one Classmate due by 11:59 pm Monday

3. Comment on the analysis of at least two of your classmates' posts. Do you agree they have found a "good" web source? Why?

9.14.6 - All-class Discussion: Crash Course Digital Information #5: Using Wikipedia

In the fifth episode, John Green takes a dive into Wikipedia. I'll be honest, I was worried about what he would say in this video, but I have to say after watching it, this is exactly how I instruct students to use Wikipedia. It is a great place to start to get some basic information about a topic and a great jumping-off point. I'll be interested to read your responses to the discussion this week.

9.14.6.1 - Goal

The goal of this assignment is to continue practicing evaluation and critical reading skills. This discussion is related to the following unit learning outcomes.

Students will be able to:

Apply evaluation techniques to determine a source's relevancy and credibility.

9.14.6.2 - What to Do:

9.14.6.2.1 - Watch Video and Initial Discussion Post due by 11:59 pm Sunday

1. Watch the video: Using Wikipedia
2. Go to Wikipedia's main page
3. You will see a linked menu in the left-hand column. Click the fifth item down from the top in that left column that says Random Article. If you get an article that is only a few sentences long, keep clicking the Random Article link until you get an article that has some substantial information. Explore and read the article and look at the list of references, then provide answers to these prompts:
    1. Tell your classmates what article you landed on, give a short summary (in your own words), and provide the URL.
    2. Is the article about something you're familiar with or is it about something new to you?
    3. Based on the references listed, how well-researched do you think this entry is?
    4. Click on the "Talk" tab that John described in the video - What kind of "talk" has taken place about this article?
    5. Finally - tell the rest of the class your experiences with the communication you get from other instructors about the use of Wikipedia. Has any instructor ever said it's OK to use it as a starting or jumping-off point?

9.14.6.2.2 - Responses to at least one Classmate due by 11:59 pm Monday

3. Comment on at least two of your classmates' posts. Do you agree with their assessment of the Wikipedia entry they discussed? Why?

9.14.7 - All-class Discussion: Crash Course Digital Information #6: Evaluating Evidence

In the sixth episode, John Green reinforces our lessons on evaluating information and the importance of recognizing fallacies in arguments by stressing that credible sources should base their claims on evidence - and that evidence should be coming from reliable sources.

9.14.7.1 - Goal

The goal of this assignment is to continue practicing evaluation and critical reading skills. This discussion is related to the following unit learning outcome:

- Apply evaluation techniques to determine a source's relevancy and credibility (unit 2).
- Identify rhetorical appeals and fallacies in reasoning (unit 2).

9.14.7.2 - What to Do:

9.14.7.2.1 - Watch Video and Initial Discussion Post due by 11:59 pm Sunday

1. Watch the video: Evaluating Evidence. In the video, John talks about irrelevant evidence and misinformation - when someone tries to bring evidence into the conversation, but that evidence isn't relevant to the argument that's being made - meaning the logic is flawed (a fallacy). This happens all the time and can often be found in social media posts or comments.
2. Do a Google search (or use a search engine of your choice), or search one of your social media feeds and find an example of someone using flawed logic. The topic can be anything you like, and the example might be someone's tweet or social media post, a comment on an article/post or a social media post, a blog, or an actual article.
3. In the Padlet space below, click the plus sign or double click anywhere to add your details. Follow these instructions and answer to these prompts:
    1. Title your post with your name and the name of the fallacy being used. If you need a refresher, look at last week's reading on fallacies, or look at the Your Logical Fallacies website.
    2. Click the chain link symbol and provide a link to your example.
    3. In the "Write-something" area tell your classmates why this is an example of the fallacy you identified.
        1. I've provided an example to get you started.

9.14.7.2.2 - Responses to at least two Classmates due by 11:59 pm Monday

4. Add your name and comment on at least two of your classmates' posts in the comment area down below their Padlet post. Make sure you sign your name so you get credit for your response. Do you agree with their assessment of the use of irrelevant evidence or misinformation and the fallacy they've identified? Why?

9.14.8 - All-class Discussion: Crash Course Digital Information #7: Evaluating Photos & Video

In the seventh episode, John Green takes on photos and video. These are perhaps the most effective tools for misinformation because we naturally want to believe what we can see. But, there are steps you can take to make sure what you're seeing is coming from a reliable source.

9.14.8.1 - Goal

The goal of this assignment is to continue practicing evaluation and lateral reading skills. This discussion is related to the following unit learning outcome:

- Apply evaluation techniques to determine a source's relevancy and credibility. (unit 2)
- Use information responsibly (seeking accurate and reliable sources while respecting intellectual property).

9.14.8.2 - What to Do:

9.14.8.2.1 - Watch Video and Initial Discussion Post due by 11:59 pm Sunday

1. Watch the video: Evaluating Photos and Videos. In the video, John talks about doing a reverse image search using Google or TinEye. You're going to practice that.
2. Find an image that could be taken out of context if it was posted just by itself or find an example of an image on social media or some other web-based source that has fooled you. Provide answers to these prompts.
3. In the Padlet space below, click the plus sign or double click anywhere to add your details Follow these instructions and answer to these prompts:
    1. Title your post with your name.
    2. Click the picture of the chain link to paste the URL to the image/video/social media post, etc.
    3. Do a reverse image search using Google or TinEye to try to find the origin of the image. (John demonstrates how to do this in the video.) In the "Write Something" area Tell your classmates what information you found about the image?
    4. If it was an image that originally fooled you, tell your classmates about your experience and how you confirmed it wasn't real.

