

Researching 101

36 tips to propel your college research
and help you find the authoritative information
your professor will love

By Ellen Metter

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Author's Introduction

As a research librarian, I have the pleasure of meeting students new to college research. Sometimes we meet for an-depth consultation; sometimes for a short exchange.

I wrote *Researching 101 (RS101)* to share the essential concepts, beneficial routines, and light-bulb-over-the-head tips that students tell me are most useful when they search for information to support papers and presentations.

Learning to find rich, valid information isn't rocket science. We know a screen tap or a virtual assistant can answer day-to-day questions. But, not all familiar information routines work for college assignments.

Through *RS101* you'll learn answers to questions commonly asked by students new to research including:

Isn't there just a search box? Yes. Sometimes searching one collection of information is all you need. But knowing how to skillfully search and identify the best starting points can yield that high quality information you may be missing.

Why would I bother using the campus library? You'll see that your library has materials geared to your needs, experts who care about your success, the ability to borrow materials worldwide, unexpected support services, and spaces great for study, interaction, browsing, and relaxing.

The objective of *RS101* is to guide you in learning to spend less time spinning in information whirlpools, and more time analyzing, understanding, and enjoying your topic. The *ultimate* goal is helping you learn more -- and earn great grades.

First Steps to Excelling at College Research

1. Enjoy the luxury of time



If maximum results and low stress sound appealing, then starting your research for a paper or presentation early is an excellent choice! Start a luxurious few weeks or more before the project is due. Then you'll have time to formulate your topic, examine resources, gather

materials, understand, organize – and even enjoy – the information you've collected.

Has the semester just started, and your paper's due at the end? Why not begin preliminary research now? Then it will be someone else who later says "Ack. I can't believe the exact ebook I need is checked out."

2. Define and describe your topic.

The ability to precisely describe what you want to write about in a paper, or discuss in a presentation, is the key to moving efficiently to information you'll need. **The "right" words make a search work.**

For example, consider the search phrase "the U.S. Civil War." If you tossed all the books and articles written about the Civil War onto the Gettysburg battlefield, they'd pile higher than a soldier on a horse. That's too much information for an English 101 paper.

But writing about one aspect of the Civil War, such as the economic impact of the war on southern U.S. women, is more manageable. And, once you start doing your research and discovering more details, the topic will likely become even more focused, or even veer to a related topic. That kind of honing is part of the researching process

One way to formulate a precise topic and find search word possibilities is to pose your subject idea as a question or thesis that can be realistically tackled. For example:

Question: "Are there environmental reasons that the number of nuclear power plants in the U.S. shouldn't (or should) increase?"

Thesis statement: “Expansion of nuclear power plants shouldn’t (or should) continue around the U.S. since there is evidence that nuclear energy is (or isn’t) potentially harmful to the environment.”

Both examples point to a specific topic to investigate, and **immediately supply keywords** to work with, which include, in this case, **nuclear power, nuclear energy, and environment**.

With a clear vision of your topic, you’ll be able to use the keywords, evident through your question or thesis statement, in your searching, as well as **synonyms** and **alternate spellings** for those words. Now, when you pull up search results that would otherwise look dreary and dense, your research-infused (and maybe caffeinated) brain will direct your eyes to promising keywords.

Caution: Don’t fall madly in love with the first search terms you choose. They may be just right, or they may open the door to better words and phrases

Ways of coming up with keywords.

Ask yourself: “If I found the perfect article for my topic, what could its title be? What words would be in the first few sentences?”

Use the subject/descriptor words that show up in the records of your library’s online catalog and databases. (More on these later.)

Toss words or phrases describing your topic into a search engine like *Google* or *Bing*. Though the search might not find exactly the information you need, it may uncover topic-related keywords, or names of organizations or people you can then use in library or Web searches. Train your eye to spot related terms.

Use an [online](#) or print thesaurus or synonym finder to find alternative words for already identified keywords

Consult your library’s *Library of Congress Subject Heading* books which exist for the sole purpose of generating subject-word ideas. (More on this in Tip 13.)

3. Why the big campus library?



The fundamental goal of your library is to support your learning. It exists for you.

Academic librarians can provide expert researching guidance to help you find what you need to write your paper, prepare your speech, or just satisfy your intellectual curiosity. They also buy scholarly and specialized print, online, and media resources matched to your campus classes, that support your learning goals.

Not everything's on the Web for free or at all, so a guaranteed brilliant move is to **see what your campus library offers** – a place that spends a small fortune yearly to help you succeed.

Can a public library also be useful to college students? Yes, but not as beneficial overall as your college library. A public library primarily exists to support their community. **Your campus library exists for you.**

4. Explore your library's website ASAP.

Much of what your college library offers, including materials and support, is online, so find its website early in the semester. You don't need to be in the Library. You have anytime, anywhere, online access.

Don't give stress lines a permanent home on your fine forehead. Well before your assignments are due, *play*. Open pages on your Library's website to get a sense of what's offered. Take your time. Follow links. Bounce around.

Exploring this way will give you an immediate head start on projects requiring research. Once you know what's available, you'll start making logical connections between what you need, and how you'll get it.

What you'll find when clicking around the library's site

A classic online catalog. Usually just referred to as the catalog, you can use this to discover what books, media, and



periodicals (journals, magazines, newspapers) your library has. Most libraries are phasing out these catalogs.

A Next Generation catalog or discovery interface. This interface is usually represented as the main search box on your library's home page. It may be the sole searching choice, or exist in tandem with a classic online catalog, used to discover what books, media and periodicals (journals, magazines, newspapers) your library has. The Next Gen interface reveals all the resources a classic catalog reveals, and more.

Guides and tutorials to help you find, use, understand, and organize information. Ranging from simple tips, to slick videos, these help pages linked from your Library's site can be a major shortcut to finding what you need. They'll have titles like *Psychology Research Guide*.

Items placed on Reserve by professors. These materials are in the Library, or linked online for students to share. They could be articles, books, videos, software, or 3D objects like skeletons or art pieces

Paths to finding articles. Professors often ask students to find articles to support papers or speeches, and your library will create one or more obvious routes to get you to those articles from the home page. Try them out.

Human help. Not sure where to start, or what the next step in your research should be? Help is available, both in-person and virtually. Know early on what expert help you can rely on if you need it. Hey, it comes with your tuition.

Equipment check-out. See if your library loans out gadgets or technology that will be useful to your research – or just interesting to try.

Go visit your library ASAP - virtually, that is.

5. Borrowing stuff.

No one library has everything, since "everything" isn't affordable or for sale. So, be ready for that time you want to borrow that crucial article or book from a library far, far, away. The registration process for your library's **interlibrary loan** (ILL) service, which may also be called a borrowing, lending, or request service, is another service explained on your library's home page. **Why not register early, before you need it? Maybe now.**

What might trigger your interest in using interlibrary loan?

You see your library owns a print or ebook you want but it's checked out.

You find a summary of a great article, and the information you need to borrow it (the citation), but your library doesn't have the actual article.

You see something interesting on the Web or in [Worldcat](#), (which identifies more than a billion items in libraries world-wide!) Your library doesn't own all of them!

Your professor or a classmate mentions a journal that sounds ideal for your research but the library doesn't carry it.

In some cases, it's possible your library has supplied a "borrow it here" link *right on the library web page* where you found the unavailable item. Since you signed up for interlibrary loan before you needed it (you're amazing), you're ready to click and borrow.

6. Sometimes it only looks like the Web

Your professor may tell you "Don't use the Internet for your research." This can signal to students that anything online isn't acceptable, including, for example, articles found online through the college library.

So, just realize that your professor isn't warning you off online writings. Your professor is warning you off crappy writings.

Generally, the advice to avoid the Web/Internet means: stay clear of writings crammed with unverified claims. It's annoyingly simple for someone to make a website filled with bogus, ridiculous information look legitimate. See the next Tip for ideas on assessing the quality of information. Any doubts? Check with your prof.



7. Truth or baloney? Assessing information

Junk information is everywhere on the Web. And although academic libraries are packed with trustworthy content, garbage slips in to even the best library collections.

Books can look impressive, but in fact be unedited and filled with loony rants. Scientific articles go out of date. People lie about their age, and that lie then appears in an otherwise reputable biography. Websites offer “facts” with no mention of how they were determined. **The written word isn’t always the gospel truth.** When feasible, find information you’re relying on confirmed in more than one resource.

Ways to assess information accuracy and suitability:

Determine the publisher, organization, or individual(s) behind the information. Are they qualified to comment on a particular subject? Some ways to judge credibility:

Locate credentials. On websites, look for content supplier qualifications under headings like “About Us” or “Editorial Board.” For books, find out what company or organization published the book.

Look for references in the media. Has the group or company responsible for the site or publication been discussed in writings or media?

Beware of websites without author or contact information. No contact info may be a bad sign. The authors should be happy to introduce themselves.

Figure out the purpose or goal of the website. Does it match your needs? Typically, your professor will require substantiated and objective information for your assignments. Figure out if a website’s content is opinion, trying to sell you something, or the result of well-done research. Though opinion has its place in research (such as consulting poll results for a project), ask yourself whether it’s appropriate for your assignment.

Has the content been evaluated? The scrutiny of writing by professional editors and experts helps ensure accuracy and readability. For example, scholarly books and articles are often “peer-reviewed.” This means that before a book or article is published, the content is sent to reviewers who are authorities on the topic. These specialists comment on the manuscript’s quality, often challenging the author to improve claims and methodology, or further a thesis. Scholarly books can often be identified by author/editor credentials, and may be published by academic or university presses (such as Yale University Press).

Is the information current or date-appropriate for your information needs? For example, a 1943 article titled *Modern Bolivian Politics* no longer discusses modern Bolivian politics, but it could help in learning *historical* events leading to the current political situation. Check publication dates to be sure what you find meets your needs.

A quality website will also have a date of creation or update. You'll need this when describing the site in your references-used list (bibliography) for your paper or presentation, which is something your professor will expect.

8. Stay happy by saving what you've found.

This tip sounds like a no-brainer but it's not. It's easy to noodle away at researching, and completely lose track of terrific finds along the way.

Have a way to capture and store the information you find as you gather it, whether you use a cloud storage service, an external drive, or an old-fashioned printout. Then you won't be at your library's help desk, looking and feeling tragically sad when you have to re-find the research you already found.

Saving copies of full-text documents is a good idea, **and it's perhaps even more important to save citation information.** You'll need citations for creating a bibliography (list of the resources you consulted in your research), which your professor will generally require.

A citation supplies the full information needed to track down a resource. For a book, the citation includes author, title, publisher city and name, and year of publication. A journal article citation includes author (if one is named), title, journal name, journal volume, journal issue (if there is one), date published, and page numbers.

Some researchers find citation management tools such as EndNote or RefWorks essential for keeping track of citations. Your campus may supply free access. Ask your campus writing center, a librarian, or a professor for a recommendation. There are also free citation management tools like [Mendelay](#), [Zotero](#), and [CiteULike](#).

Whatever your saving method, save now, and save yourself a headache later.

Using the Web for college assignments

9. The wonderful/horrible Web.

Even researchers familiar with cutting-edge search methods, and premium library collections, often chuck searches onto the Web in hope of quick results. And a Web search can sometimes locate exactly what's needed. That's the wonderful part.

The horrible part is getting sucked into hours of diminishing returns. So if the Web is failing you, stop. Move to your library's home page, and, if needed, consult with a librarian or your professor for direction.

10. What's on the Web for college students?

We all use the web for locating quick answers and for fun. But college and research appropriate materials are hiding on there as well. Here are some major types.

Random gems. A web search on virtually any topic can reveal worthwhile material.

Free books. Books can supply topic depth and detail, and the Web offers full-text ebooks suitable for college research. Most are older writings with no copyright restrictions. Though you may want to do overall book searching through library catalogs, some noteworthy ebook search sites include:

[Internet Archive](#), which has free books and media. **Sample Internet Archive book:** [Happy Child Life in Pictures](#).

[Google Books](#), where starting a search from the Full View option in the advanced search mode brings up complete books and not just snippets. And even searching snippets can be a great way to identify titles which your library may own or can borrow for you. **Sample Google book:** [Finger Prints](#)

Free videos. Many websites offer college-appropriate videos. One example is the familiar *YouTube*, which, in addition to being chock full of feline fun, offers a lot of educational content. In fact, smaller sites with educational missions, like [TED](#) and [Khan Academy](#), often load their videos onto YouTube, as do many educators.



The citation jackpot. If the Web were a casino, the payout would be citations.

Here's why: Let's say you've typed in words using the search engine [Bing](#) to describe your topic, and you pull up a professor's vita, which is an academic résumé. It lists the professor's educational background, where he's taught, his writings, etc. On the vita you see a **citation** to an article the professor has written. The citation supplies the article title, the journal it appears in, and when it was published.

The article described in the vita is *dead-on perfect for your research*. But, alas, there's no link to the full text on the Web! No problem. Your library to the rescue.

Whenever you find a great citation on the Web, chances are excellent you'll find the cited item through your campus library. It will either be owned by library, or your library will be able to borrow it at no cost to you. So when you find a great citation on the Web think: Jackpot!

