

# Chapter 20. Middle Inquiry: Finding, Evaluating, and Integrating Information

## In this Chapter

### 20.1 Finding and Joining Relevant Conversations

Use reflective approaches

Use rhetorical and ethical approaches

Use recursive, multimodal, and networked approaches

### 20.2 Gathering Sufficient Relevant, Credible, Ethical Information

Gather more than you need

Plan carefully to gather primary data

Use advanced strategies when gathering secondary information

Lower the risk of bias and disinformation: Evaluate and cross-check your sources

### 20.3 Mapping Your Data Collection

Design a “map” that meets your needs

Review and organize as you go

### 20.4 Writing As You Learn, Learning As You Write

Write notes that analyze and synthesize

Begin drafting your project

Adapt your focal question or initial hypothesis

This chapter will prepare you to:

- Identify how your inquiry project will be part of a larger conversation
- Locate and evaluate source material that is accessible, relevant, insightful, substantive, and credible
- Organize your source material into a map for your writing project
- Work recursively as you move between locating, evaluating, and writing about information related to your project

Once you have done your initial explorations and “pre-search” as part of your early inquiry process, you should have a clearer view of the initial hypotheses and questions that interest you most, as well as a sense of what other people have been saying about these issues.

Your middle round of inquiry may begin to look and feel more like a typical “research paper” experience: you will locate, evaluate, and analyze information and data that you are likely to use in your final project. Remember that you should work rhetorically as a researcher, perhaps keeping some key threshold concepts in mind:



### **Good writing adapts dynamically to readers and contexts**

Writing—like dancing or judo—is more about evolving actions and interactions than it is about producing a single object.



### **Writing is a social rather than an individual act**

Writing is always connected to a community, and so your choices always do and always should reflect your interactions with other writers and readers.



### **Writing creates and integrates knowledge**

Writing is about representing what you already know, and also about creating new knowledge through the act of putting words onto a page or screen.

Moreover, since inquiry is not just rhetorical but also **multimodal**, **recursive**, **networked**, and **ethical**, you will need to do more than find three sources with a few startling facts that you can quote in your document to “prove your point.” At this middle stage, you are likely to focus on finding out what you don’t know, and beginning to arrange your ideas to share with other readers. To continue to research rhetorically and reflectively, you might:

- **Gather** a wide range of perspectives to see how others are already discussing the issue
- **Evaluate** your information to select the sources that will be most relevant and credible to your readers
- **Write** notes or drafts to analyze and synthesize the information you’ve gathered
- **Revise** or shift your focus or arguments as you learn more about the issue

## 20.1 Finding and Joining Relevant Conversations

When you write as an inquirer, you don’t stand alone on a hilltop and shout random ideas into the darkness: you join a conversation that has already been going on, and you try to inform or persuade people who already have knowledge or opinions on a subject. You thus need to find out not just what you don’t know, but what other people already know. Writing scholar Kenneth Burke compares this step to carefully “entering a parlor”—or a kitchen, a break room

at work, a chat thread, or an online forum—that is full of people already talking about your issue:

When you arrive, others have long preceded you, and they are engaged in a heated discussion . . . You listen for a while, until you decide that you have caught the tenor of the argument; then you put in your [view]. Someone answers; you answer [them]; another comes to your defense . . . The hour grows late, you must depart . . . with the discussion still vigorously in progress.

You already know that that first step, finding out what the key conversation points are, is crucial in our daily interactions with other people, whether in person or online. If you just barge in and start making claims, people might think you are impolite, uninformed, irrelevant, or even hostile. The more you find out about the basic themes of the conversation that’s already going on, the better your chances of contributing an interesting comment that people will respect, engage with, or find insightful.

The same is true when you are writing, although the speed of the conversation slows down: many people have been writing about your issue, or some aspect of your issue, for months or years before you sat down and opened up a blank page on your screen, and your contributions will be read by other people in a week, a month, or years from now. Instead of imagining yourself emerging from the shadows, delivering a box of facts, and disappearing into the night, you should plan to show how your ideas relate to key points expressed by others before you, and encourage the next round of readers to engage with and respond to your propositions.

## Use reflective approaches

In the same way that advanced writers don’t just sit down and start to write, advanced inquirers don’t “just do it” either. Whether you’re interviewing experts, using secondary sources from the popular web, consulting a subject-specific database, or reviewing physical books or reports from a library or other site, you will benefit from using an inquiry plan that helps you consider and analyze your moves as you go forward.

To push back against the impulse to just “find five sources” and jump into writing, keep the DEAL reflective framework in mind. As an advanced inquirer, you are still learning and gaining confidence:

- Continue to **define** and redefine the key issues of your project, letting new sources help you see more clearly and setting less useful sources aside.
- **Evaluate** your resources as you go, judging your individual sources to ensure they are credible, relevant, and insightful, and mapping your collection of information to identify new patterns, connections, and gaps.

- Leave yourself time to **act** by writing (more of) your draft as you go, developing your own analyses and incorporating the information you've learned.
- Keep your disposition of humility and curiosity as you continue to **learn** about the areas where you may still need to gather more information and adapt your own hypotheses or arguments.

Reflective writers move constantly learning and doing, between paying attention to others' ideas and developing our own, between digging deep into an issue and stepping back to see the bigger picture and assess our progress. Our goal is to create new knowledge that benefits our readers, and that work requires patience and flexibility.

### Use rhetorical and ethical approaches

When you just need a quick answer to a straightforward question, a short search on the open internet works beautifully: you type or speak your question (“What is money in Malaysia called?” or even just “money Malaysia”) and instantly receive an answer (“*ringgit* and *sen*”). An open search for basic information may still be helpful at this stage of your inquiry project, though you should be aware of the limitations and complications of quick searches that may compromise your goals.

To identify relevant **conversations** that you can join, however, you will need more rhetorical inquiry strategies. You aren't searching only for facts; you are inquiring about the state of the current conversation, and planning to convey those facts to readers in a way that answers a crucial question and/or proposes a relevant and useful hypothesis.

