

## Conducting academic research

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### **Abstract:**

In many of your courses at the university level—including College Writing—you will be expected to integrate research into papers, presentations, and other projects. Research is critical in academic writing and speaking because it places your work in a larger conversation. Research can help you expand on your ideas, discover new ones, and strengthen your argument. When you integrate outside sources into your work, you build your credibility by proving that your argument is supported by existing research. This chapter will provide a brief introduction to research and will cover the basics of finding, accessing, and using outside sources to build and support effective arguments.

**Keywords:** academic writing | research | citing sources | finding resources

### **Article:**

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### **Types of Sources**

When you are researching a topic, you are likely to come across a wide variety of sources. Certain assignments may require you to have specific types of sources: primary and/or secondary, or popular and/or scholarly. It is challenging to meet these requirements if you're not sure how to find and identify these different types of sources, so this section will briefly introduce some of the different types of sources you can expect to find in the process of doing research, and how you can distinguish between them.

Primary and Secondary Sources

You may have heard sources referred to as either primary or secondary when you have done research in the past. The University of Maryland provides the following definition of primary sources:

Primary sources are original materials. They are from the time period involved and have not been filtered through interpretation or evaluation. Primary sources are original materials on which other research is based. They are usually the first formal appearance of results in physical, print or electronic format. They present original thinking, report a discovery, or share new information. (University of Maryland Libraries)

While this definition is clear and succinct, you might notice that it does not provide any specific examples of primary sources but focuses instead on general guidelines. This is because what constitutes a primary source varies widely depending on the context or academic discipline. For instance, if you are doing historical research on World War II, a primary source might be a letter or diary that provides a firsthand account of a soldier's experience during the war, or a newspaper article from 1944 reporting on U.S. troops in Europe. If you are doing research on a psychology topic like bipolar disorder, a primary source might be an original research article that reports on a study of treatment options for patients with this disorder. If you are doing research on the artist Cindy Sherman, a primary source might be one of her photographs. All of these examples "present original thinking, report a discovery, or share new information."

Secondary sources, on the other hand, are removed in some way from primary sources. Considering the examples in the last paragraph, a secondary source in history might be a book on World War II that relies on numerous primary sources like letters and newspaper articles to provide context. In psychology, secondary sources might be review articles that summarize and evaluate original research articles. In art, secondary sources might include a scholarly journal article or an in-depth review of an exhibition published in a newspaper or magazine. Like primary sources, secondary sources can take many forms. Common types of secondary sources you are likely to come across in the process of doing research for a College Writing class include books, articles, and websites.

### Popular vs. Scholarly Sources

Many of your college research assignments will require certain types of secondary sources, like articles or books. When you are doing research, you are likely to find a mix of popular sources, like newspaper and magazine articles, and scholarly sources, like books and journal articles. The following chart from UNCG Libraries provides a quick overview of the differences between these two categories:

**Table 1.** Characteristics of popular and scholarly sources.

	<b>Popular</b>	<b>Scholarly</b>
Who writes the articles?	Professional journalists	Researchers or scholars in a field
Who is the primary audience?	The general public	Other researchers and scholars
Do the authors cite their sources?	Maybe in passing, but you usually won't find formal references	Always—look for a reference list or footnotes/endnotes

	<b>Popular</b>	<b>Scholarly</b>
Are there ads?	Always	Rarely
Are current events covered	Yes	No—the peer-review process is long

Notice in the right column that scholarly sources (also called academic, peer-reviewed, or refereed) are written both *by* and *for* scholars. They are written by experts in their fields, such as professors, graduate students, lawyers, nurses, or other specialists.

It is important to note that scholarly sources are not "better" than popular sources; the two serve different purposes. Scholarly sources are typically going to provide more in-depth analysis of a particular topic. They often cite primary and secondary sources, including other scholarly sources. Popular sources tend to be shorter, written for a more general audience, and rarely cite sources. However, if you are researching a recent event or a topic of current interest, popular articles are your best bet as they are much more likely to cover current events and news. Scholarly sources take significant time to research and write, and then go through a review by other scholars before finally being published, so the timeline to publication is much longer. The benefit of this peer-review process is that scholarly articles have been both written and reviewed by experts in a field, making them extremely authoritative.