Open educational resources (OER's). Teachers and researchers frequently share learning resources they've created for instruction and lecturing, including books, textbooks, demonstrations, experiments, tutorials, videos, and full courses on the

Web. Just do a search using the words “open educational resources” and a word or phrase describing what you’d like to learn about to find some great OER’s. An example of a website that gathers these is [MERLOT: Multimedia Educational Resource for Online Learning and Teaching](#). All of the content on MERLOT is reviewed by scholars and experts.

Specialized research guides. Although your college library will have great online guides and tutorials tailored to your needs, there won’t be a guide for every subject. Use the Web to see if another library has created one on your topic. Not all items mentioned may be available at your library, but many will be. **Search the Web using the words “library” and “guide” combined with a description of your topic.**

Examples:

united states civil war library guide
human evolution library guide

News and trends. The Web has free news, information, and polling sites that pass the baloney tests, such as sites representing local and national newspapers, blogs, cable and network television stations, and surveying organizations like [Gallup](#). Of course, bias may be present in even reputable news outlets so be on the lookout for it.

Association/organization home pages. There are thousands of non-profit groups (cultural, ethnic, political, religious, industry, etc.) representing people’s livelihoods or passions. These groups often produce or gather information related to their goals, including statistics, facts, scholarship, internship or grant opportunities, job leads, and studies. Look for site headings such as “Publications,” “Research,” or “Reports.”

Examples:

The National Association of Realtors creates the [Existing-Home Sales Series](#), which are statistics reported monthly on regional sales and prices of U.S. single-family homes.

The New York City Bar Association has a [page highlighting internships and fellowships](#) for those aspiring to legal careers.

You’ll also find experts through these pages. (See more on this in Tip 32.)

To see if there are any associations related to your topic or interests, see if your library has the *Encyclopedia of Associations*, called *Associations Unlimited* in its online version, or try a Web search using the word **association**, **organization**, or **society** with a word describing the type of group you’re looking for.

Examples:

advertising association
philosophy association

Government information. Web pages for international, national, state, and local government agencies have information often perfect for class assignments. These

sites frequently link to reports, laws, facts, demographic data, regulations, statistics, and contacts related to regional, social, political, educational, and economic topics.

Images. Find drawings and photos to enhance your writings and presentations through sites and search engines like [Wikimedia Commons Images](#), [Flickr: Creative Commons](#), [Google Images](#), and [WorldImages](#).

Digitized historical resources. Preserved writings, art, maps, sound recordings, sheet music, and more are increasingly presented in a high quality manner on the Web. (See details in Tip 36, History Research 101).

Finally, many of the best sites for college students are those recommended by campus faculty. These may be listed on department home pages (the Anthropology Department at your college, for example) or available in an online course environment.

11. Wikipedia: love it with caution

As we all know, *Wikipedia* content is often the first result for a Web search, and beckons us to read and believe. While many *Wikipedia* articles are favorably compared to writings in journals and encyclopedias, and the Wikimedia Foundation supplies safeguards to promote accurate content, using *Wikipedia* with care is recommended. Some concerns:

Articles are routinely flagged for bias or omissions, and it's common to find *Wikipedia* entries with no follow-up on identified oversights.

Contributors aren't required to have particular credentials or reveal contact info.

The quality and readability of content is inconsistent.

Although many *Wikipedia* errors may be quickly corrected, what you're reading at the moment may be inaccurate.

As with any resource, **try to verify information in more than one source.** *Wikipedia* can be a terrific place to get your bearings on a topic. Consider, also, using your library's online and print encyclopedias. The online ones look a lot like *Wikipedia* minus some of the drawbacks. (Though *they* may have the drawback of being outdated for your topic!)

The most fabulous part of Wikipedia entries? The references at the end of each entry. They may steer you to relevant websites, books, articles, and more that your college library owns, or can borrow for you, or are linked from *Wikipedia*.

Extracting research riches from your library's catalog

12. The modest online catalog record.

Virtually everything your library offers in physical and digital format is represented in its online catalog, with each item described by a **catalog record**. This simple-looking record, in fact, contains an impressive amount of research information.



The catalog record shows you where to find the item in the library, or it links to it online. It supplies facts like the number of pages in a book; whether illustrations, maps, or photos are included; and the length of a video.

The added surprises of a catalog record? It's crammed with information designed to give you ideas, and help you fine-tune your search strategy.

If your catalog search retrieves more than one item, a list will appear with a brief record for each title. In most catalogs, clicking on the title will reveal the full record.

Sample book record from a library catalog.

Let's say someone recommended a book for your paper. You typed the title into the catalog's search box and retrieved a record like the one below.

Author	Gaarder, Emily, 1972-	
Title	Women and the animal rights movement / Emily Gaarder.	
Publisher	New Brunswick, N.J. : Rutgers University Press, c2011.	
LOCATION	CALL #	STATUS
2nd FL	HV4708 .G23 2011	AVAILABLE
 		
Call #	HV4708 .G23 2011	
Description	x, 181 p. : ill. ; 23 cm.	
Bibliog.	Includes bibliographical references (p. 161-175) and index.	
Contents	Connecting inequalities -- The road to animal activism -- Where the boys aren't: the predominance of women in animal rights activism -- Risk and reward: the impact of activism on women's lives -- Gender divisions in labor, leadership, and legitimacy -- "The animals come first" : using sex(ism) to sell animal rights -- Connections, contexts, and conclusions.	
Subject	Animal rights movement. Animal rights activists. Women political activists. Women -- Political activity.	
ISBN	9780813549675 (hbk. : alk. paper)	

The records in your library catalog may look a bit different, but they'll contain the same fields (author, title, subject, etc.). Not only does this record provide facts about the item, it lets you explore various facets of the book. **With the record above, for example, you can:**

Quickly see if the book covers your topic.

Although not all catalog records supply chapter headings ("Contents"), as the record above does, all provide words or phrases that describe what the book is about. These may be called **Subjects, Subject Headings, Entries, Descriptors,** or **Terms**. Since titles can be cute and uninformative, rely on these descriptive words to reveal the item's true subject coverage.

Use the subject words and phrases to immediately find more information.

Since subject terms in a catalog record are hyperlinked, you can click on them to generate a new search – a subject search – that will find records representing more items, containing those terms. Think of subject terms as being like links on shopping sites that say "If you like *this*, then click here for more just like it!"

Find even more potential resources when you look at the book itself.

You'll know the book in the sample record above lists useful related resources before you even get to the book. That's because the record shows that the book has a **bibliography** (the "Bibliog." field). When you look at the book itself, you'll

find the listing of articles, etc. that the author referred to when writing the book. More ideas.

See if the publication year is appropriate for your research.

Some topics require materials created recently, while other topics are timeless

See what else the author has written.

Click on the author's name to see what else is in the catalog, if anything, that the author has written. Those items may be even more interesting, or at least give you new ideas.

13. Where are the books, videos, and CDs?

Getting to ebooks and streaming videos.

Your library's catalog may offer an obvious way to search for online-only formats, such as ebooks and streaming videos, from the start of your search. If not, do a search and then look for the option to limit the results to the desired format. There will be then be links straight to ebooks and streaming videos from the catalog record for each title.

Getting to books, DVD's, and CDs. To locate these "physical-format" items, look for the following information in your library's online catalog record:

Overall location, such as what floor it's on; what library it's in if your campus has several; whether it's in a certain collection like Reference or Special Collections

Call number, which supplies the precise location ("address") of the book, further explained below.

Availability, indicated by the book being listed as checked in or out, or available or not. (If it's out, look into your library's borrowing options.)

The "address" of the book: call numbers.

Most college library materials are arranged by **call numbers** determined by the Library of Congress Classification (LC) system. LC is comparable to the Dewey Decimal System used in most public and school libraries.

Using classification schemes like LC, libraries can put books and other items in a logical order, ensuring that items on similar topics are near each other. You'll see call numbers on book spine labels and in catalog records.

LC uses letter/number combinations to create a unique call number "address" for each book, each starting with a letter representing a broad subject category.

As the following table illustrates, you'll find psychology books in the "B" shelf section and art books in the "N" section.

Library of Congress (LC) Classification – broad subject categories	
A - General works, including encyclopedias	M - Music
B - Philosophy, psychology and religion	N - Fine arts, including architecture
C - Auxiliary sciences of history, including archaeology, genealogy, and biography.	P - Language and literature
D - History, general and Old World	Q - Science
E - History, United States (General)	R - Medicine (Major medical collections, such as universities with medical schools, often use the National Library of Medicine classification using W for Medicine)
F - Local, U.S., and world history	S - Agriculture
G - Anthropology, geography, and recreation	T - Technology including photography
H - Social sciences, including business	U - Military science
J - Political science and public administration	V - Naval science
K - Law	Z - Bibliography and library science
L - Education	

Each broad subject category then further divides into more specialized subclasses, as shown in the example below.

Example: Sample "P subclasses" in the LC classification system

Items cataloged with LC call numbers starting with	Cover this topic
PB	Modern languages/Celtic languages
PN	Literature (General)
PQ	French literature
PS	American literature

Sample call number: Sigmund Freud's book, *The Interpretation of Dreams*, is assigned the call number BF1078.F72 1931. Here's an overview of what each part of the call number represents.

BF1078: BF represents the major LC category "psychology"

F72: This line starts with the first letter of author's name, "Freud"

1931: The call number ends with the year the book was published.

"Be sure you make note of every letter and number in the call number of a book. Otherwise we may find your decayed bones in the stacks years later as you seek what you need without the full information." -- Instructor touring a library with his students

Search *YouTube* using the words "Library of Congress call numbers" to find short videos that quickly show how to find items arranged by the LC classification system.

The other classification system you may find in your library is called the [Superintendent of Documents \(SuDoc\) Classification Scheme](#). SuDoc is used for items published by the U.S. government, and it groups materials by the agency that issued them. This system is used for books, reports, etc. from U.S. government agencies like the Federal Aviation Administration or the Department of Education. The number of print-format government publications in libraries is shrinking drastically since the majority of agency documents are now online.

Example: A SuDoc number for a publication by the Department of Agriculture from 2015 called *Attracting hummingbirds to your garden using native plants*:

A 13.2:H 88/4

14. The art of educated guessing: the journey from keywords to subject terms in your library's catalog.



When you need to find a resource, say a book, to learn more about your research topic, and you don't know a specific title or author, you'll do either a **keyword** or **subject search** in your library's catalog.

The basic difference between a keyword and subject search:

A **keyword** search, a.k.a. a **word** or **free** search, finds records with the search terms appearing anywhere in the record, including the title, summary, etc. You may get false hits since a keyword can show up in record, but have nothing to do with the book's overall subject.

A search limited to the **subject search mode** in a library catalog retrieves records with the search terms appearing **only in the record's subject field**. And, because the terms in the subject field are assigned by humans, and accurately describe the item, a subject search can result in more accurate retrieval.

The catch related to subject searching: a search performed in subject mode requires more preparation. When executing a subject search, you need to determine a subject heading for your topic.

In days gone by, it made sense to take the time to find subject words through systematic means, and limit your initial search by subject.

Now, because of improvements in online information access, starting with a free search -- basically "educated guessing" -- is a great way to start an online search. That's because a free search often quickly **leads you** to better, more precise subject terms.

Most library websites have keyword searching as the default (automatic) search mode, with a search box prominently displayed for this purpose. So, start by entering keywords in this box. (If a "keyword" or "word" search mode is offered, choose that.)

Once you find a catalog record representing a resource that interests you, using the free search/keyword method, look at the part of the record that lists subject terms describing the focus of the book, video, etc. You could then use one or more of the subject terms in subsequent searches by either

Clicking on a subject heading to generate a subject search or,
Begin a fresh keyword search by typing in those new words you've discovered.

Example: A keyword search leading to a subject search.

Let's say you want a book that offers methods to quit smoking. You think the words **quitting smoking** describe what you need, so you type those into the Library's catalog's search box. The search pulls up a record for a book called *Cognitive-Behavioral Therapy for Smoking Cessation*. That sounds interesting, but you'd like to see more books on your topic. So, you look at the words and phrases in the catalog record that describe the book, and see this string of words: **Smoking cessation and smoking—prevention**

The main heading is **Smoking cessation and smoking** and the subheading is **prevention.**" In this example, you may do a follow-up search by either:

Clicking on the hyperlinked subject words "Smoking cessation and smoking—prevention" to automatically find records with the same subject words.

Initiating a new keyword search, perhaps choosing to use only the words **smoking cessation**, to cast a wider retrieval net. This search could retrieve a record for the book *The ABC's of Smoking Cessation*, which is

relevant to the topic and wouldn't have been found using the original words **quitting smoking**.

A strong word of caution: Your initial keyword search will often pull up many records of interest, so be careful of clicking away too quickly from your first results list. It can be energizing to keep finding more topic information, but don't lose track of good resources by popping from one record to another before fully exploring your first set of results.

15. Where do subject terms come from?

The subject terms in each online catalog record, known more generally as headings and subheadings, come from an actual list of words describing thousands of subjects called the *Library of Congress (LC) Subject Headings*.