### Consider your goals and your unknowns

To begin with, it may be helpful to re-state your current working question or hypothesis, and identify:

- What you already know you know (and so might not need much more information on)
- What exact angles are your top priority, and what aspects you believe you most want or need to know more about, especially with regard to opposing or alternative views
- What areas you are still uncertain about but think you should explore—especially as they might involve underrepresented or marginalized perspectives

As you focus on the exact angles of your inquiry, you work rhetorically by keeping your own goals in mind. You are not a robot gathering information to produce a general report; you are a writer who intends to solve a problem and/or engage a group of readers.

### Consider the community's conversations

In addition, your inquiry needs to consider how other people—experts, stakeholders, and other involved communities—are writing and thinking about your issue. Adding one of the terms or phrases below the keywords you're using to search about your topic can help you “listen in” on specific discussions:

- **“Research on \_\_\_\_”**: What are experts who do research on related topics saying about it?
- **“History of \_\_\_\_”**: What do people who have been working on this issue a long time say happened in the earliest stages of this puzzle or problem—or say is the most recent development?
- **“Support for \_\_\_\_” or “Opposition to \_\_\_\_”**: What are people who share your perspective saying? What are people with a different perspective saying?
- **“Personal stories of \_\_\_\_”**: What are regular people who tell their own first-hand stories saying?
- **“\_\_\_\_ in [location name]”**: What are people in your community, or who live somewhere else, saying about it?
- **“\_\_\_\_ for [group or profession]”**: What are people who might be your readers—or people from that discourse community—saying? What do other writers have to say about how less visible or less powerful groups of people are affected by this issue?

When you use your search keywords—or your prompt for a generative artificial intelligence chatbot—to specify the context or angle of information that will best help you connect with your readers, you are inquiring rhetorically.

### Keep ethical principles in mind

Ethical, credible inquiry is rhetorical because it relies on common values. When you strive to meet your and your readers' expectations for finding and representing information that is fair, accurate, comprehensive, trustworthy, and supportive of a community's growth and well-being, you are researching ethically. In general, you want to pay attention to ethics at several points in this stage of inquiry:

- Inquire to identify multiple perspectives as you seek out sources.
- Evaluate the credibility and relevance of individual sources as you locate them.
- Read sources actively and critically so that you understand the context and key principles that you can share with your readers, rather than only seeking a “good quote.”
- Take deliberate action to counter the algorithms, cultural biases, and

systemic racism that may have silenced or hidden voices from minoritized communities.

It may seem that it takes longer to inquire rhetorically and ethically than to “find five sources,” but in the long run these strategies help you increase both your efficiency and your satisfaction. When you articulate your goals clearly, you spend less time reviewing irrelevant sources; when you know what others are saying, you save time by not having to invent good ideas from scratch or repeat work that has already been done; and when you research ethically, you gain credibility so that your writing is more engaging for you and persuasive for your readers.

### Use recursive, multimodal, and networked approaches

It’s good to keep reminding yourself that learning does not happen in a straight line, such as “Gather some sources, then review them, then write about them.” As tempting as it is to schedule a single afternoon to “do my research,” a more recursive approach will actually save you time and energy. You improve your efficiency and accuracy as an inquirer when you:

- **Move between locating and evaluating information:** when you take time to determine which of a few sources or data you’ve gathered so far is *most* accurate, relevant, or credible, your next round of inquiry will be more effective
- **Move between locating information and mapping it to the conversation:** when you take time to map out what you already know and how it connects to what *others* already know, you can use the trends and gaps to improve your next search
- **Move between locating and writing about information:** when you take time to begin writing your interpretations of the information you’ve found, you discover more about your own conclusions, which can help you review your sources more productively

For example, if you’re working on a fairly familiar line of inquiry— *what did my family do for fun when I was growing up in San Antonio, Texas, that I could share with others?*—you may be tempted to set a clear schedule once you’ve looked at some sources and narrowed your focus. You decide you’ll talk to your siblings, check a few websites about Enchanted Rock, brainstorm your draft, and write it up.

But what if one of the website descriptions of trails in the park completely contradicts your memories of what you did? Maybe it turns out your siblings are not much help after all, but one of the websites also refers you to an article about boat tours, which helps you remember an afternoon you spent with your cousins, and now you need to call them instead. If you work on each stage a little at a time, you can learn as you go and make sure that you have the energy and resources you need for each step before you take the next one.

If you had planned a linear approach where you decided in advance on your topic and sources, and then you had to change them all, you might have felt as though you fouled up the whole process and your project was falling apart. If instead you plan from the start that your middle inquiry cycle will go back and forth between steps and will likely involve some adjustments and changes as you go, then every change can be a sign that you're making progress.

### Explore 20.1



Consider a conversation that you are currently having with multiple people. This could be a private conversation with friends or family; it could be a conversation with members of a team, online discussion board, or community group; it could be a conversation within another course, your workplace colleagues, or members of your laboratory. Briefly describe two or three themes that come up frequently in this conversation, as well as one or two pieces of “insider knowledge” that this discourse community understands (but that outsiders might not know about). If you decided to add a new person to the conversation—someone intelligent and well-intentioned—how long would they need to participate to become aware of your themes? What would an unsuccessful first contribution or question look like (that would mark them as a newcomer or perhaps annoy someone in the group), and how could they make a better one?

### Learn



- To learn more about **discourse communities**, see [Chapter 3, Responding to Readers' Needs](#).
- To learn more about **reflective practice** and the DEAL framework, see [Chapter 4, Reflecting Throughout Your Writing Process](#).
- To learn more about **developing a working question or hypothesis**, see [Chapter 19, Early Inquiry: Exploring Research Questions](#).
- To learn more about the **advantages and limitations of online sources**, see [Chapter 19, Early Inquiry: Exploring Research Questions](#).

## 20.2 Gathering Sufficient Relevant, Credible, Ethical Information

One of the common questions that novice writers ask when they begin working on a school based “research project” is “How many sources do I need?” Advanced writers know that “enough” is not a number of sources; it’s a rhetorical decision:

- What information do you need as the writer to be able to explain your key points?
- What kinds of information sources will your readers trust, connect with, and learn from?