### **Finding Web Sources**

With a general sense of the types of sources you are looking for, you can begin searching for sources that help support your argument. If you are anything like most college students, you probably start any search for information in Google or other similar search engines. There is no shortage of information available on the web, and you can find sources on almost any topic you might be interested in. Let's say you want to do research on standardized testing for an argumentative paper or persuasive speech. Google is a great place to start, but a quick search for standardized testing brings back more than 6.1 million results at the time of writing. While there are always going to be sources that are not credible enough to be cited for academic research, like Wikipedia, you are likely to find quite a few good sources as well as lots of useful information that will help you as you move ahead with your research.

Using the web for research is convenient and is second nature to many of us, but since most of what is available on the web has not been edited or reviewed, it is particularly important to carefully evaluate these sources before deciding to use them. There are many tests that you can use to evaluate sources—a Google search for evaluating web sources brings back more than 2 million results—but librarians at UNCG tend to use the **ABCs**:

**A** has a double meaning: authority and accuracy. Determining authority requires you to assess the person, people, or organization responsible for the website. Look for "about us" or "contact us" links if the author is not immediately clear. Think about your context—a website on standardized testing by someone with a master's degree in Education has more authority than a site written by a professor of Literature. In any case, it is critical to be able to identify the person, people, or organizations responsible for a website. When authors cannot be identified, authority is significantly compromised. That is one major issue with sources like Wikipedia. Remember that you are using outside sources to build your own ethos as a writer, and sources with authority

issues can negatively impact that ethos. The second A, accuracy, can sometimes be difficult to determine if you are new to a topic. Establishing the authority of the source helps with this, and you can also look for clues like citations and for information that you can easily fact-check.

**Bias** can be tricky to identify, but it relies heavily on establishing authority. Bias in sources is an issue because biases are opinions or tendencies that might affect the information presented. Biased sources are often one-sided or do not provide the full picture on a particular topic or issue. Do the people or organizations responsible for the site have any clear biases about the content? This can be very nuanced—it is often not as easy as finding a site entitled "Standardized Testing is the Worst" (the bias there is fairly clear) or a site written by the Educational Testing Service. Bias is a particularly sticky issue when we are dealing with controversial topics, as strong opinions are likely to be voiced. Just because a site has a clear bias does not mean that you should discard it as a source, but rather that you should seek out additional sources that are more neutral. You can help mitigate bias by seeking out multiple perspectives on a topic so that you have a fuller picture of the information available.

**Currency**, the last element of the *ABC* test, is relative. Typically in a College Writing course, you are going to be looking for the most recent information on a topic. It is important to remember, though, that the most recent information on standardized testing is likely to be newer than the most recent information about World War II. Staying within five years is usually a good guideline, but for some topics you may need to be more flexible. It's important to read the assignment carefully, and it is always a good idea to check with your instructor to determine how recent your sources should be for a specific assignment.

Even if a site does not pass this *ABC* test, it can still be useful for the research process. Wikipedia, for instance, is a source that consistently fails the *ABC* test and should not be cited as a source in an academic paper or presentation; still, it can be an excellent resource for you as you begin to explore your topic. Using the standardized testing example, it would be impossible to cover all issues related to standardized testing in a single paper or speech. But reading through the Wikipedia entry "Standardized test," I can start to refine my topic a bit more by narrowing it down to college entrance tests in the United States, and then even more specifically to the SAT. Wikipedia does a great job of internally linking to other relevant articles, and the article on the SAT mentions that there have been controversies over how well the SAT actually predicts college success, which sounds like a potentially interesting topic. Though I would not be citing information from Wikipedia in my final Works Cited list, I can use it to help jump-start my research process and narrow my topic down to something more manageable. I can also follow Wikipedia's references to other sources and apply the *ABC* test to those to see if they are credible enough to cite.