Just knowing what the LC headings are will make you a savvier researcher and expand your mind to new search options. **Think of these headings as idea generators.**

The LC Subject Headings are words and phrases used by catalogers in college library catalogs throughout the U.S. to describe the content of books, videos, and other items. The headings are maintained by the Library of Congress, a [library](#) in Washington, D.C. Choosing keywords from a word-listing like the LC Headings, or any other thesaurus associated with a catalog or database, is known as using **controlled vocabulary**.

If you'd like to see the multi-volume set of *LC Headings* in print, ask your librarian to show you where it's shelved. (It's not necessary to look at the *Headings*, but if you're a word nerd, it may be fun.)

Although you now know where the subject terms in library catalogs come from, using the "just guess first" method when beginning a subject search, as described in the quitting smoking example, **is a reasonable and recommended tactic**. Aim to thoughtfully formulate descriptive keywords for your topic and then, if needed, use subject headings shown in pertinent records for subsequent searches.

16. Hitting the subject bull's-eye using LC subheadings.

In the previous tip, you saw how subject terms come from an authoritative source called the *Library of Congress (LC) Subject Headings*. Now consider the LC **subheadings**, the terms which let you further refine your searches.

Certain types of subheadings will be particularly useful when you're formulating search strategies. **Below are examples of how subheadings can help improve your search results** by combining them with a topic word or phrase when doing a keyword search in a library catalog in pursuit of books, videos, and other items.

You can use subheadings (shown in bold):

To describe a geographic location being discussed, for example:

Hate crimes **United States**

Hip hop **Brazil**

Legends **Philippines**

To limit results to specified time periods, for example:

Military **Medieval**

Music **500- 1400**

Ireland **Politics and government 16th Century**

To identify the type or format of the item, for example:

French language **Dictionaries**

Human anatomy **Atlases**

String trios **Scores**

To describe the treatment of the main subject, for example:

Television **History**

Miles Davis **Criticism**

Cuba **Religious life and customs**

Below is a sampling of useful **subheadings**; followed by an example of a **keyword/subheading combo** you could use to focus a keyword search; followed by a **sample of a book title the keywording/subheading search could retrieve**. Keep an eye out for subheadings when searching for books in a catalog.

Analysis

hair analysis

Forensic Examination of Hair

Antiquities

Israel antiquities

Historical Sites in Israel

Biography

painters biography

The Lives of the Painters

Case Studies (analysis of a real life example)

management Japan case studies

Case Studies in Japanese Management

Criticism (of literature, art, music, etc. including genres, types, and individuals)

Charles Dickens criticism (or “criticism and interpretation)

The Cambridge Introduction to Charles Dickens

Dictionaries or Encyclopedias

artificial intelligence encyclopedias

Artificial Intelligence: The Basics

Economic Aspects

medical policy economic aspects

Health Policy Issues: An Economic Perspective

Guidebooks (Similar subheading: Description and Travel)

Italy guidebooks

The Little Black Book of Rome: The Timeless Guide to the Eternal City

History

nuclear energy history

The History of Nuclear Power

Law and Legislation

Right to Die law and legislation

The Constitutional Right to Suicide

Mathematical Models

climatology mathematical models

A Climate Modeling Primer

Moral and Ethical Aspects

economics moral and ethical aspects

As if the Future Mattered: Translating Social and Economic Theory into Human Behavior

Physiological Effects

chocolate physiological effects

Coffee, Tea, Chocolate and the Brain

Politics and Government

Afghanistan politics and government

In Afghanistan: Two Hundred Years of British, Russian, and American Occupation

Social Aspects

science social aspects

The Culture of Science: How the Public Relates to Science Across the Globe

Social Life and Customs

Morocco social life and customs

Culturshock Morocco! A Survival Guide to Customs and Etiquette

Study and Teaching (Similar: Textbooks)

Music Study and Teaching

Growing musicians: Teaching music in Middle school and Beyond

Vocational Guidance (This phrase refers to job and career information)

Acting Vocational Guidance

Acting Professionally

17. The search-it-all-at-once-box: The Next Generation catalog.

When it comes to catalogs, different libraries have different setups. Your college library may have:

A “**classic**” library catalog only, accessible either by a prominent search box or through a library home page link.

A “**Next Generation**” or “discovery” catalog only which may be represented by a single dominant search box or a descriptive link.

Both a classic catalog and Next Generation catalog, since some search strategies work better in one; some better in the other.

Both classic and Next Gen catalogs steer you to most of a library's physical and digital content. **The two fundamental differences between searching classic and Next Gen catalogs:**

I). You can search for articles in Next Gen catalogs.

In addition to identifying books, media, periodicals, and other items owned or accessible in your library, a Next Generation catalog also pulls up references to specific articles *within* periodicals.

Example: Finding an article on your topic.

Let's say you want an article on the history of women in Mississippi, and your professor has recommended the *Journal of Southern History*, which the library offers in online format. With a **classic catalog**, you would do a journal title search and pull up the record for the journal. You could then click to the full-text of the journal, and browse each volume online to see if you could find an appropriate article. An inefficient method!

With a **Next Generation** catalog, you enter the keywords "women" and "Mississippi" and "Southern History" directly into the Next Gen search box. Because your library owns the *Journal of Southern History* in electronic format, the search identifies an article from that journal titled "Mississippi Women: Their Histories, Their Lives" and you get a link directly to this useful full text article. In addition, you probably also found other relevant articles, in other journals your library owns. (This ability to directly search article contents makes the Next Generation catalog similar to **databases**, described in Tip 20.)

II). You can simultaneously search the catalogs of many libraries.

Unlike classic catalogs, most **Next-Generation catalogs identify items owned by other libraries** and offer a way to easily borrow most of them. Look for a quick-link to an interlibrary loan or a borrowing option.

Are there advantages to classic catalogs?

A classic catalog may offer a more effective search when you know you want books or videos, but aren't looking for articles. There are far fewer of those items available, and a search in a smaller universe of information makes each title simpler to pinpoint.

A classic catalog may also offer some advanced methods of browsing, such as the ability to see titles in call number order, mimicking the order of books on a shelf. If your

library has both a classic and Next Generation catalog, check with a librarian if you'd like a recommendation on when (or if) one type is the better research choice.

18. Honing the catalog search.

If you're not finding what you need, both classic and Next Generation catalogs offer ways to specify what you need by filtering your search results by "metadata" fields. These fields describe various aspects of an item.

Typical types of metadata you can refine your search by include: a year or year range that materials were published; publisher; author; subject; format (such as journal, newspaper, book, website, video); library location of the item; and language.

Classic catalogs have an "advanced search" or "modify search" link (or something similar) that lets you choose filtering options.

In a Next Generation catalog, limiting a search by metadata elements is called **faceted searching**. The elements (facets) you can choose to refine your results will appear on your results page. In the sample page below, facets are on the left. They include the ability to limit to: Scholarly Publications; Content type (such as Journal Article or Book); Subject Terms; and Publication Date.

The screenshot shows a library catalog search results page for the query "Sports nutrition". On the left side, there are four faceted search filters: "Refine your search" (with checkboxes for full text online, scholarly publications, peer-reviewed, exclude newspaper articles, library catalog, and add results beyond collection), "Content Type" (with checkboxes for Any, Journal Article (69,229), Book / eBook (64,347), Newspaper Article (22,715), Dissertation/Thesis (3,939), Book Review (1,626), and Trade Publication Article (1,120)), "Subject Terms" (with checkboxes for Any, united states (11,348), nutrition (10,918), exercise (8,626), nutrition & dietetics (8,619), obesity (7,160), and history (5,640)), and "Publication Date" (with a bar chart showing a distribution of results over time). The main results area on the right displays four search results, each with a title, author, publication information, and a link to the full text online. The results are: 1. "Sports nutrition" by Rosenbloom, Christine, Nutrition Today, ISSN 0029-666X, 07/2011, Volume 46, Issue 4, p. 197. 2. "Sports Nutrition" by Rosenbloom, Christine, Nutrition Today, ISSN 0029-666X, 11/2007, Volume 42, Issue 6, pp. 248 - 254. 3. "SPORTS NUTRITION" by Nutrition & Dietetics, ISSN 1446-6368, 09/2006, Volume 63, Issue 3, pp. 183 - 187. 4. "Sports Nutrition" by Clark, Kristine N, Medicine & Science in Sports & Exercise, ISSN 0195-9131, 02/2004, p. 350. The fifth result is partially visible: "Sports nutrition: fats and proteins" by Driskell, Judy A. (Judy Anne), 2007, ISBN 9780849390791, xvi, 383 p.

Refine your search

- ☐ Items with full text online
- ☐ Limit to articles from scholarly publications, including peer-review
- ☐ Limit to articles from peer-reviewed publications
- ☐ Exclude Newspaper Articles
- ☐ Items in the library catalog
- ☐ Add results beyond your library's collection

▼ Content Type

- ☒ Any
- ☐ Journal Article (69,229)
- ☐ Book / eBook (64,347)
- ☐ Newspaper Article (22,715)
- ☐ Dissertation/Thesis (3,939)
- ☐ Book Review (1,626)
- ☐ Trade Publication Article (1,120)
- [more...](#)

▼ Subject Terms

- ☒ Any
- ☐ united states (11,348)
- ☐ nutrition (10,918)
- ☐ exercise (8,626)
- ☐ nutrition & dietetics (8,619)
- ☐ obesity (7,160)
- ☐ history (5,640)
- [more...](#)

▼ Publication Date

Any

Sports nutrition

by Rosenbloom, Christine
Nutrition Today, ISSN 0029-666X, 07/2011, Volume 46, Issue 4, p. 197
Research, Requirements, Nutrition, Sports nutrition
[Journal Article: Full Text Online](#)

Sports Nutrition

by Rosenbloom, Christine
Nutrition Today, ISSN 0029-666X, 11/2007, Volume 42, Issue 6, pp. 248 - 254
Research in nutrition and athletic performance has flourished in the past few decades, but applying the research to improve athletic performance is a challenge... Case studies, Health risk assessment, Personal health, Sports, Nutrition
[Journal Article: Full Text Online](#)

SPORTS NUTRITION

Nutrition & Dietetics, ISSN 1446-6368, 09/2006, Volume 63, Issue 3, pp. 183 - 187
.... For further reading on each topic, more comprehensive reviews from the latest edition of Clinical Sports Nutrition are cited. Correspondence should be directed to Janelle...
[Journal Article: Full Text Online](#)

Sports Nutrition

by Clark, Kristine N
Medicine & Science in Sports & Exercise, ISSN 0195-9131, 02/2004, p. 350
[Journal Article: Full Text Online](#)

Sports nutrition: fats and proteins

by Driskell, Judy A. (Judy Anne)
2007, ISBN 9780849390791, xvi, 383 p.
...9079_C000.fm Page i Monday, March 19, 2007 8:19 AM F A TS AND PROTEINS SPOR TS
NUTRITION 9079_C000.fm Page ii Monday, March 19, 2007 8:19 AM 9079_C000.fm Page...
Proteins in human nutrition, Physiological aspects, Fats, Proteins, Nutrition Physiology
[Book: NOT CHECKD OUT, QP751 .S72 2007, UNLV Book Stacks](#)

Sports nutrition

Below are examples of search problems and how you can solve them by filtering your search (using facets.)

Search Problem	Solution
You want only items from the last couple of years but you've pulled up a mishmash of stuff from many years.	Look for an option to sort your results by publication date or specify a particular year.
You want to limit your search to videos , eliminating ebooks, books, articles, etc. from your search.	Look for a field called " content type " or "material type" and limit the search to videos.
You want to limit your search to writings in Spanish , but all you're finding are publications in English.	Look for a Language field. From there you'll be able to select Spanish (if there are Spanish language books in the records you've pulled up).

Finding and selecting the kind of articles your professor expects

19. Understanding important differences between types of articles.

A common request from professors: "Find **articles** that support the topic idea of your paper/speech."

Since you don't want to see the phrase "find *better* articles" scrawled on your research paper, learning to identify *suitable* articles is an indispensable skill.

Often, your professor will require that some or all of the articles you use come from **scholarly** journals, also referred to as **peer-reviewed**, **research**, **academic**, or **refereed** journals. Journals contain information and research studies geared to a particular field, written by experts in the field.

Journal article authors have a sophisticated understanding of their topic, and their claims are substantiated with study results, surveys, or other scholarly investigation.

The authors are generally professors and researchers with advanced academic degrees.

Journal articles are **peer reviewed** or **refereed**. That means that specialists in the field evaluate each article for accuracy. Articles that don't pass the peer review process — the truth or baloney standard -- might be rejected outright, or the editor might request substantial revisions.

Note that the word “journal” isn't part of the title of all journals. Examples of no-journal-in-the-title journals include *New Theatre Quarterly* and *Business History Review*. Similarly, some popular magazines, such as *Ladies Home Journal*, contain the word “journal,” but aren't scholarly in nature.

Tipoffs that it's a scholarly journal

Each article ends with a bibliography, a reference list of articles, books, etc. used in researching the article. (You won't find a bibliography in *People Magazine*).

If ads are included at all, there are few of them, and tend to be focused on specialized educational or research-related products, events, or services, like ads promoting a conference.