As you work into your middle stage of inquiry, you need strategies that will help you make good decisions about what information to gather, from how many resources, and connected to which angles or arguments.

### Gather more than you need

As an advanced and ethical writer, your goal is not just to back up your current point of view, but to inquire about all the aspects of your issue. Whether you are helping your readers to understand the features of a portable solar panel, choose the best campground, implement a reasonable flood-prevention policy, or adopt a more relevant art history curriculum, your middle-stage research should focus on understanding the big picture as well as locating specific information.

You need to be able to:

- Gather **highly relevant** information, by your own and your readers' standards
- Gather **strongly credible** information, by your readers' standards
- Gather an **ethically complete** set of information, including material on alternative, opposing, or underrepresented theories, causes, interpretations, or solutions
- **Narrow, expand, or redirect** your question or hypothesis in light of new data or information

In order to know if you have enough relevant, credible, and complete information, you need to become familiar with a wide range of source material. If you skim two newspaper reports or review just one art history course description, you'll never know if you have found the most credible and complete information. As you work on your inquiry as a writer, then, you nearly always need to locate more information than you will end up using directly in writing your document: you need to find some sources just to know what material is *not* useful, intriguing, credible, or relevant.

Outside school, you likely already use this big-picture approach: after all, the last time you considered buying a \$200 set of speakers or a \$500 tablet, you probably didn't settle for the conclusion of one product review. If you were planning to buy a \$30,000 car or a \$350,000 house, you would want to gather even more information from a wide range of sources: your own observations, published analyses, comparisons to other cars or houses, and perhaps even a hired expert to do an inspection.

Whether you're inquiring about a house to purchase or about recent advances in coastal flood protection, it's good to remember that you will likely still be working with four categories of information about which you are inquiring:

- **Category 1:** Information you know that you know
- **Category 2:** Information you don't know that you know



- **Category 3:** Information you know that you don't know
- **Category 4:** Information you don't know that you don't know

While a “research paper” writer might focus on Category 3, finding out answers to a couple of obvious questions, ethical writers pay special attention to the balance between Category 1 and Category 4. In an era when anyone with a keyboard can share information, advanced researchers need to double check whether what we *think we know* is truly correct and complete; we also need to actively seek out ideas that might not naturally occur to us.

### Plan carefully to gather primary data

Although you live in an “Information Age” and have access to more secondary published data than has ever been available before, you may still want to gather or create your own primary data. You may gather data from yourself as a witness or expert; from other people through interviews, surveys, or ethnographic observation; or through experimental measurement of the physical world or specific processes. Doing your own research may take more time, so plan ahead in order to be efficient without sacrificing quality or integrity.

### Identify the information that primary sources or methods can best provide

To be ethical and efficient, you want to determine in advance what data you most need and what data are most available from your experiment or gathering process. Primary data can help you:

- Analyze aspects of a local or very recent situation
- Provide vivid examples that resonate with readers
- Create new knowledge rather than only reporting on others' ideas

When you know *why* you want primary data, you can tailor your methods or questions to help you achieve those goals: if you want sympathetic stories about surviving a hurricane, you will ask different questions than if you need to identify local trends in rebuilding after the storm.

To develop a plan for avoid duplicating previous information gathering, you may have to complete background research in secondary sources *before* you begin primary research. After all, you don't want to waste time surveying community members if a local news organization has recently published a relevant, well-designed survey, and you don't want to repeat an experiment on an organic fertilization process that has already been proved not to work by several credible recent studies.

### Evaluate primary sources' relevance, credibility, and availability

You should also match your questions to the expertise or experience of your participants: if you are observing or surveying college students, they will be most

reliable on issues related to their experience as students, as adolescents, and as residents of a particular neighborhood. For example, students at your school will have useful and credible insights about an art history course they have taken; on the other hand, while the same students may also have opinions about flood control, your readers may not trust or be interested in those opinions.

Similarly, you should evaluate what you have access to: will your online survey reach 5 people or 50? will you have time to observe one professor or three? If you can only contact a few people, you may not be able to credibly predict a trend—but you can still provide vivid examples that readers will find engaging.

### Make plans to gather appropriate data

Once you have determined that gathering your own data will benefit your inquiry, you should take some time to set the arrangements up to increase your success. Before you decide who you want to interview or what group you want to observe, you can do some background “lookup” research to find out about the people, organizations, or technologies you might encounter: out of three art history professors, which one teaches the most introductory level classes? You should also plan how you will contact possible participants, arrange for access to a site, and record the information you gather.

Finally, because live research is complicated, you should create a schedule that leaves you plenty of extra time. Also consider creating “Plan B” by listing several possibilities for each key decision you need to make: who to consult, what to focus on, when and where to begin or complete your inquiry, how or for how long to conduct your survey or observation.

### Apply a relevant, ethical information gathering process

If you are working in a laboratory, you have most likely already determined your questions and methods for gathering data. But even in a less formal situation—you plan to interview a business owner, analyze a business spreadsheet, observe a class discussion, or just try to recall a family vacation—you need careful preparation in order to conduct reliable inquiry.

As researchers, we need to compensate for the fact that we tend to *find what we are looking for* and to miss what we don’t consider important. So you need to take time in advance to prepare questions or observation guidelines that will help you gather complete, impartial data. You might use some of the following steps:

- Generate a wide-ranging list of possible questions: include both closed questions (yes/no) and open-ended questions, and include questions about major and minor aspects of your issue.
- Seek unexpected information, by including unusual questions or observation opportunities: consider asking questions about alternative approaches

or surprising experiences, and identify some seemingly inconsequential people or details you can observe or ask about.

- Narrow the question set or observation checklist for your initial inquiry: enough points to cover your core information needs but not so many that the time taken in answering them or analyzing the answers will exceed participants' patience or your resources
- Use neutral wording for your questions so that they ask for information in an open-minded way (you could choose “What do you remember about the damage Hurricane Ian caused to your store?” rather than “How did Hurricane Ian destroy your business?”)

When you have a good question list, you might ask a peer for feedback on it or for help practicing your interview in advance, to be sure that your inquiry approach has the best opportunity to succeed.