9.14.8.2.2 - Responses to at least two Classmates due by 11:59 pm Monday

3. Add your name and comment on at least two of your classmates' posts in the comment area down below their Padlet post. Make sure you include your name so you get credit for your response. Have you had similar experiences?

9.14.9 - All-class Discussion: Crash Course Digital Information #8: Data & Infographics

In the eighth episode, John Green takes a look at data and infographics. We know from his previous episodes that people often equate graphics with good sources, but we need to pay attention to the sources that were used to make those graphics and the way the information is presented.

9.14.9.1 - Goal

The goal of this assignment is to continue practicing evaluation and lateral reading skills. This discussion is related to the following unit learning outcome:

- Apply evaluation techniques to determine a source's relevancy and credibility. (Unit 2)
- Use information responsibly (seeking accurate and reliable sources while respecting intellectual property).

9.14.9.2 - What to Do:

9.14.9.2.1 - Watch Video and Initial Discussion Post due by 11:59 pm Sunday

1. Watch the video: Data and Infographics. In it, John talks about the importance of paying attention to **source** and **context** while viewing information graphics or data online. Once again, your lateral reading skills should be put into play for this discussion.
2. Pick one of the following infographics and analyze it using the prompts:

- The Healing Power of Cat Purrs
- Cannabis Law: The Past, Present, and Future
- Olympic Gold Medal Winners
- Why Does Bacon Smell So Good?
- UFO Sightings
- What Makes Health Care So Expensive?
- U.S. Police Brutality

1. Tell your classmates which infographic you picked and provide a link.
2. Is the data accurate and relevant?
3. Does the information include any fallacies in logic? If yes, what kind?
4. Is the source used for the graphic reliable?
5. Is the information presented in an honest way?

9.14.9.2.2 - Responses to at least two Classmates due by 11:59 pm Monday

3. Respond to at least two classmates who picked ***different*** infographics.
    1. Do you support their findings? Why?

9.14.10 - All Class Discussion - Crash Course Digital Information #9: Click Restraint

In episode nine, John Green discusses the concept of click restraint - restraining from the urge to click on one of the first few results in your internet search. This episode didn't lend itself for specific tasks, so instead, I'm utilizing the tool that allows you to comment directly in the video.

When something seems interesting or makes you think, post a comment. Your classmates can comment on your comments as well.

9.14.10.1 - Goal

The goal of this assignment is to continue thinking about evaluation and lateral reading. This video and commenting is related to the following unit learning outcomes:

Students will be able to:

- Use information responsibly (seeking accurate and reliable sources while respecting intellectual property).
- Apply evaluation techniques to determine a source's relevancy and credibility (Unit 2).

9.14.10.2 - What to Do:

9.14.10.2.1 - Video comments due by 11:59 pm Sunday

Because this video didn't lend itself to practicing a specific task, there's no formal prompt or grading rubric - just comment in at least two places in the video. You can also add to or respond to your classmates comments, though that's not a requirement for this week's assignment.

9.14.10.2.2 - Posting a Comment in the Video:

To post a comment in the video, follow these steps:

1. Watch the Video: Click Restraint
2. Pause the video when you want to comment on something he says
3. Type your comment in the text box just below the video
4. Click the blue Comment at xx:xx:xx box to post the comment

9.14.11 - All-class Discussion: Crash Course Digital Information #10: Social Media

In this last episode, John Green takes on social media. Some of the concepts he talks about were introduced last week, including filter bubbles and confirmation bias.

9.14.11.1 - Goal

The goal of this assignment is to continue practicing evaluation and lateral reading skills. This discussion is related to the following unit learning outcome:

- Apply evaluation techniques to determine a source's relevancy and credibility (Unit 2).
- Use information responsibly (seeking accurate and reliable sources while respecting intellectual property) (Unit 4).

9.14.11.2 - What to Do:

9.14.11.2.1 - Watch Video and Initial Discussion Post due by 11:59 pm Sunday

1. Watch the video: Social Media. Think about the "gatekeepers" of social media - as John mentions, there are no filters in what is posted. Filtering might be happening after things are posted - but not before a small group of people has already seen it. You must also remember the importance of using lateral reading skills **before** reposting information from a friend or followed source. Think of these things as you formulate your original post.
2. Think of a time when a friend, family member, or someone you follow shared fake or misleading information on social media. Follow these prompts:

1. Describe the misinformation and share a link to the source if you can find it.
2. Did you respond to the person who posted it? If not, why? If you did, how did you respond?

9.14.11.2.2 - Responses to at least two Classmates due by 11:59 pm Monday

3. Respond to at least two classmates.
    1. Look at the story they relayed. If they didn't respond, give them an example of how one might respond to a post like that. If they did respond, are there any ways you think their response could have been more effective? Explain in detail.

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