It's published by a university publisher, like the University of California Press; a scholarly association, like the American Psychological Association; or a publisher specializing in scholarly/academic content, like Routledge.

Though professors often want articles from scholarly journals, there are times articles from other kinds of periodicals will be fine. **Here's a quick overview of other periodical types you may want to consider:**

Trade/Professional/Industry publications.

These magazines are geared to employees in particular industries, or created by professional organizations and tailored to member interests. Articles are usually written by specialists in the field. Sample titles are *Automotive News*, *Nation's Restaurant News*, the *Chronicle of Higher Education*, and *Billboard*.

Consumer magazines.

Meant for leisure reading, magazine articles rarely run too long. The articles tend to be written by professional writers and journalists. Magazine examples include *Reader's Digest*, *Jet*, and *Sports Illustrated*.

Magazine (and newspaper) articles may be useful in college assignments for new subjects not yet covered in journals, or popular topics that may never be covered in journals. Just be sure that using them is ok with your teacher.

Respected magazines.

Some publications falling within the “magazine” category are seen as more trustworthy information sources than others. Examples of such trusted publications include *National Geographic*, *Smithsonian*, or a news magazine like *Time*. Written for those interested in reading for pleasure and non-academic learning, articles in these magazines may be authored by subject experts, though usually not scholars. Again, check with your prof to be sure a title you’re choosing meets their expectations.

Newspapers/news/social media sites.

News, whether from a big city newspaper or a social media site, covers just about any topic, including general interest stories. Breaking news is often written on the fly and may be released with sketchy details. If possible, check a news story over time. Note how facts increase day by day, with retractions and corrections (sometimes) noted.

Blogs.

Though sometimes equivalent to a personal journal or diary, in the hands of an expert, blogs, and other similar online content, can be well worth consulting.

The next figure will help you see the differences in the kinds of articles typically found in different periodical types.

Sample articles on the topic of “employee stress” from different types of periodicals

A scholarly journal	“Less Stressed at Work: Research on the Efficacy of Job Stress Coping Strategies.” From the journal <i>Advances in Management</i>
A trade publication	“Employees Plagued by Stress.” From <i>Credit Union Magazine</i>
A magazine	“6 Lessons for Handling Stress.” From <i>Time Magazine</i>
A newspaper	“Pilot’s Meltdown puts Spotlight on High-Stress Work Environments.” From <i>The Pittsburgh Post-Gazette</i>
A tabloid	“Martians Flock to Earth Citing Too Much Stress on Mars!” From <i>The National Blab</i> (OK. This is made up. Tabloids will almost never be a good source).

Is the article you’ve found from a periodical your professor finds acceptable?

There are gray areas, so check with your teacher if you’re not sure if a periodical you’re considering is suitable. Of course, you may have reasons why you feel a resource should be acceptable – so give your argument a shot. No guarantees on outcome!

20. Databases & more: where to search for articles on your topic.

Now you know what kinds of articles are available from different kinds of periodicals. **So, how do you find the ones you need** that will help you learn more about your topic or support your thesis idea?

Search for articles through a Next Generation catalog.

As previously discussed, if your library website has a Next Gen interface, it will clearly state that it includes “article searching” as an option. Enter keywords in the search box that describe your topic and execute the search to bring up articles. You’ll then see ways to further polish your search on the results page.

Search for articles directly through databases supplied by your library and on the Web.

A **database** is a collection of searchable information organized around a particular subject area, format, or both. For example, article databases let you search journal content to ultimately get you to full-text articles. Another example would be a database that lets you explore the transcripts of streaming videos, so you can find videos on your topic. Your library will have a database link from its home page.

Searching a database is similar to searching Google, except you’ll know exactly what the collection contains, and you’ll know that most or all of the content will be appropriate for college-level research.

In some cases, purposely choosing and using a single database can be more fruitful than using a Next Generation catalog search because:

A database has even more targeted search options, offering additional opportunities for refining a search.

A database is a smaller, more specialized world of information. You can choose a database that contains information limited to a certain subject area.

For example, if you need financial data for top U.S. software companies, you’d skip the literature databases, and search a database containing only business information. And if you want a discussion of Ophelia from Hamlet, you’ll ignore the chemistry database and look for literature collections.

Databases can contain citations or full content for books, conference proceedings, videos, digitized historical documents, and more. However, **article databases**—that is, databases leading to full-text articles, or to article citations and summaries—make up the majority of the specialized databases that your library supplies.

If your library doesn't have the exact databases listed below, they'll probably have something similar that's just as good (or better). Go ahead and try the one-search article-finding option if your library offers one. Just know that there are great alternatives if one-search isn't cutting it.

Below is a list of **types of article databases**, followed by **the kind of content you'd find in that type of database**, followed by **examples of that type of databases.**>

Multi-subject/general. These include a bit of everything and can be a good starting point for almost any topic and include *Google Scholar* (free on the web), *Academic Search Premier*, *Academic OneFile*, and *JSTOR*

News and newspapers. These collections contain writings on current or historic local, national, and worldwide affairs, events, and lifestyles and include: *LexisNexis Academic*, *The New York Times*, and *America's News*

Subject specific. There are databases focusing on virtually discipline areas, including engineering, art, political science, policy studies, architecture, literature, law, psychology, biology, environmental science, and more. Sample titles include *Engineering Village*, *PhilPapers*, *PsycInfo*, *Web of Science*, *Education Full Text*, and *Oxford Art Online*.

Focused on group affiliation. The content of these collections highlight materials related to social, cultural, gender, racial, ethnic, and religious topics and include *Ethnic Newswatch*, *Oxford African American GenderWatch*, and *the Bibliography of Native North American Studies Center*.

Since databases come with a hefty price tag, **no college library will have everything that's available.** Your library will focus on providing databases related to what's taught on your campus, and what supports faculty research interests.

Ways to choose the article database you'll search:

Try your search in a general/multi-subject database such as *ProQuest Central*, *Gale's Academic OneFile*, *JSTOR*, *Google Scholar* (free on the Web), or *Ebsco's Academic Search Premier*.

Pick a database by subject. For example, if your topic is looking at methods for shrinking high school dropout rates, you might try a database that focuses on **education**. If you'd like articles that discuss counseling for those diagnosed with bipolar disorder, then a database containing **psychology** journals would be a good choice.

Select a database by format. For example, if you're writing about a local mayor, a newspaper is an obvious choice. Find a database that contains or indexes content of local or regional newspapers.

Use a help guide developed by your library or another library that recommends resources for your topic, or within the discipline area you're pursuing. Those guides will include recommended databases.

Ask a librarian or your professor for a suggestion.

Over time you'll become familiar with the best databases for your discipline. Give yourself time to try a few.

Find articles through print indexes.

Although the heyday of print indexes is past, they can sometimes be the best option for finding historical information. Before the Web and before database indexes, print indexes were the only game in town. They were usually released monthly, or more frequently, and then bound into annual volumes.

Most print indexes have been replaced by online equivalents – but not all.

Many local newspapers, terrific places to read about historic community events and people, haven't yet been fully digitized.

Academic and public libraries generally retain any print indexes available for local papers in their area.

For example, Coloradans won't find earlier decades of a major state newspaper, *The Denver Post*, indexed online. But the *Denver Post Index* (pictured) is available in Colorado libraries and lets researchers search for content by a subject, like the Ku Klux Klan (to learn the unsavory history of the KKK in Denver!) The articles themselves will be available in the academic and large public libraries in the state.



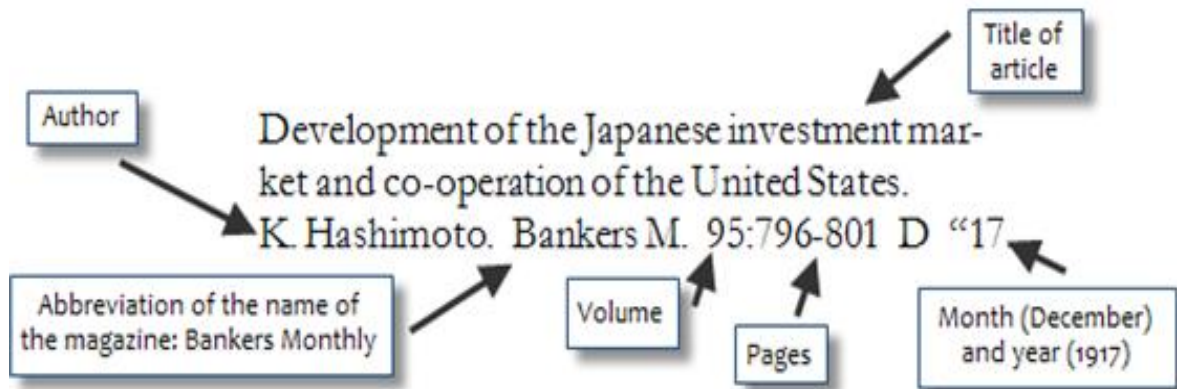
How print indexes work

Most print indexes, for magazine and newspaper articles, are organized along similar lines. Here's what you need to know:

They're usually searchable by **subject headings, subheadings** and author.

Print indexes don't contain the full-text of what you need but instead provide a citation so you can track down the resource through your library.

Example: Here's a citation which appears in a 1920 edition of a print index called the *Readers' Guide to Periodical Literature* under the heading "Japan" and the subheading "economic conditions."



Notice that this citation provides everything you need to locate the article. Note that the name of the journal containing the article, *Bankers Monthly*, is abbreviated. In most print indexes, you'll find the full titles of abbreviated journals listed in the front.

Once you know the journal name and volume, you just need to see if your library owns the journal for the year you need. If not, you can borrow it through your library's interlibrary loan service. Using a print index, and locating or borrowing the article you need, is a straightforward process that's worth it if the source is perfect for your paper.

21. Choosing effective keywords for database searching

The records you retrieve when searching databases are, like catalog records, filled with useful info tidbits.

In terms of keywords, the major difference between a database record and a catalog record, is that the Subject words may or may not be derived from the Library of Congress Subject Headings. The words may be unique to that database, or they may be terms supplied by users, database suppliers, or the author.

Keywords describing an item in a database record may also be called "descriptors," "identifiers," "tags."

Here's a portion of a record from the database *Ethnic NewsWatch* which shows the subject words used to describe an article.

17. Interaction Effects of Campus Racial Composition and Student Racial Identification.



Academic
Journal

By: Abu-Ghazaleh, Nabil; Hoffman, John L. Community College Journal of Research & Practice. Aug2016, Vol. 40 Issue 8, p656-667. 12p. DOI: 10.1080/10668926.2015.1090358. , Database: Academic Search Premier

Subjects: RACISM in higher education; COMMUNITY colleges; GROUP identity; ENGLISH language -- Study & teaching -- Foreign speakers; DEMOGRAPHY; SATISFACTION; Junior Colleges; Language Schools

Techniques for figuring out what keywords to use when searching a database:

Do a “free search” by entering words you think might work to retrieve items on your topic. Then, after pulling up a relevant or near-relevant database record, see what subject terms are listed and use them, if needed, in later searches.

Notice the suggested terminology that pops up in some online search systems as you begin typing in a search word. But, don’t let these tempt you if they’re only so-so suggestions!

You may see a “Browse” option which probably represents a thesaurus of words used in that database. Browse that for keyword ideas.

Knowing how to spot and unearth the best search words will help you consistently get great results no matter where you’re searching.

22. Article formats 101: online, print, and microformats.

You’ll be able to read nearly all of the periodicals your library supplies online. Sometimes you’ll work your way to a full-text article by first accessing the online version of a periodical in your library’s catalog; sometimes you’ll link directly to an article from a database or a Next Gen catalog.

Online articles are generally in PDF or HTML format, and you’re sometimes able to choose the display format you prefer. The content for an article offered in both PDF and HTML will be the same, so choosing one over the other is a matter of personal preference.

The PDF is a nicely formatted version which sometimes mimics the equivalent print version. The HTML is unadorned text, which is a fast-loading choice, and especially recommended when you have a slow Internet connection.

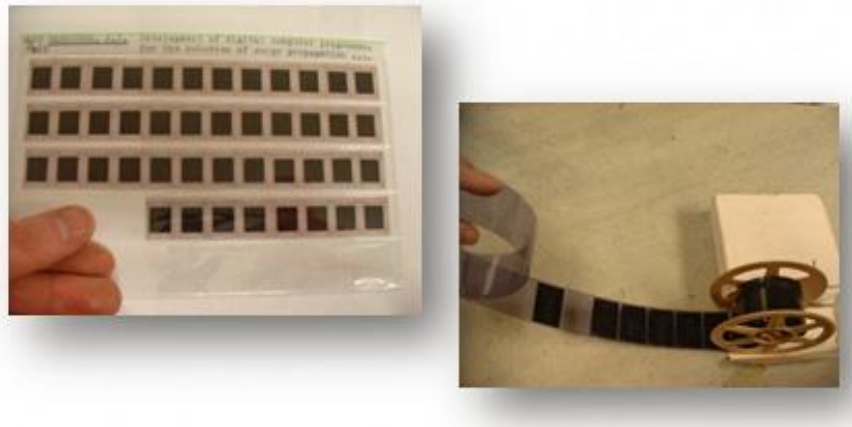
There are also articles in non-digital formats (print or microform) in your library. Your library may still have some journals and magazines in print format. The most recent

issues will be unbound, looking similar to the magazines you see at supermarkets (minus the celebrity photo).