Finally, you should follow ethical research practices. When you gather people-based data, you need to be sure that participants are adults in a fully public space—like a food court or city park—or that they have been directly informed about how you plan to share their data and have freely given their consent for you to observe or question them for your project. (Your instructor or supervisor may expect that you have participants sign a formal written consent to share their information.)

In interviews and observations as in all research, you are expected to be fair: to design your inquiry in a way that won't bias the results (don't ask only people who have received a parking ticket to give their opinions about campus parking) and to report your data accurately and completely (don't leave out data that contradicts your own view). You should record details carefully so that you can explain your process as well as your results: readers will want to know whether you interviewed a few of your best friends or whether you deliberately sought out a broader range of participants to gain credibility.

### Practice

- To practice **defining your research steps**, see [Audience Profile](#), [Deluxe Project Scheduler](#), or [Evidence Shopping List](#).
- To practice **exploring primary sources with an open mind**, see [Assumption Inspection](#), [Counterargument Generator](#), [Magic Three Choices](#), [Question Ladders](#), or [Used to Think / Now I Think](#).



### Use advanced strategies when gathering secondary information

Today anyone with an internet connection can publish their ideas—factual or not—for everyone to read. As a result, you need advanced writing and research

strategies more than ever:

- To stand out from the crowd, you need to bring the best (not just the easiest) information into your writing.
- To have an impact on readers who either think all opinions are equal, or think nobody's ideas are trustworthy, you need to strongly demonstrate the credibility of your information.
- To promote ethical, productive conversations, you need to avoid sharing misinformation or exaggerated speculations.

It may be tempting to rely on quick-search strategies you have used before, but advanced writers gain power and confidence by using a more critical and carefully planned approach to secondary source-based research.

### Identify what information you need to locate

When you go shopping at a big store without a list, you often buy what you don't need and forget to buy what you need; you may also wander slowly through the store aisles rather or stare in bewilderment at a huge shelf of cereal boxes. If you begin surfing the internet or searching a database without a list of what you want to find, you will encounter the same problems: your inquiry process will be inaccurate, slow, and incomplete. Even though you cannot know what exists until you find it, you can visualize clearly what you already know, what you know you don't know, and what you know that you most want to know at this point—and you can anticipate what kinds of sources provide the best answers.

### Evaluate appropriate sources and tools

There are no “bad sources” or search tools: only sources or tools that are inappropriate for a specific goal or a particular audience. Advanced researchers use different tools to locate credible secondary sources depending on the situation:

- Use popular web searches to gather general background information, to locate very recent or very local reports, to learn what topics and terminologies are most often being considered, or to check on the credibility of other sources or their authors.
- Use generative artificial intelligence tools or chatbots to ask for suggestions on opposing perspectives, audience resistance points, or alternative viewpoints you might not know about (but be wary about their accuracy on specific points).
- Use database searches to increase your access to more in-depth or scholarly sources, to discover subject terms and categories that can lead you to clusters of information, to network your search to related topics, and to find resources to persuade very educated or resistant readers.
- Use library searches (and librarian support) to increase the “people

power” of your inquiry, to access more complex or historical analysis for sophisticated readers, to access local or specialized documents, or to trace answers to challenging questions.

### Plan a search strategy that uses multiple steps

In a previous “research paper” mode, your plan may have been to locate any five sources that were generally relevant, then read and highlight them all, and then move directly to composing. As an advanced inquirer and writer, you will be more efficient and successful if you plan to move back and forth among finding, evaluating, reading, and writing about your sources.

- **Identify sources and trends.** As you search for answers to the top questions on your list, pay attention both to individual sources that seem relevant and credible as well as to the trends that help define the conversation: what are many or few people discussing? Write yourself some notes to help your searching and composing: what terminology do they use? what or who are they *not* writing about?
- **Skim and appraise for credibility and relevance.** Before you commit to reading or downloading a source, use some pre-reading strategies to consider a few key features—opening/closing, headings or subject terms, abstract or citations—that will help you make sure it strongly meets *all* your advanced criteria: not just “generally relevant” but also accessible, insightful, substantive, and credible to your specific readers.
- **Sort, review, and analyze.** After you’ve located a few high-quality sources, stop and take time to read one or two in more depth and add them to your map of key points: what do you have a lot of information on, and what do you still need? Leave yourself some time in the middle of your searching to write about what you’ve found, to see if the data you’ve found and the issues you most want to write about still match.

You might bookmark, tag, save, or print a few “low” or “medium” quality sources as you get going, but you should soon be keeping only high-quality sources. Remember, too, that your focal question or initial hypothesis is not cast in concrete. You may still discover that you want to narrow or shift the focus of your inquiry during this stage of your process, so you don’t want to rule out information too quickly.

### Adapt and improve your search strategies as you go

Once you’ve found your first two or three quality sources, pause to use what you know to improve your search process for the next round.

- *Adapt your terminology.* Improve your keywords and combinations of search terms based on language you see in the abstracts, database subject headings, sub-headers, and text used in your first sources

- *Adapt your focus.* In databases and library catalogs, begin to use advanced search features such as Boolean operators, subject headings, or search filters that help you focus on time ranges or types of source material
- *Adapt your range.* Use a deliberate strategy to help you locate sources outside your comfort zone, such as adding phrases like “opposition” or “research study” to your search terms
- *Adapt your networking.* Make each strong source lead you to additional sources by checking who and what its author cites, formally or informally, and by scanning for the names of other organizations, theories or principles, or key events that you could focus on in your inquiry

Remember, too, that you can adapt and improve your project to match the research you’re finding: try writing a more specific or more complete working hypothesis that accounts for what you’ve learned so far.

### Practice

- To practice **locating and evaluating high-quality secondary sources**, see [Cousin Topics](#), [Keyword Bingo](#), [Mind the Gap](#), [Rate My Source](#), [They Say + I Say](#).
- To practice **annotating secondary sources** as you read them, try an exercise like [Annotation](#), [Snapshots](#), or [Talk Back](#).