Of course, before online access existed, thousands of periodicals were published in hard copy format. When libraries accumulated a few years of a print periodical they'd guarantee future access to those flimsy journals, magazines, and newspapers by either

Binding the issues together with a book binding, creating **bound periodicals**, or

Purchasing back issues in a microform format, which are filmed copies of periodicals or other materials. The filmed copies are either in a roll, called **microfilm**, or flat, called **microfiche**. Microformats preserve items and save space.



Your library will have the machines necessary to read, print and probably digitize any material still only available on “film” or “fiche.”

Though bound and microformat materials still exist, their numbers are a fraction of what they used to be, as libraries work to move content to digital format.

23. Where are the full-text articles?

Getting to a full-text article after a database search.

When you want to read an article you unearthed through a search of an article database or Next Generation catalog, a library-supplied link either gets you to the full-text, or supplies information on how to access the full-text.

Here are common results you'll see when you click on a “find full-text” or a similarly-worded link:

You'll be zapped directly to the full-text of the article which you can read, print, or save in digital format.

You'll be advised that the journal isn't available online, but may be available in non-digital format. **That's your cue to search your library's catalog by the journal's title to see if it's owned in a physical format (print or microformat).**

You'll be given the online link to the full periodical (let's say a journal) that contains the article. **You'll then be able to track down the article within the journal based on knowing the journal's volume and publication date, and the beginning page number of the article.**

Example: Here's a database record with a citation for the article "Capital Jury Deliberation" from the *Criminal Justice Abstracts with Full-Text* database.

 **Capital Jury Deliberation: Effects on Death Sentencing, Comprehension, and Discrimination.** 

By: Lynch, Mona; Haney, Craig. Law & Human Behavior, Dec2009, Vol. 33 Issue 6, p481-496, 16p, 5 Charts; DOI: 10.1007/s10979-008-9168-2

Subjects: UNITED States; JURY -- United States; VERDICTS; DEATH sentences; SENTENCES (Criminal procedure) -- United States; RACE discrimination -- Law & legislation

Database: Criminal Justice Abstracts with Full Text

 Add to folder | Cited References: (47) | Times Cited in this Database: (1)

 [Link to Full Text](#)

In the example above, a library has supplied a "Link to Full Text" option which brings you to the webpage for the journal *Law & Human Behavior*. The webpage links to *all* the articles in *all* the volumes of *Law & Human Behavior* offered by the library. From that webpage you can then locate:

The journal volume you need (Volume 33)

The issue for the exact date you need within that volume (December 2009)

The start page of the article (page 481).

The steps for getting to the exact volume, date, etc. of a journal vary based on the publisher or provider supplying the journal, and what kind of interface they've set up. But the steps are usually easy to follow.

You may ask: why can't I *always* be zapped right to the full text of an article??

Journal providers control access to the online information they sell. And sometimes they set it up so your library can't link to a unique URL for any one article. So, libraries do the next best thing by supplying a link to the journal that contains the article.

Getting to a full-text article when you have a citation.

Let's say an article cited in the bibliography of your textbook, from a journal called the *Journal of Music Theory*, looks great for your research. See if your library owns the journal – and the terrific article it contains – by searching your library's catalog.

Type in the name of the journal, the *Journal of Music Theory*. Your library's catalog may offer a way to restrict your search to "journal titles only" from the outset, or may let you filter your results to show only journal titles once you pull up your results.

If a record appears for the journal, it will indicate the format the journal is in (online, paper, bound, microfiche, or microfilm) and where it is in your library. You can now locate the full-text article.

If no record appears for the journal, find your library's interlibrary loan page and borrow this perfect article!

Here's a final important tip when you're looking for a full text-article: **make sure you have as complete an article citation as possible.** Having a complete citation for an article (name of journal, volume, pages, etc.) is frequently necessary:

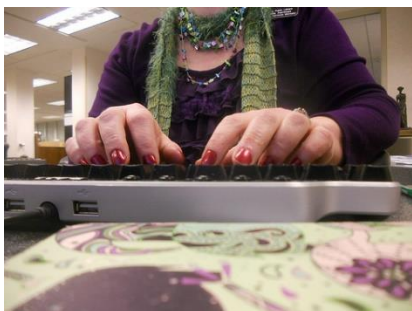
When drilling down through an online journal for the article you need

To find the exact reel, fiche, or bound volume you need

To request an article through your library's interlibrary loan service

Expert Tip: If you have an incomplete citation for your article, say, only the title, try this: Type the title, in quotes, into Google, Bing, Ask.com, or any other Web search engine. Chances are someone has cited that article and you'll find the full citation.

Searching like a pro by using expert strategies



24. Crafting database, Web, and catalog searches that extract the information you need.

As you know from earlier tips, choosing great keywords is essential to launching successful searches. In addition, applying techniques that enable you to strategically narrow, broaden, and focus searches will further ensure that you find what you need.

Below are methods for perfecting your online search strategy that can be used in most databases, online collections, library catalogs, or the Web.

Try the “advanced search” mode

Most online search systems offer an alternative to the default search. It may be called “advanced search,” “more options,” or something similar. Most of us just want quick results, and skip that choice.

But here’s a recommendation: If you’re not getting the results you expect, check out the mode with more options. The word “advanced” is, in fact, misleading. **That mode often makes your search easier, since it more clearly reveals your search choices.**

Use Boolean search techniques to mix the perfect search brew

A great advantage of searching any online system is the ability to link two or more concepts to refine your strategy. This is called **Boolean** searching.

By allowing you to combine words in ways that exclude some words, and include others, Boolean searching lets you craft a search that will more precisely produce what you need.

Boolean searching uses the words “and,” “or,” and “not” to describe the relationship being established between concepts in your search. These words are called Boolean operators. Use them to limit or expand your search as needed.

Common Boolean search strategies illustrated by using “and”, “or”, and “not”.

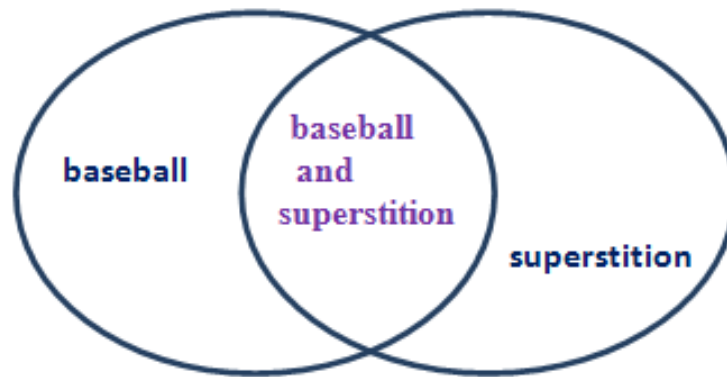
Example using “and.”

You’ve selected a general database from your library’s website that helps you find journal and magazine articles. You want articles about superstitions in baseball. So you try the Boolean operator “and” for your search. This database, like many, allows you to enter a Boolean search string in a single search box, so you type in:

baseball and superstition

The “and” guarantees you’ll pull up all article records in the system (if there are any) that have both the word “baseball” and the word “superstition” in them. The system rejects any records that don’t have both concepts in them.

Here's what an "and" search looks like:



The overlapped area represents the articles you want, which are those containing **both** selected concepts.

Doing the above search in the basic search mode of *Academic Search Premier*, a general article database, retrieves on-topic articles, including one titled "Superstitious Behavior among American and Japanese Professional Baseball Players."

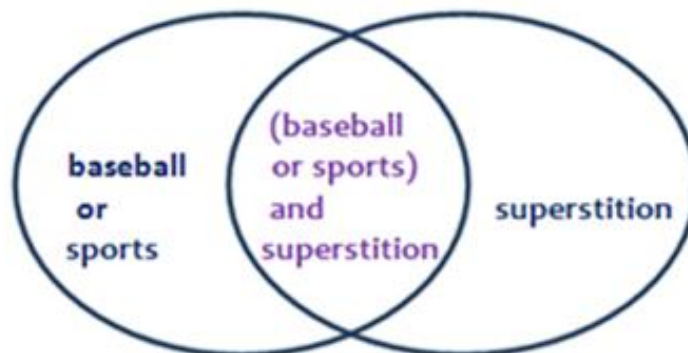
Example using "or."

Let's say you want to expand your search above to see articles about superstition in *any* sports, not just baseball. So integrate the Boolean operator "or" into the search by typing in the following:

(baseball or sports) and superstition

The system reads what's in parentheses first. It then creates a new set of all records that mention either sports or baseball. Next, it combines that new set with the word "superstition," finding articles with the words "baseball and superstition" as well as any articles with the words "sports and superstition" in them.

Visually, the search looks like this:



"Or" searches are handy and powerful when you want to combine several similar/related items and a single concept.

Here's another "or" example, since this is an important search concept!

In this example you're looking for articles discussing the Central American economy, but realize that articles discussing *particular countries* in Central America may also be useful. So you expand your search like this:

(Central America or Belize or Costa Rica or Guatemala or Honduras or El Salvador or Nicaragua or Panama) and economy

You can see that "or" search allows you to efficiently cross-search similar terms.

Example using "not."

You're conducting research on Paul Simon, the late politician. You want information about him, not Paul Simon, the musician. Using the Boolean operator "not" will tell the system to exclude records containing certain keywords, like this "not" search:

paul simon not music

Use "not" sparingly. Although it's useful in narrowing down a search that's retrieving off-the-mark results, it frequently omits useful results as well.

Some databases offer Boolean search choices automatically as part of their search, giving you the option to just choose the word "and" or the word "or" from a pull-down menu, instead of having to type in the entire search string in one search box. Be aware of that choice and use it as needed. Note also that getting to that choice might require selecting an "advanced" search mode.

Use "limiting" and "filtering" to perfect database search results.

We talked earlier about the idea of refining a library catalog search by limiting a search to one field (author, title, subject heading, etc.) as well as additional filtering options, like specifying a certain time period.

Because most database records, like library catalog records, are divided into fields, they also supply possibilities for crafting and formulating effective searches. Fields in databases are even more numerous and helpful.

For example, following is a portion of the search screen from Ebsco's *Business Source Premier* database with the "Select a Field" pull-down menu opened to reveal the many field options available. Notice that you can select a specific field, like subject or geographic terms, to limit your search.

Searching: **Business Source Premier** | [Choose Databases](#)

☐ Suggest Subject Terms

in **Select a Field (optional)** **Search** **Clear**

AND in **Select a Field (optional)**

AND in **Select a Field (optional)**

[Basic Search](#) | [Advanced Search](#) | [Visual Search](#) | [S](#)

Options

Search modes [?](#)

- ☒ Boolean/Phrase
- ☐ Find all my search terms
- ☐ Find any of my search terms
- ☐ SmartText Searching [Hint](#)

Full Text ☐

Select a Field (optional) ✓

- TX All Text
- AU Author
- TI Title
- SU Subject Terms
- AB Abstract or Author-Supplied Abstract
- KW Author-Supplied Keywords
- GE Geographic Terms
- PE People
- PS Reviews & Products
- CO Company Entity

[Add Row](#)

If you're not getting quite what you need or if you're getting too much information when doing an unlimited search, try limiting your search terms by a field.

For example, an effective way of refining a search is to restrict results so that your keywords only appear in the article "abstract." Such a search will *only* find words showing up in the article summary.

Field limiting choices vary depending on the focus of the database. For example, in the Ebsco example above, the field limiting choice "company entity" is available, since it's a business information database.

Examples of how you could limit by field using different specialized databases:

Limit the search to a particular artist or artwork in an art database.

Precisely identify the educational level of interest (elementary, secondary, etc.) in an education database.

Search only photo captions in a newspaper database.

Specify the time period you want to study when searching a history database.

Limit to “document type” in databases.

In college, it's common for professors to ask you to find particular kinds of documents, so being able to limit search results to “document type” is a useful option offered by many databases.

Common “document types” include:

research studies (articles that describe research results, also called empirical articles)

case studies (writings which analyze a particular situation)

industry reports (business sector overviews)

scholarly journals (peer-reviewed journals)

literature reviews (writings which synthesize the most important concepts related to a topic, with references to the literature that supplied those concepts.)

book, film, or other reviews (critiques of writings, performing arts, and media)

Use search word variations: truncation and wildcards.

By using truncation or wildcard searching, you can search different word forms or words with the same root, without typing in every variant. An asterisk (*) is the typical symbol used in these search operations.

Example of truncation.

Typing in *econ** tells the search interface to look for any words with *econ* as the root. So *econ** will retrieve any record with the following word variations: *economy*, *economies*, *economics*, *economists*, etc.

Truncation is widely available in most online search environments and some systems, like *Google*, automatically search for plurals.

Example of a wildcard search.

A wildcard is also usually represented with an asterisk, but appears within a word. So, typing in *snowm*n* retrieves *snowman* and *snowmen*.