### Learn

- To learn more about **secondary source searching**, see [Chapter 19](#), [Early Inquiry: Exploring Research Questions](#).
- To learn more about active reading strategies, see [Chapter 6](#), [Reading as a Writer](#).



## Lower the risk of bias and disinformation: Evaluate and cross-check your sources

Advanced and ethical writers need to take deliberate steps to ensure that the information we provide to readers is reliable and relevant. In the information overload of the twenty-first century, amid open-access social media and lively conversations about how inaccurate information can spread like wildfire, it may seem as though this task is even more challenging than ever. But evaluating source quality has always been a writer’s task, because a “high quality” source depends on so many elements of the rhetorical situation.

### Evaluate each source using the A-RISC criteria

You may already have learned that a source of information—from primary or secondary research—needs to be credible. Credibility is rhetorical: that is, you

and your readers all need to trust that the source is providing a high level of accurate and complete information given the context of the research. One common way to remember some of the elements of credibility is with the acronym “CRAP”: this helps writers look for sources that can be verified as having Current information, a Reliable level of accurate information, an Authoritative writer or organization providing the information, and a clear Purpose that is not compromised by intense biases.

But correct and verifiable information isn’t the only sign that a source is high quality, and not all sources that are appropriate for a writer’s work are credible. For instance, a writer exploring the effects of wartime propaganda will want to include examples of that propaganda even though they are not current, accurate, or unbiased, because they are a crucial part of the evidence readers need.

Credibility should be one part of a larger set of criteria for evaluating a source. A more expansive list of source-quality criteria would be the *A-RISC* guide noted here:

- **Accessible:** The source is written in language and with the right level of specialized context to allow the writer and reader to understand key information.
- **Relevant:** The source contains information that directly connects to the researcher’s goals and provides information that matches the readers’ needs.
- **Insightful:** The source provides new information or analysis, or a new application of a theory or paradigm, so as to extend the researcher’s knowledge and enable readers to gain an understanding beyond a surface level.
- **Substantive:** The source gives enough depth of information and analysis to provide a complete picture of (part of) an issue, without overlooking contrary or marginalized perspectives.
- **Credible:** the source meets the “CRAP” test for Currency of data, Reliability of verifiable information, Authority and expertise of the source, and a Purpose that is not compromised by significant bias or conflict of interest.

As you track individual source quality, remember that sources don’t have to be perfect to be useful and worthwhile:

- Highly *credible* sources are often *less accessible* to non-specialist readers, so there may be room in your research collection for some medium-credibility sources that help you and others comprehend or connect with the issues
- A source does not need to be 100% about your exact issue to have at least one section that is *relevant* to a question you’re investigating or a perspective you want to represent
- One or two sources that provide *insightful* analysis or a *substantive* review of data may be more useful than a dozen *relevant* sources that all give brief or superficial information

You will also want to track the major content of each source as you go along. Your prereading strategies and critical reading approaches will help you make realistic judgments about the relevance and substance of each source. You can use annotations, notes, or tags to identify what the argument or main emphasis is, what the key evidence is (personal stories? recent research studies?), and whether the source addresses any counterarguments or alternative views.

### Cross-check the author, publisher, sources, and conclusions

If you have ever graphed data points to find a trend line, you know that any single data point is insufficient, by itself, to indicate a reliable trend. At least two points are necessary for the researcher to have any idea whether they have found a rare anomaly or an event that is worth further exploration.

Finding a published source gives you one point: A single person had a single idea and made it available. To find out whether your source is trending toward credibility, you need to find additional data. Fortunately, the internet is filled with data: with a simple “lookup” search, you can cross-check any of the following:

- The **author**, who may have a profession or other publications that help confirm their expertise on a topic
- The **publication**, which may have an About Us page or a Wikipedia entry that helps identify any biases or commitments to accuracy (such as expert peer review or fact-checking)
- Any **sources** or studies cited by the author that may provide further evidence (if they also seem credible) of the reliability of the data
- The data and **conclusions**, because several credible sources arguing the same point can help you gain confidence in the reliability of the information
- The arguments of **opposing, alternative, or minoritized perspectives**, to help you be sure you are joining a conversation among reasonable people who disagree rather than finding a small pocket of earnest people who believe the Earth is flat, or relying on a study that only examined the experiences of wealthy people in US cities

Cross-checking does take a little extra time, but it is vital for:

- Any popular online source, including sources provided by an online chatbot or search tool
- Any example that is provided to you by a single person in an interview, survey, or social media post
- Any source from any type of media, including books and scholarly journals, that completely agrees with you (because of your own confirmation bias)
- Any source from any type of media that presents a surprising or drastic conclusion (because of your readers’ skepticism)



## Explore 20.2



If you've already done some pre-search as part of your early inquiry, you are ready to make a rhetorical source-gathering plan. Rather than settling for whatever sources come up in your first try, take some time now to set the bar high by imagining the best possible research outcomes. Use any four of the categories below to start your plan. For each of the four that you choose, write a sentence identifying a dream source (primary or secondary) you'd like to look for; you might use a structure such as "A \_\_\_\_ [type of source] focusing on \_\_\_\_ that answers my [or my readers'] question about \_\_\_\_." (Note that this is a great plan to share with a librarian!):

- Background of the problem or issue
- Specialized information about one aspect of the issue
- Local information or personal stories
- Statistical data
- Alternate or opposing perspectives
- Expert analysis
- Examples of problems or solutions

## Practice



- To practice **evaluating secondary sources**, see [Rate My Source](#).
- To practice **exploring your own biases** or knowledge gaps, see [Assumption Inspection](#), [Believing/Doubting](#), [Counterargument Generator](#), [Mind the Gap](#), [Reason Appallingly](#).

## 20.3 Mapping Your Data Collection

You will initially evaluate your primary data and secondary source material as you gather it, skimming the beginnings, endings, or abstracts of published sources to ensure that you don't collect information that is entirely irrelevant or unreliable. You might assess individual sources using advanced criteria such as accessibility, relevance, insight, substance, and credibility (A-RISC).

You also need to track a bigger picture. Since you are investigating a complex issue, you are unlikely to find a "superhero source" that can solve all of your questions in a flash. (And if you did, wouldn't that mean that there's no need for you to complete your project, since someone else has already done it?) Instead, you will create valuable knowledge to serve your readers by locating and synthesizing information from multiple sources, each of which contributes a part of the crucial information.

Thus you should also leave time to map your whole collection (so far), so that you can be sure you are using your time wisely and creating a rhetorically appropriate

foundation of research. To what degree does the combined data, information, and analysis present a complete picture? How do specific pieces contribute to your understanding of the conversation that has evolved about your topic or question? Since no one source will solve your inquiry problem, you need to track whether you've assembled an effective collection. As in assembling a sports team or a choir, you might combine some generalized sources with a few that have specific information or qualities you value.

When you can explain the quality level and key information of each source, the ways their ideas overlap and respond to each other, *and* the overall patterns in the public conversation about your issue, you have the fundamental components of an **annotated bibliography**. In a school or laboratory setting, you may produce writing in this genre as a stand-alone task, to help you and others see the trends and gaps in current discussions. Even if nobody assigns you to write a separate document, though, tracking these elements will make your research work more efficient and prepare you for composing.

### Design a “map” that meets your needs

A pile or folder of sources is just information, like a mini-internet on your desk or your computer. To transform information into organized knowledge, you need to identify categories and relationships among different sources—that is, you need a map.

The map you design for your project can look like a geographical map: you could identify how different ideas seem connected by roads or separated by mountain-range barriers, draw in “towns” and “streets” with subtopics and sources you have uncovered, and leave blank some of the “wilderness” areas you are still trying to learn about. You can also map sources via a list or spreadsheet, a collection of free-write exercises, a two-column log, an annotated bibliography, or a set of color-coded note cards or stickies.

Your mapping is likely to lead you back to more researching: you will spot gaps in the map that you want or need to fill, or you will become interested in clusters of ideas that seem worth exploring more deeply. But your mapping should also lead you on toward writing. First, your mapping is an organizational strategy: while you can match your sources to subpoints you have already generated, your source map may suggest revisions of additional or alternate focal points for writing. Moreover, as you draft sentences that articulate not just what “they say,” but also what you say in response, you will strengthen your understanding of your own role in the conversation and chart your own pathway on the map.

Remember that your goal as an inquirer who writes is not just to report what everyone else says, but to give your own perspective, analysis, arguments, or recommendations. The more you know about the ideas already under discussion,

the more easily you can select which ones to amplify, which to disagree with, and where to add new insight.

### Track your informational knowns, unknowns, and needs

At the most basic level, you should list or map what you know and still need to know about your issue. You should update this list or map at several points in your inquiry, just as you would update a holiday shopping list as you move from store to store: what have you learned that was on your list to learn, what information or perspectives do you still need to collect, and what have you just figured out you want to know more about?

### Track the quality and range of the collected sources

As you spend a little more time researching, you will be able to evaluate quality and diversity of your evidence set as a whole, considering your goals and your readers' needs. Remember that it may take more than simply citing one source to move or persuade a real reader: some readers may remain skeptical unless several sources corroborate a point, unless the data is accessible and relevant to them, or unless you know and address their resistances and counterarguments. As a whole, and in relation to each main sub-point you're considering, does your collection have a reasonable balance of quantitative and qualitative evidence? of reliable information and expert analysis? of accessible and credible sources? of perspectives from multiple stakeholders, participants, analysts, or competitors?

### Track the conversational overlaps and interactions

Finally, as you move toward composing, you will benefit from mapping the key trends, voices, and positions in the conversation about your issue. Which of your sources present viewpoints of homeowners who experienced a hurricane, and which present? (Some sources may fit into multiple categories.) If the authors of three articles about strategies for teaching art history sat down for coffee, what would they agree and disagree about? Do you notice any trends or gaps in the discussion—for instance, do most of the descriptions of activities near San Antonio seem to focus on families with older kids or people with high incomes? has it been easy or difficult to find information about access for people with disabilities?

## Review and organize as you go

How do researchers keep up momentum in finding individual sources while leaving time to organize and assess the whole collection? Try these strategies.

### Scan-and-delve

When skimming a text isn't enough to reveal its best contributions to a conversation, but you don't have time to read the whole piece, you can scan it to identify

one or two areas of at least 2-3 paragraphs that seem most relevant to your inquiry, and then read and annotate those sections carefully.

### Tag or chart your sources

Use a spreadsheet, table, or notation system to track key information about your sources. In addition to bibliographic data like author, title, URL, and maybe the keywords you used to locate it, you can tag a source the way you tag photos, using descriptive terms that help you remember its major topics and qualities (e.g. #opposingview or #statistics). If physical organizers such as notecards or sticky notes aren't your preference, consider using a free reference manager program such as Zotero or Mendeley. (Bonus: they'll format your citations for you if you need that step.)

### Write to briefly summarize and critique

Try to do a little writing in between your rounds of reviewing sources, while your insights are fresh in your mind. A two-column log can help you understand what you have read, draw connections to the larger conversation, and get a head start on composing.

### Always identify whose words are whose

As you move information around, use a system you can rely on to track who said what. Be consistent and meticulous about using quotation marks, fonts or colors, or another coding plan to indicate any text, statistic, or example that came from someone else's writing, so you can accurately distinguish quotations from paraphrases or analyses.

#### Explore 20.3

In a sentence or two, describe the information management processes you used the last time you gathered information from multiple sources, either for a school project or for a personal goal (such as buying a new computer). How did you keep track of sources you found, judge their quality, identify the best information in those sources, compare them to one another, and/or recall key points from them as you started to write your project or make your decision? Which approach worked best, and which worked least well for you? What's one new or upgraded strategy you'd like to try differently with your current project?



#### Practice

- To practice **mapping** your information, see [3D Mind Map](#), [Audience/Stakeholder Mapping](#), [Map the Terrain](#), [Source Synthesis Grid](#), [Subtopic Generator](#), [They Say + I Say](#).
- To practice **writing informally** between rounds of research, see [Backtalk](#), [Off on a Rant](#), or [Seven Generations](#).