Since missing certain word variants might mean missing terrific results, you can see that using truncation and wildcards can be a useful search choice.

Be careful about using too many keywords.

Getting zero retrieval when searching any online system could mean you've limited what the results can contain too much by demanding a match to too many words. Try reducing the number of words or phrases if you've entered more than two or three.

Using “phrase searching” in online search systems.

Your online search results may be radically improved by simply specifying you want to locate words together in a specific order. For example, placing the name “*Bill Gates*” in quotation marks in most online search systems will only pull up results that mention Microsoft’s Bill Gates. It won’t pull up results about Bill Smith who works for the Gates Corporation.

Although some databases and search engines like *Google* assume you want a phrase searched if words are next to each other in a search box, some don’t. You’ll quickly see if you need to manually restrict words to phrases based on your search results.

On the other hand -- be careful of losing results through unnecessarily restricting a search to a phrase by placing quotation marks around the phrase. For example, you may limit a search to all articles containing the phrase “*market share*” and miss the articles that discuss *share of the market*.

What to do if you’re getting too much information.

Narrowing your topic focus may help. For example, if your topic is “how sexism in the media should be reduced because of its negative effects on the self-esteem of girls,” you’d find writings related to sexism evident in film, television, commercials, news, etc. In that case, narrowing the topic to sexism in just one of those mediums, such as television, could help reign in the info flood.

What to do when you’re not getting enough information.

Check spelling. A misspelled name or word can result in zero items found (some databases aren’t as forgiving as *Google* or your phone).

Make sure you’re in a database or collection that has the kind of information you need. Since a database may cover one or many time periods, subject disciplines, or material types, be sure that the one you’re searching has content well-matched to your topic. Still not sure? Consult your professor or a librarian.

Re-order the final search results to reveal the gems.

Online systems show you search results in different ways. Three common ways of ordering what you’ve found include listing results by:

Relevancy (determined by how often or where search terms occur in a record)

Alphabetic order by title

Publication date (usually in “last-in, first-out” order, meaning the newest stuff is first).

You can usually change the order of search results if you wish. For example, if your professor told you to find readings only from the last five years, then a book from 1992 will do you no good even if the online system is telling you it’s the most “relevant.” Look for an option to “sort” your search results to arrange them in the order you prefer.

Very advanced search feature: Specifying how close keywords are to each other using proximity or adjacency operators.

Proximity searching, a search feature available in some online databases and search engines, let’s you specify the nearness of one keyword to another. Proximity searching could, for example, limit a search to finding two words in the same sentence, paragraph, or within a certain number of words apart from each other.

By using proximity searching you could pull up articles discussing both market share *and* share of the market by specifying you want the words *market* and *share* in the same sentence.

Proximity and adjacency search methods vary, so check the advanced search, help, or tips page of the system you’re using for guidance.

25. Search techniques unique to the Web.

Though each search engine has its own proprietary, behind-the-scenes, ultra-secret search algorithm, there are concepts common to most. The search methods below are *Google*-specific, but look for equivalents or near-equivalents in other search engines.

Word order matters on the Web.

Consider word order in constructing your search string since the order of your search words influences the search outcome. Google favors websites that feature search words either **in the exact order you typed them** or **near each other**.

Example: Each of these search strings retrieves different results:

zen art

art zen

“zen and the art”

Limiting to Website domain.

Web URLs, the “addresses” for websites, typically end in one of four popular top-level domain types, indicating the organization type that created them: **edu** (education), **gov** (government), **org** (non-profit) and **com** (commercial).

A website with any domain can contain accurate information and, in fact, scholarly databases are generally “.com” sites. However, if you’ve been getting questionable results, limiting a Web search to edu, org, or gov sites may improve results. **On Google, limit by domain by adding site:.domaintype** to your keyword search.

Example: autism site:.gov

When a Web link seems broken.

If you receive a website error message, shorten the URL to get to the website’s main page by deleting everything after the first slash. You may be able to work back to the page you want.

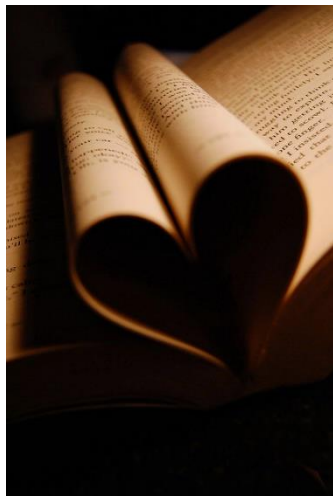
Excluding words.

Putting a minus sign in front of a word excludes it from the search. This is equivalent to the Boolean “not.”

Example: **jazz –blues** tells *Google* you want sites mentioning jazz but not blues. (Note: Hyphenated words such as “non-profit” won’t be excluded, since there needs to be a space in front of the minus sign,)

26. Starting a love affair with citations: a review of this path to full-text and spot-on information.

Perhaps expecting romance is too much, but citations could make your heart flutter if you see their value. You’ll stumble on hundreds of citations in your college career and likely beyond. Once you see their potential you’ll actively seek them out.



Reviewing the definition of a citation.

A citation can represent any type of information resource, including books, videos, personal interviews, and other items and it’s **designed to lead you to the source**. So, for an article, the source will be the journal, magazine, or newspaper in which the article was published. It also supplies essentials like dates and page numbers.

Where do citations show up?

As mentioned earlier, bibliographies are lists of citations found at the end of books, book chapters, and journal articles. Citations are also in databases and print indexes. Single, scattered and partial citations also appear all over the Web in different contexts.

Citations lead to in-context information.

Let's say you read an article or book that was exactly what you needed to support your thesis idea. And you want more just like it. Your next step could be to check the bibliography of the book or article and see what writings the author used to do his or her research. One or more of those citations could be worth tracking down.

Easily find full-text based on a citation.

Even if the citation describing that just-what-you-need item doesn't link to the full text of the item in your library, chances are you'll be able to use it to get the full-text, easily, at no charge, through your campus library's interlibrary loan service.

27. Lengthy writings needn't inspire DREAD.

You may be tempted to reject a great article because it's "too long." Students have been known to mutter "That one's got TOO many pages!" while scrolling through article lists generated by a database search. Alternately, you may be tempted to rely only on the abstract of a lengthy article, and completely ignore the full-text.

Although article abstracts may offer substantial summaries, always relying on them isn't a sound strategy, since the contextual meat of the writing won't be there. Note that although you may well become so absorbed that you *do* read a 30-page article word-for-word, it's not always necessary. Carefully browsing an article, and noting particular segments of interest can be a great approach.

Similarly, you may only need one or two chapters of a lengthy book, or even a portion of one chapter. **Check both the table of contents and the back-of-the-book index to pin down your needs within the book.** Even in this online-abundant world, a book's index is a remarkable finding aid.

Be open to reading articles and books from beginning to end – you may get hooked! - but know that it may not be essential.

28. Venturing beyond page one: finding valuable information on page two and beyond.

Typically, useful results beyond the first few pages of a Web search shrink rapidly. That's often **not** true when searching library-supplied databases, since the information

provided is more select. Depending on the topic, the 2nd, 10th, or even 28th page could have just what you need.

Getting beyond a few results screens in an article database can be a dreary business if you open each article, and read significant portions to determine the article's usefulness. Try these tactics to banish the tedium:

Read the article summary (abstract). Article titles can be quite uninformative so the summary will confirm if the article's potentially useful or not.

See if the article subject headings/descriptors describe content of interest.

And here's a tip that will save you time online in many situations now and well beyond college! (My students love, LOVE this tip.)

Quickly find words in documents that reveal subject content by using your computer's "find" function. This is an incredible time-saver when scanning long Web pages, or full-text online articles, to quickly determine if what you've found is what you need.

The find function automatically locates each instance of any word you ask it to find within the document. Use it to see where in the document the search words you used show up. To activate the find function:

On PCs, press the Ctrl key simultaneously with the letter F key.

Mac users press the command key plus the letter F.

Methods for using the find function on the PC and Mac may change, and other evolving electronics will offer alternative methods for activating this extremely useful function. Learn how to use it and save time

Enriching your writing using subject overviews, expert input, opposing views, and historical details

29. Find subject overviews and jargon definitions.

While researching a topic, you'll likely need basic information on that subject, including knowledge of notable related events, milestones, or individuals. You may also run into concepts or terminology you need defined.

Your first impulse may be to turn to the Web for this type of information. And that can work out well. Just don't waste time if the Web *isn't* delivering, because your college library supplies *exactly* this kind of information.

Find substantial subject overviews, accurate definitions, and analysis of noteworthy events through the campus library using print and online reference books. Types of reference books your library offers, frequently online, include:

Encyclopedias. Your library will have general encyclopedias (such as *Encyclopedia Britannica*) but most will be **subject-specific**. All will be **filled** with reliable information. **Examples of specialized encyclopedias:**

Encyclopedia of Spirits and Ghosts in World Mythology
Encyclopedia of Applied and Computational Mathematics
An Encyclopedia of Asylum Therapeutics, 1750's-1950's
Encyclopedia of the Incas

Dictionaries. You'll find print and digital English-language dictionaries through your library, such as *Webster's Unabridged Dictionary*. Others, like the massive *Oxford English Dictionary* (OED) supply the origin, evolution and definition of English words.

Just as your library has specialized encyclopedias, it will also have subject-specific dictionaries, such as the *Cambridge Aerospace Dictionary* and the *Blackwell Dictionary of Sociology: a User's Guide to Sociological Language*.

On the Web, check out the ever-growing Wiktionary, which aims to supply, free, definitions of words from multiple languages.

Chronologies or timelines provide an at-a-glance progression of an event or happening by supplying brief milestones. Summaries will be presented day-by-day, year-by-year, or using some other chronological breakdown. **Examples of Chronologies:**

Chronology of American Military History
Day by Day: The Seventies
The Timetables of History: a Historical Linkage of People and Events (this one is fun to look through)

Handbooks and Manuals supply focused information or instructions on a topic and typically offer good introductory material.

Directories have listings subject-related organizations, objects, or people, like the *Directory of American Philosophers*.

Textbooks offer useful subject overviews since they teach the basics of particular topics and fields of study.

Since many – possibly most – of your library’s reference books will be in online format, **ask a librarian if your library has a cross-searchable collection of online reference titles**, such as *Credo Reference*, *Gale Virtual Reference Library*, or *Oxford Digital Reference*. That way, you’ll be searching a collection that feels like *Wikipedia*, but won’t bring up results that could be rejected by your professor.

Don’t worry if there isn’t a searchable collection. You can also uncover online and print reference books in a library’s catalog by **combining a word or phrase that describes your subject, with a word describing the type of reference book you need**, such as: Airplanes encyclopedias; German language dictionaries; Mathematics dictionaries; Slavery chronology; Law encyclopedias; Geography textbooks

30. There’s a movie on that.

Videos, like articles and books, can supply relevant information for your class assignments. And they add an audio visual element to your learning.

Although movies like *The Godfather* cost little, documentary and educational videos such as *Sexual and Racial Stereotypes in the Media* cost plenty and won’t be found on the Web. Luckily, your college library buys videos, usually in both streaming and physical formats, containing the kind of information you need.

Learn how to find your library’s films and what the use policy is. For example, some films might require in-library viewing, while others will be available online.

Though using *just* a video and nothing else as a source for a paper or presentation won’t please your professor, using a credible video appropriate to your topic as one of your resources is generally fine. Not sure? Check with your professor.

31. Find stats & data for credibility and ZING.

You can more vividly support and highlight ideas in your presentations and papers by using statistics and formally gathered data. For example, saying “a lot of puppies like to chew on bones” is less interesting and believable than saying “83% of puppies in the Southern U.S chose bones over slippers, while Northern states pups demonstrated a slight slipper preference by choosing them 54% of the time.”

There are a number of ways to find pertinent statistics to enhance your work, including searching online, extracting information from books and ebooks, and tapping the rich vein of information offered through government publications.

Find stats and data through databases and websites.

Searching the Web and combining a descriptive word or phrase and the word “statistics” will sometimes retrieve just what you need. Just confirm that results come from a resource meeting the “truth” and not the “baloney” standard.

Your library may subscribe to **special databases** dedicated to helping you dig out data on multiple topics, such as *Statista*. Check your library’s website or ask a librarian.

See if your library has a special “**Finding statistics/facts**” help site.

Articles from journals, magazines, and newspapers are a terrific place to find statistics. Using an article database, combine subject keywords (e.g., **teenage pregnancy**) with such keywords as **statistics**, **polls**, **questionnaires**, **surveys**, or **research** to find articles with statistical information. Some article databases also let you limit searches to writings with graphs and tables.

Note that some articles may not mention a word such as *statistics* or have *statistics* as a subject heading, but still will contain statistics. Choose keywords that would likely appear in articles containing the data you need, such as **price**, **per day**, **number** or **percentage**.

The search engine Zanran.com limits all searches to only those results with statistics, data, charts, tables, or graphs, though not all results are no-cost.

Wolframalpha.com calculates numerical results, or presents facts, based on input in its accumulated datasets for topics ranging from theatre (how many characters are in the play *Cat on a Hot Tin Roof*?) to chemistry (what’s the boiling point of a class of chemical compounds?) and seemingly everything in between. Note that free access times out.

Use stat-rich books and ebooks in your library.

To find print books or ebooks containing numerical results through the catalog:

Try pairing a word or phrase describing a topic with one of these terms: **statistics**, **encyclopedias**, **handbooks**, **opinion polls**, **surveys**, **public opinion**, or **miscellanea**.

Look beyond books that just compile statistics. For example, any book on capital punishment could quote statistics dealing with the death penalty, and a book on divorce might list figures for marriage breakups. **Use the back-of-the-book index** to find that hidden information.

Get statistics and data through government publications.

The U.S. government produces an avalanche of statistics, covering an impressive range of topics, including health, education, energy, crime, science, business/economic topics, and more. Just a few of the U.S. agencies cranking out numbers and facts that may be relevant to your research include the Census Bureau, the Department of Justice, the Department of Education, and the Environmental Protection Agency.

You'll find lots of government-agency-produced statistics when following any of the database, Web, or library search strategies outlined above. Also check Fedstats.gov and Data.gov for data. Additionally, publications from Congress and U.S. agencies, many with statistics, can be discovered using the [Federal Digital System - FDSys](#).

No stats available.

There will be times when you can't find the **exact** statistics you have in mind. In that case, imagine what alternative statements, statistics, data, or polling results might work. **Examples:**

You can't find the exact number of cups of coffee sold in a popular coffee shop? Maybe finding an increase or decrease in coffee drinking overall along with a rise or fall in the coffee company's annual sales will support your point.

You can't find the exact number of angels that can dance on a pin? See if you can find an article that at least asserts that angels like to dance on pins.

32. In-person knowledge: tapping experts.

Experts are those who have the education, work, or life experience to speak knowledgeably on a topic. An expert's experience may be represented by a Ph.D. or a massive Barbie doll collection. The point is, they know much more than the average person about a topic.

Speaking to experts is a good idea when:

You've exhausted online and print possibilities and defeated the librarians. Direct contact with a topic expert may help move you to the next step. Some topics are so obscure or new that little or nothing has yet been written.

You want expert statements to spice up your writing with cutting-edge information, or that unexpected utterance a query or interview can elicit.

An expert may have written articles, books, or opinion pieces on a topic; been quoted by other people in their writings; or be the owner of a well-respected blog or social media site. But remember, **just because someone's a self-proclaimed authority, that's no guarantee that the information provided will be accurate.** Confirm what you learn.

Identifying experts on your topic.

Start by asking yourself the following questions:

Who's writing on the subject? Use article databases, library catalogs, online bookstores, or Google Books to identify authors and scholars who've written on a particular topic.

Use article databases and the Web to see if a person, group, or company has been mentioned in relation to your topic.

What associations or professional groups have interest in the topic? They can probably point you to members with expertise.

Follow-up.

Can your expert recommend another expert?

Follow-up with a physical or virtual thank-you. You may need that expert again, and they'll remember you. (Plus, it's a pleasant and professional gesture.)



As always, check with your professor if you're not sure if expert statements are appropriate to integrate into your research assignment. These tend to work well for presentations, and writings mirroring journalism, but may not always be acceptable for research papers.

33. Quotes: Find smart, inspiring, and jaw-dropping statements to use in writings and speeches.

To add color and authority to your writing and presentations, use quotations from literature, nonfiction, speeches, published or recorded interviews, poetry, or song lyrics.

Try these strategies for finding memorable passages in books and online:

On your library's catalog or the Web, enter the keyword "quotations" matched with the kind of quote you want, or the name of a person you'd like to quote (e.g., motivation, cooking, or Mother Teresa).

Use the keyword "toasts" or "proverbs" to uncover interesting search results through the Web or a library catalog. (Sample proverb: "If you lie down with dogs, you'll rise up with fleas!")

On the Web, match the word "lyrics" or "poems" with a descriptive word such as "success" or "forgiveness."

Browse for an interesting passage from an interview, speech, or other primary source using techniques outlined in Tip 36: History Research 101.

Note that while it's easy to locate quotations doing a general Web search, it's also annoyingly simple to find the same quotes over and over -- and over -- again. Also, there's often no appropriate or obvious citation for quotations found on the Web.

Consider using your library's print and ebooks to find quotations. General quotation books, including newer versions of books like [*Bartlett's Familiar Quotations*](#), are probably in both the general stacks and reference sections of your college library on the PN 6080 - PN 6095 shelves, so those are good places to browse.

In addition to general quotation compilations, there are hundreds of interesting specialized quote books, each covering one subject, like tennis; a particular field, such as politics; a particular group, such as women; or one person, like Mahatma Gandhi.

Your college library will have many quote books; your public library will have even more; and out-of-copyright quotation books can be found in free ebook collections like the [*Internet Archive*](#).

Examples of specialized quote book titles:

400 Quotable Quotes from the World's Leading Educators

Chemically Speaking: A Dictionary of Quotations

The Fire in our Souls: Quotations of Wisdom and Inspiration by Latino Americans

34. Hot topics: cutting-edge and pro/con issues.



Here's a common college assignment: You're asked to write a "persuasive" paper by identifying a controversial issue, determining an aspect or "side" of the issue you'll support, and using appropriate writings, facts, and expert analysis or commentary to illustrate and support why and how you've arrived at a particular point of view.

In a nutshell, **finding information on a "hot topic" is no different than finding information on any topic.** You'll enter subject terms in your library's catalog, databases, and appropriate websites to get topic overviews, find statistics and data, locate articles supporting your view, perhaps examine longer writings that supply in-depth topic examination, and possibly track down an in-person expert or two to add some interesting quotations.

As a jumping off point, ask your librarian if your library subscribes to databases that specialize in synthesizing and examining hot topic issues, like *CQ Researcher*, *Points of View Reference Center*, or *Opposing Viewpoints in Context*. The free website Procon.org will also be helpful, but stick to the entries that indicate where the content originates, and make sure those sources are good ones.

As you delve into hot button issues, **be particularly careful in finding credible, objective, unbiased sources** – especially if your professor has given you the go-ahead to use editorials and articles from magazines and other non-scholarly publications. **Ask yourself the questions below.**

Are the statements and ideas grounded in emotion and adherence to a political or philosophical viewpoint instead of **facts and research**?

Is the writing intended to support the promotion of a product or business?

A “yes” to either question means there’s likely bias in what you’re reading. Though “hot” issues are rarely emotion-free, you can still work to find resources more based in logic than not.

35. Location, location, location: Finding local, state, national, and international information.

Events, news, data, or any information of enormous interest locally in Oshkosh, Wisconsin, or Ankara, Turkey, may not be of national or international interest, and so may not show up in general databases. Here’s how to track down location-specific information:

“Googling” it

Using Google, Bing or another Web search engine works when the results reveal more than random chatter on a topic. Otherwise, try using the pinpointed strategies and specific collections recommended below.

Use regional publications (including international)

Ask a librarian about databases your college library subscribes to that provide numerous years of well-indexed access to local, regional, or international periodicals. For example,

The database *LexisNexis Academic* indexes international news resources and *America’s Newspapers* covers U.S. newspapers.

Newspapers.com is a low cost, fee-based choice on the Web leading to hundreds of years of U.S. news.

Also on the Web, the content of recent years of local and non-U.S. news sites are likely free online, though content may not always be retrieved through a general Web search. Try your search using a word such as “news,” “TV,” “radio,” or the name of a social media service, combined with the name of the city, town, country, etc.

Try government libraries and Web pages.

Every U.S. state maintains an info-packed website at nameofstate.gov or abbreviatednameofstate.gov (for example, Arkansas.gov or NJ.gov). State website information runs the gamut: how to start a business in that state, the state song, links to laws and regulations, population data, contact information when you need to chat directly with a department or agency representative, and so much more.

There are also **government web pages for specific countries and local government locales**, including towns and counties.

Each U.S. state also has a state library, archives, or agreement with a public library to preserve and share state-produced or state-related resources. Check out what they offer online and in-person.

36. History research 101, including identifying “primary” sources.

No matter what your major, you may find yourself looking for the historical aspects of a topic. Review the strategies below for ideas on efficiently narrowing your searches.

Finding history in books

When looking for print or digital books on the history of your topic, try pairing your topic word with the word “history” in your library’s catalog. So, to find books on the evolution of modern dance, you’d type in **history modern dance** or **history dance**. To learn of Peru’s early years, you could try **Peru history** or **South America history**.

It’s important to be aware that historical information in books comes in many forms, including books that aren’t obvious “history books,” including:

Current books with historical content.

For example, a travel guide on Thailand should also touch on its history. To find travel books on Thailand, you’d pair the subheading “guidebooks” or “description and travel” with the word Thailand.

Older books on your topic.

A book written in 1922 about fire engines is of historical interest. But it won’t be cataloged with the subject term “history” since it was a modern book when it was written and cataloged. So, check for publication years appropriate for your topic.

Biographies.

Books focusing on biographical information are also history books since they generally discuss a person in the context of a specific field in a particular time period. So a book on renowned dancer and choreographer Martha Graham would also be a history book about modern dance in the 20th century, and you’d locate it through a library catalog using the phrase “Martha Graham biography” or just “Martha Graham.” In a similar vein, finding a book about IBM, Xerox, Microsoft, or Apple would fit nicely with the pile of books generated by the search “computers history.”

If your library doesn’t have books on the history of your topic, use your library’s Next Generation catalog, if it has one, and it can search beyond your library’s holdings, to find books to borrow through interlibrary loan. Alternately, you could use Worldcat.org or Amazon.com (or other online bookstores) to identify useful titles you could borrow.

Finding history in general and specialized encyclopedias

As mentioned in Tip 29, general encyclopedias are great places for topic overviews and they also include a good dollop of history. **Specialized encyclopedias** on almost any topic will include a history of that topic and biographies of key players. So, for example, the *Encyclopedia of Psychology* will look at the roots of the field and its contributors. There are also encyclopedias dedicated to historic events and time periods, such as the *Encyclopedia of the Renaissance* and the *Encyclopedia of the Persian Gulf War*.

Finding history on microform

Thousands of special historic collections have been stored on microfilm or microfiche. Though many are being digitized, others linger on this archaic format. The contents of microform collections your library owns may be findable through the library catalog, or the collection may have its own print index. Learning to use microformat is well worth it if the writings available on it are just what you need.

Find history through organizations

If you need an expert on the history of just about anything, it's likely there's an organization that has one. There are hundreds of associations related to the history of professions, events, cultures, movements, places, and inventions. For example, the Filipino American National Historical Society has about a thousand members, and the National Antique Doll Dealers Association, despite the "national" in its name, has members worldwide. See Tip 10 for a reminder on how to track down associations.

Finding history through maps and atlases

There are maps that show cities, travel routes, borders, and the like, as they existed in past time periods or during historic events. Sample titles include *A Battlefield Atlas of the Civil War*, *Atlas of Russian History*, and the *Atlas of the Crusades*.

To search for maps of different eras in a library catalog or on the Web, combine the word **maps** or **atlas** with such words as **history**, **antiquities**, a particular time period, or the name of a country, continent, or region.

Examples:

- Europe history atlas
- Africa history maps
- China antiquities maps
- Ireland medieval maps

Increasingly, interactive historic maps are appearing on the Web, as GIS wizards and historians join forces. So, the Web is an increasingly great place to find historical maps.

Finding history through primary sources

A **primary source** reflects an historical time period or one event, either extraordinary or every day, as it occurred. So, a primary source may have been created in the last hour or 300 years ago.

Primary sources also include the thoughts or recollections of an event participant after the event has happened. You'll have more of a "see-it-through-their-eyes" experience with primary sources. For example, [an article from the *Los Angeles Times*](#) from 1912, supplying details on the Titanic disaster less than a week after its occurrence, has a very "immediate" feel to it.

Examples of primary source types, each linked to a sample source:

[Maps](#)

[Memoirs](#)

[News articles](#)

[Official government/business legal records and documents](#) (including meeting minutes)

[Oral histories](#) (history in the first person as recalled by those who lived it; a first-hand account of "what happened")

[Original fiction](#) (including novels, plays, poetry, short stories, and so on)

[Original research](#)

[Pamphlets, advertisements](#)

[Personal diaries, letters, journals, blogs, and papers](#)

[Photos, posters, or other images](#)

[Recordings](#) (audio-only or audio/visual presentation, speech, event, or musical/artistic performance)

[Compiled or gathered information](#) (such as the results of questionnaires, surveys, interviews, observations, ethnographic research, polling, etc.)

[Ephemera](#) (cultural artifacts giving a time-capsule snapshot of a moment in history such as ticket stubs, old calendars, playbills, toys, and matchbooks)

Secondary sources

Secondary sources are created in hindsight and may analyze, interpret, or build upon primary sources. Examples of secondary sources:

A book about World War I written in 2016

An article commenting on Jonathan Swifts' *A Modest Proposal*

A book chapter supplying an overview of theories of moral development

A calculus textbook

Strategies for finding primary sources

Use effective keywords.