## Learn

- To learn more about **synthesis** writing, see [Chapter 14, Selecting and Combining Composing Moves](#).
- To learn more about **balancing quotation and paraphrase**, see [Chapter 22, Integrating and Acknowledging Sources](#).



## 20.4 Writing As You Learn, Learning As You Write

Instead of waiting to write until all the research is complete, advanced writers alternate between writing and searching in a truly recursive process, so that each informs the other. To benefit from this approach, you will need to give yourself permission to be writing even when you don't feel ready to write. Writing during middle inquiry is like scheduling a scrimmage or on-stage rehearsal: diving in helps reveal what you know and—importantly—helps you predict where you need to improve before you get to the final performance. This writing also helps you become the boss of your own writing project, rather than just repeating what others have said.

### Write notes that analyze and synthesize

Reading what many other people think can increase writers' knowledge, but that influx of other voices can also limit our own confidence and reduce our ability to create fresh insights, connections, and perceptions. Whether you are taking notes directly on your sources or in a separate document or notebook, you need to begin writing original sentences that move past summary of *what* others have said into analysis and synthesis.

Analysis “takes apart” someone else's ideas to judge how they work, how well they work, and whether they fit a particular context. To write analytical notes, you might compose several sentences that:

- Ask questions and/or make judgments about the value of another author's evidence or claims
- Explore whether the distant causes or eventual effects that the author reports really make sense
- Examine how well the facts or conclusions presented about one case fit into the precise issue you and your readers find yourselves most concerned about

Your stance as an analyzer is *skeptical*: you may think at first that something you read is mostly brilliant, but you want to be very careful not to buy into someone else's argument or data until you have questioned all the angles.

Synthesis “puts together” ideas from different authors, disciplines, viewpoints, or contexts in order to create a new idea. To write synthetically, you might compose several sentences that:

- Explain how ideas from two sources connect (or differ) *and why that matters* to your readers
- Show how applying a principle from one context to a new context will produce a new, valuable result
- Review several studies in order to show that there is an important area that has not been studied

A key move of synthesis is to explain your “so, what?”: how do the similarities or conflicts mean something significant to your readers? Your stance as a synthesizer is *exploratory*: you want to look beyond the obvious connections to see what else might be going on, and you may want to look for unusual combinations to investigate.

### Begin drafting your project

Writers often benefit from working directly on a project draft even in the middle stage when we don’t know all the answers. You don’t have to try to write your whole document start to finish. Instead, try one of the strategies below to help you understand the current conversation and how your project will fit into it.

#### Write on a single sub-point or argument angle

Review the area of your issue that you know or care the most about, and begin writing directly to your reader: what priorities, judgments, patterns, arguments, recommendations, cautions, and/or new connections can you offer?

Your writing can be as short as five or six sentences: to focus on your own insights, try to begin each composing session by writing your own statement about *what works* or *what connects*. If you have gaps in your knowledge, just add a note to yourself and keep going: “According to Kaplan [get quote later], a man-made dune would cost too much; however, Jann and Zawacki’s data [check for this] suggest that costs are reasonable enough to be affordable for a community like Seaside Heights.” When you write down what you don’t know right next to what you do know, you leave yourself a clear map of your current and future inquiry work.

#### Write in a familiar or accessible genre

If you’re feeling overwhelmed, you can begin writing in a more familiar voice or genre and then switch the tone, style, organization, and/or stance as you revise later. A chemist who is struggling with an unfamiliar grant proposal structure

might find it easier to begin writing using familiar headings such as *Methods*, *Data and Results*, or *Conclusions*. Similarly, a physical therapist might find that writing an action plan is easier at the start than trying to produce the scholarly diction and citation style required of a formal journal article.

If you take this route, you should still focus on communicating to your reader about *what works* and *what connects* and *why that is important*; you should refer to specific source material even if you normally wouldn't include that level of detail in a letter to a friend or a social media post.

### Write in a “zero draft” approach

Over the years as a writer you may have raised your expectations of what a “first draft” looks like. When you're writing in a familiar genre or field, your “drafts” might already have introductions and conclusions, use complete paragraphs, have all the pieces in a reasonable order, and contain engaging and correct phrasing. Not only is that level of completion difficult to achieve with a complex inquiry project draft, but aiming for that level of certainty could hamper your inquiry and flexibility at this stage.

It may help to call your middle-inquiry writing by a new name. In writing a *zero draft* rather than a “first draft,” for instance, you may be more tolerant of composing an introductory “paragraph” with just an opening sentence or two setting a scene (“I remember being on a hill overlooking San Antonio just as the stars came out”) and/or a sentence or two stating your focal question or initial hypothesis. The next “paragraph” may be a fully developed background paragraph, or it may read “Add background paragraph here” and give a list of topics or sources to be mentioned.

Even in a zero draft, you should push yourself to expand your original thinking through synthesis and analysis, not just summary. Challenge yourself to state bluntly, even if not yet beautifully, what you see going on and what you wonder about: *What works, and how, and in what context? What connects, and why is that important?*

Whatever approach you choose to start writing, remember that your goal is to become a better researcher and prepare to understand and join the ongoing conversation rather than to complete the best draft. Your writing should lead you back to additional inquiry, critical reading, and mapping steps.

### Adapt your focal question or initial hypothesis

During your early inquiry stage, you may have identified an early puzzle (“Whaa-a-a-?”) or protest (“Darnit!”) that led you to an initial focal question or hypothesis. Since true puzzles or problems don't stay inside neat boundaries, and you have become smarter than you were when you started, that plan probably needs revising.

Middle inquiry is a good time to ask yourself whether another approach—a broader view, a narrower focus, or a different angle or emphasis—would be a better match for your goals, your readers’ interests or questions, the available data, the genre you want to write in, and/or the time and energy you have left for completing the project. Be as realistic as possible: don’t let your initial vision get in the way of a powerful, feasible final project.

Of course, changing your focus midway through can feel scary or frustrating. However, making a course correction at this point is exactly the kind of productive failure that benefits advanced writers and researchers. When writers modify an initial hypothesis, it shows we are learning from our inquiry (not just reporting data without thinking about it) and that we are keeping a close eye on our dynamic, rhetorical goals.

### When and how to broaden your inquiry

Your inquiry may reveal either too few sources or too many complications for your original plan. For instance, you might find that *improving art history teaching strategies* is too narrow an issue to find reliable sources on, or that it is strongly linked to larger questions about *improving college courses* overall. There’s no need to panic and choose a whole new topic, or write a lot of filler: you can expand your overall project focus without drastic change, as if you were renovating to add another bedroom to your current house rather than picking up and moving.

- **Expand in small steps.** Don’t switch drastically to exploring all innovations in teaching everywhere. Think of concentric circles rippling out from a pebble dropped in a pond: stretch out just one level, to *improving introductory college courses* or *improving lecture-based courses*.
- **Expand toward known resources.** The point of alternating research with writing is to use what you’re learning; you can direct your expansion toward an area that you now see is currently engaging other credible writers in the field. Perhaps you can add *curriculum revision* to your inquiry about *classroom teaching strategies*.

If you expand carefully, you can take advantage of the work you’ve already done, while addressing any problems with your initial plan.

### When and how to narrow your inquiry

It’s very common for writers get started on an inquiry only to discover that what looked small from a distance seems much larger and more intricate as we learn more about it. Perhaps experts in the field have conducted so much research and analysis that you cannot quickly represent the whole conversation, or maybe stakeholders are so strongly divided that you won’t be able to persuade readers with just a couple of quick points. You may thus need to switch



from a wide-angle lens—*how towns should cope with storm-based flooding*—to a microscope-level view—*how man-made dunes can protect two East Coast towns in the US*.

- **Narrow toward what’s plausible.** What seems most urgent or reasonable to scholars and stakeholders in the field? Where do you see strong clusters of information that you can rely on? If you have found statistics, financial reports, *and* personal experience stories about *building flood-resistant housing*, that could be a rich subtopic to explore in depth.
- **Narrow toward what’s difficult.** Though it sounds paradoxical, often investigating a *difficult* angle creates a *plausible* inquiry approach. When you move toward a controversy or a gap in the conversation, you may increase your and your readers’ interest, and have room to propose new ideas rather than just repeating the current conversation: what steps would be necessary to gain support for *banning new structures from flood-prone areas entirely*?

Writers often find cutting back difficult: once we’ve read and written about multiple angles, choosing only a few can feel like making a sacrifice. (Remember, though, that your readers won’t know what’s not there: my original draft of this “Write and Adapt” section was twice as long as this version is, and although I miss some of those pieces, I imagine that you aren’t sad to have a shorter, more relevant reading!) If you are still feeling uncertain, try writing a few sentences justifying your decision. These may not end up in your final written project, but for now, they can help you maintain your new narrow focus.

### When and how to refocus your inquiry

If your inquiry feels about the right size but just doesn’t seem to fit as well as you would like with your goals and interests, your readers’ needs or demands, or the resources available to you, then you might need a new angle, a new ingredient, or a new motivation. You should not automatically give yourself permission to change course every time your inquiry becomes difficult, but if you have been working diligently and you believe the project still “needs something,” like a pot of jambalaya or egg drop soup that doesn’t taste right yet, you should deliberately explore some alternatives.

- **Re-energize your connection.** If you need a fresh angle or motivation for your inquiry into new art history pedagogies, you might connect to an element of your personal or local experience: you can tap into an area you happen to know a lot about (your passion for manga) or a recent local story about field trips to the African American History and Culture Museum. To raise your energy, you could raise the stakes by looking for a more provocative line of inquiry to pursue, such as doubling the number of art-history study-abroad options.

- **Shift your frame.** Just as you'd gain new understanding by moving a telescope across a landscape, you can shift your emphasis (from curriculum design to student behaviors), shift your perspective (from the big picture of a whole university to an examination of a single course meeting), or shift your target audience slightly (from all faculty to a department chair or dean).
- **Challenge your assumptions.** Even school assignments that require a particular genre may have more flexibility than you might assume: do you always need a full historical review of a situation, or can you spend more time on current examples? could you integrate visuals or sound to highlight key points? is there room for variation in your stance, voice, or diction that would help you better engage readers?

Even a slight change to your guiding question or hypothesis can open up many opportunities for new insight, particularly at a middle stage in the inquiry process.

When you plan to use this kind of recursive pattern during the middle stage of inquiry—alternating among locating sources, writing analytically and synthetically, and considering your focus—you will be able to experiment with small changes as you go, and change back if they don't work. If you had discovered a problem at two in the morning of the day your project was due, you might only have time to make a single, all-or-nothing change and hope for the best. But when you give yourself room to work recursively, you can solve research problems as you go along, and thus lower your own stress levels, increase your engagement with the project, and produce a final document that meets your and your readers' needs much more powerfully.

### Explore 20.4

Level-up from a three-part linear plan (find sources → read sources → write a draft) by writing an eight- or nine-part recursive plan that mixes searching, evaluating and mapping, and drafting. Try to be specific about each step: "Find sources about/such as \_\_\_\_," "Skim/review/evaluate sources looking for \_\_\_\_," and/or "Write a little about/to create \_\_\_\_." Finish with a "note to self": What's the most persuasive argument you can think of to convince yourself to try to follow this advanced, integrated plan?



### Practice

- To practice **generating a "zero draft,"** see [Backtalk](#), [Believing/Doubting](#), [Dialogue](#), [Off on a Rant](#), [Seven Generations](#), [They Say + I Say](#), or [Three Cubes](#).
- To practice **resizing or refocusing** your inquiry, see [Emperor for a Day](#), [Evil Genie](#), [Expand and Narrow](#), [Genre Switch](#), [Gray-Area Finder](#), [Letter to Kermit](#), [Out on a Limb](#), [Used to Think / Now I Think](#), or [Write the Problem](#).



## Learn



- To learn more about **productive failure**, see [Chapter 2, Adopting Productive Writers' Habits](#).
- To learn more about **forming a thesis or argument**, see [Chapter 7, Generating and Organizing an Early Draft](#).
- To learn more about **analysis**, see [Chapter 16, Developing Projects that Analyze](#).