Search your campus library catalog, any combined library catalogs your library offers, like Worldcat.org (libraries worldwide), or the Web, where digitized documents and media are abundant. You'll find records representing physical books and objects (art pieces, for example) as well links to online full-text writings and digital media and images. **Try matching your keyword(s) or a person's name with one of these terms.**

addresses

blogs

diaries

maps

oral history

personal narratives

quotations

speeches

autobiography

correspondence

interviews

memoirs

oratory

pictorial works or photographs

sources

transcript

Examples of keyword searches for primary sources:

Martin Luther King addresses

Wyoming pioneers oral history

Architects interviews

Explore historic document and article databases. See what your library offers. There's a good chance the library subscribes to a variety of specialized primary document collections representing different time periods

Find primary sources published in certain time periods. You can limit searches in library catalogs and many digital collections by publication date. After doing a keyword or subject search, look for a way to specify a year or year-span. (You may need to use an advanced mode for this option). For example, you can find digital copies of books on Victorian manners written during that era (1837-1901) on free ebook sites such as the Internet Archive.

Check bibliographies for primary sources. A bibliography in a book or article may reveal primary sources. Book-length bibliographies also exist for some subjects.

Discover hidden treasures and personal recollections. Historical research may wander beyond typical collections. Resources you need could be within a file cabinet in a half-forgotten room at a local business, in a church basement, in a tiny

public library in Podunk USA, or in someone's memory. To track this kind of elusive information, ask yourself the following questions:

Where did an event you want to research occur? Check with that area's library, historical society, or newspaper to see if they know possible contacts. In a smaller town, the post office or other long-time local business employees may have ideas. Once you have a last name, check local phone directories. If the "expert" has died, there may be relatives who can help.

Who's written about your topic locally? Worldcat.org or the online catalog of a local library may turn up self-published or community-sponsored writings or media that will be useful on their own, and additionally useful if a subject enthusiast will speak with you. The local newspaper may have existed during the time-period you're researching (although older local newspapers are often not searchable online,) or may have published a more recent article related to your topic. Chat directly with a librarian, archivist, historian, or journalist if online directories aren't revealing what you're looking for.

Formatting your paper and bibliography

Your professors will want you to format your papers and bibliography following well-known "style" rules and will generally tell you what style to follow.

Here are some commonly recommended style guides. Your library will own them all.

MLA (Modern Language Association) Handbook for Writers of Research Papers (MLA)

Publication Manual of the American Psychological Association (APA)

Chicago Manual of Style

A Manual for Writers of Research Papers, Theses, and Dissertations (Turabian)

AMA (American Medical Association) Manual of Style (AMA)

[CheckCite](http://CheckCite.com), created by James Madison University, supplies citation style examples for a number of style guides. Also, the [Purdue Online Writing Lab](http://PurdueOnlineWritingLab.org) (OWL) is a great overall site for finding advice on citation formats and much more.

Putting it all together: Sample topic and search path

Claudia's Speech.

Claudia, a freshman at College U., has chosen a topic for her Speech 101 presentation. She feels pet owners should “fix” cats and dogs and intends to persuade her classmates that not only is spaying the right thing to do, but also that owners should be fined if they leave their pets unneutered.

Although Claudia has been to the library, and she likes working there – the librarians have been very helpful – today's she's working on her laptop in her dorm room.

Finding articles.

Claudia decides to first see if there are articles supporting the idea that neutering pets is a good idea. She sees her college library's home page has an obvious article search choice, shown in the following figure:



Search Library Resources

One Search Catalog **Articles** Website

☐ Full Text Only

Searches articles and newspapers.

Claudia also sees that there's a link from her Library's home page to "Article databases." She decides to try that link. She's not sure what database to choose, so she begins her research by texting a librarian through the Library's online reference service. She describes her topic to the librarian and asks if he can recommend an article database.

The librarian recommends a general database called *Academic Search Premier* for her topic. This database, or one very similar to it, is available through most college and university libraries. Claudia thanks the librarian for the jumpstart, connects to *Academic Search Premier*, and begins her search for information.

The screen below shows the advanced search page for Ebsco's *Academic Search Premier*. **Notice that Claudia has typed in two search terms: "pets" and "neutering."**

Searching: **Academic Search Premier**, [Show all](#) | [Choose Databases](#)

in

in

in [Add Row](#)

[Basic Search](#) | [Advanced Search](#) | [Visual Search](#) | [Search History](#)

Claudia's search pulls up dozens of articles from journals, magazines, and newspapers, including the following records:

12. [Promote and perform early spaying and neutering.](#)

Academic Journal

Veterinary Medicine, Oct2007, Vol. 102 Issue 10, p674-676, 2p, 3 Black and White Photographs

Subjects: SPAYING; ANIMAL biotechnology; PREGNANCY in animals; ANIMAL shelters -- Overcrowding; EUTHANASIA of animals; AMERICAN Veterinary Medical Association; AMERICAN Animal Hospital Association; Research and Development in Biotechnology; HURLEY, Kate

Database: Academic Search Premier

[Add to folder](#)

[Link to Full Text](#)
13. [Population characteristics and neuter status of cats living in households in the United States.](#)

Academic

By: Chu, Karyen; Anderson, Wendy M.; Rieser, Micha Y.. Journal of the American Veterinary Medical Association, Apr2009, Vol. 234 Issue 8, p1023-1030, 8p, 7 Charts

If Claudia decides she has enough useful articles, that choice is fine. (One pitfall of research is not knowing when to stop!) In this case, Claudia sees that these initial results have given her keyword ideas that might help her pull up articles she missed in her first search.

While browsing the article abstracts (she reaches these by clicking the title links in the records), Claudia notices subject words, like **sterilization**, that are synonyms of her

original search term **neutering**. She also sees that some articles mention only cats or only dogs.

So, Claudia decides to try out her *RS101* search skills and formulates a new search, since she's curious if she missed any marvelous results. She uses truncation for some words, using an asterisk (*) and creates a Boolean strategy to include the synonyms she's spotted.

Here's her search now:

(pet* or cat* or dog*)
and (spay* or neuter* or sterilization or castration)

For the search to work properly, she must put parentheses around each Boolean grouping.

This search means

"Find me records representing articles that have either pet or cat or dog (or their plurals or variants) **and** the words spay or neuter (or their plurals or variants) or sterilization or castration."

Claudia enters this expanded search into the advanced Search mode of *Academic Search Premier*.

Searching: **Academic Search Premier**, [Show all](#) | [Choose Databases](#)

(pet* or cat* or dog*)	in	Select a Field (optional)	▼
AND ▼	(spay* or neuter* or sterilization	in	Select a Field (optional) ▼
OR ▼		in	Select a Field (optional) ▼

[Basic Search](#) | [Advanced Search](#) | [Visual Search](#) | [Search History](#)

This search brings up even more articles – too many to easily browse through. Some articles support and some oppose pet neutering. As she browses the article summaries, Claudia notices that even those articles that *don't* support her thesis give her ideas for her speech.

She also notices that articles discussing problems stemming from too many pets show up frequently, so she decides to use that idea to limit her search results. She adds the word **overpopulation** to a third search box to further refine her search.

In Boolean terms, Claudia's search now looks like this:

(pet* or cat* or dog*)

and (spay* or neuter* or sterilization or castration)
and overpopulation.

Finally, Claudia wants to see if anyone else has thought of fining owners who don't have their pets spayed. She does her search one more time, this time replacing the word **overpopulation** with the word **law*** to pick up articles dealing with legal issues.

Here's the search string now:

(pet* or cat* or dog*)
and (spay* or neuter* or sterilization or castration)
and law*

This latest search is helpful. Claudia pulls up articles that report that yes, laws have been enacted that require pet spaying.

Exploring books.

Claudia isn't sure whether books will have what she needs for this topic. But, since searching for books is fast and easy, she searches her library's classic catalog (or limits a search to "books" in her library's Next Generation catalog). She uses a few of the best terms she came up with in database searching. She's surprised to find a number of books that supply information she didn't find in articles, including a book called *The 125 Most-Asked Questions about Cats*.

Defining unfamiliar terms.

After successfully finding articles and books Claudia decides she wants an exact definition of "neutering" to share with her classmates when she does her talk. She hopes to find a specialized dictionary written by experts, which she'll include in the bibliography her professor requires her to turn in after her presentation.

In the catalog, she types in the search words **dictionaries** and **veterinary** and finds two veterinary science dictionaries; one an ebook and one in the Library's reference collection. If her library hadn't had any veterinary-specific dictionaries, she could also have used a medical or unabridged general dictionary.

Claudia could also have looked for an authoritative Web resource to define her word, but since she knew this approach wouldn't work for every topic, she focused on finding specialized dictionaries instead.

Using statistics to support ideas.

Next, Claudia wants to find data indicating that many U.S. pet owners don't spay their

pets. She also wants to show that there's support for fining non-spaying owners by confirming that many people support spaying.

To find some of the facts and data she needed, Claudia consulted *RS101* Tip 31 (Stats and Data) and used several of the suggestions. One method she uses is to search for articles by combining her topic words with the word **statistics**. This brought Claudia to an article discussing a decrease in euthanizing of stray pets attributed to increased spaying. It was perfect for her speech.

In the articles she finds, Claudia notices that the name of a national organization is mentioned more than once, so she looks up the organization's website to see if they have statistics on spayed pets. Sure enough, the site links to a report from another organization supplying useful data for her topic.

A search of Zanran.com, a website dedicated to unearthing statistics, also pulled up both supporting statistics and survey results. While she didn't find a single table with everything she needed in one place, Claudia was able to efficiently pull together some useful facts.

Interesting quotes.

Finally, Claudia thinks she'd like to talk to an expert to get some statements on her topic. She searches a database containing newspapers from her state, and she finds the name of an organization spokesperson who seems knowledgeable about her topic. She locates the organization and contact information on the Web.

The no-stress research path.

Because she started her work well in advance of her speech's due date, Claudia got everything she needed -- including a useful article she needed to borrow through interlibrary loan that was sent direct to her e-mail inbox (which she read on her phone while waiting for her laundry to dry.)

She had time to synthesize the information from the readings, understand it, and use it to support her ideas. She also had time to write and practice her speech.

Claudia's final grade made her feel like a night off from *anything* related to college research had been totally earned. **So she texted her friends to celebrate!**

Final thoughts

You now have the basic expertise to tackle just about any paper or presentation topic. Keep in mind these researching essentials:

Come up with manageable topic and great keywords to describe it.

Take advantage of the people, resources, and services your library offers.

Be sure you're searching a collection that contains the information you need.

If you see an “advanced” search mode option for an online collection, try it.

That said, when you’re first starting your research, go with simple keyword searches and don’t try to get too fancy. It’s easy to make mistakes with more complicated search formulations, so save those for when you really need them.

When you find a citation to an article, book, etc., your library can help you connect with the full text.

Here’s wishing you effective searches, fascinating resources, and inspired analysis and writing. And time left to go out with friends.

Thank you to the editor of the First Edition, Liz Willis

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About the author, Ellen Metter

After trying out radio announcing, stand-up comedy, and department store sales, Metter found a career home in librarianship. She works as a research librarian at the Auraria Library in Denver, Colorado. The Auraria campus is home to three institutions: the University of Colorado Denver, Metropolitan State University of Denver, and Community College of Denver. In 2012, Metter received the Excellence in Librarianship Award from the University of Colorado Denver. She holds an MA in Information Studies from Philadelphia’s Drexel University, and a BA in Theatre from Rutgers University. Metter is the author of two books from Writer’s Digest Books, including *Facts in a Flash*.

Metter is the author of [Transference](#) a sci fi novel written with cat lovers in mind. Along with talented artist Loretta Gomez, she self-published [Cheerfully Childless](#), the first humor book on the topic of choosing to be childfree. Originally a New Jersey gal, Metter now lives in Colorado.

Comments on Researching 101?

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Bibliography

Badke, William. *Research Strategies: Finding Your Way through the Information Fog*. Lincoln, NE: iUniverse, 2011.

Ferris, Sharmila Pixy. *Teaching, Learning, and the Net Generation: Concepts and Tools for Reaching Digital Learners*. Hershey PA: Information Science Reference, 2012.

George, Mary W. *The Elements of Library Research: What Every Student Needs to Know*. Princeton, N.J.: Princeton University Press, 2008.

Kapoun, J. "Teaching undergrads Web evaluation." *College and Research Libraries* 59, no. 7 (1998): 522-523.

Kornegay, Rebecca S., Heidi E. Buchanan, and Hildegard B. Morgan. *Magic Search: Getting the Best Results from Your Catalog and Beyond*. Chicago: American Library Association, 2009.

Metter, Ellen. *Facts in a Flash: a Research Guide for Writers: from Cruising the Stacks to Surfing the Net*. Cincinnati, Ohio: Writer's Digest Books, 1999.

Quaratiello, Arlene Rodda, and Jane Devine. *The College Student's Research Companion: Finding, Evaluating, and Citing the Resources you need to Succeed*. New York: Neal-Schuman Publishers, 2011.

Sullivan, Rebecca. *Web Research in Academic Libraries*. Chicago: College Library Information Packet Committee, College Libraries Section, Association of College and Research Libraries, 2010.