## **Finding Images and Videos**

In addition to the plethora of websites and articles available through Google, you can also find millions of images and videos. My standardized testing search brought back thousands of images, including photographs, charts, graphs, cartoons, and more. Images and videos can add visual interest to a research project and can add richness to your paper or presentation. Many multimedia sources available online are protected by copyright, the legal rights held by any

content creator. Copyright is typically not much of a concern for educational projects like papers and presentations, as these are usually protected by fair use standards written into copyright law. Still, if you use an image, you need to cite it as you would any other type of source. This goes back to building your ethos because you are providing a clear map to your research process by citing all of the sources you are using.

Because you will need to find enough information about an image to cite it, you may need to go beyond your basic Google search. The Google Image Advanced Search page allows you to limit your sources to those that have Creative Commons licenses. Creative Commons licenses allow copyright holders to make their content available for free use under certain circumstances. For instance, a photographer might put her images up on a site like Flickr with a Creative Commons license that allows anyone to use them for non-commercial purposes, as long as they attribute the image to her. Creators can also license other multimedia objects, like videos, under Creative Commons. Often, using Creative Commons-licensed media makes citing easier because you can find more information about the creator. For more information about Creative Commons, visit the UNCG Libraries' Creative Commons guide at: <http://uncg.libguides.com/creativecommons>.

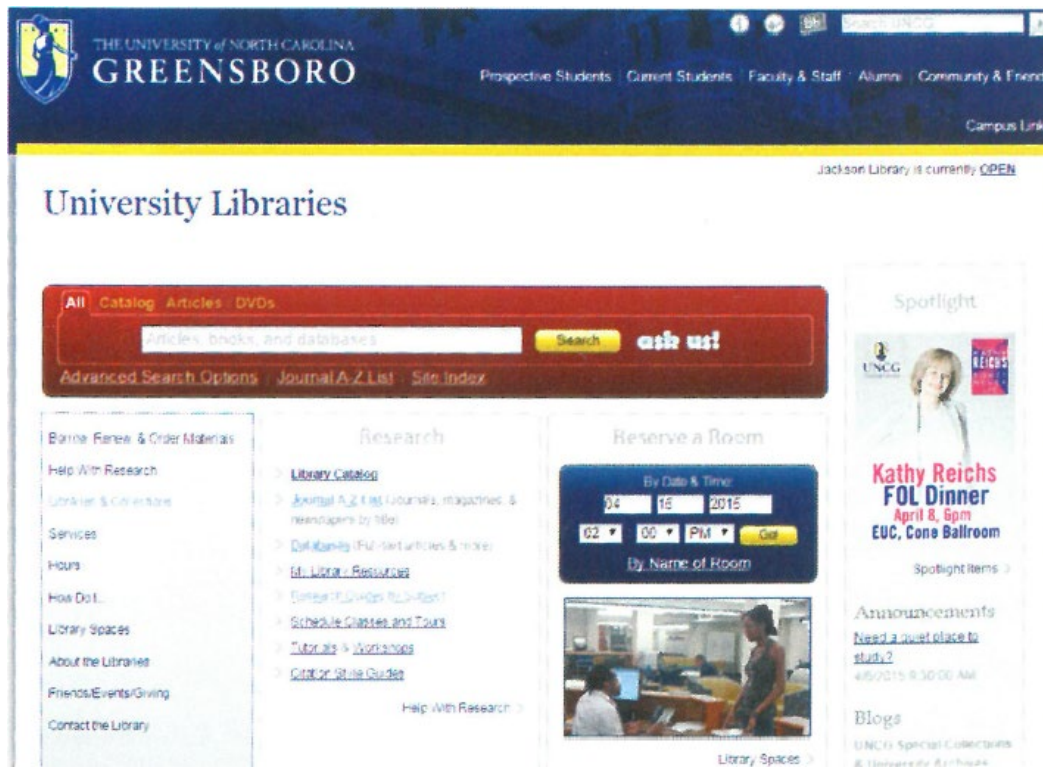
## Using Library Resources

The web is always a great starting point, but when you are doing academic research, you almost always need to go beyond what is freely available. One way to ensure that you are getting the highest quality information available is to use the resources provided by UNCG Libraries. The Libraries have *millions* of books and articles that are at your disposal as a UNCG student. This section will provide a brief overview of a few of those sources, but there are hundreds of resources available through the Libraries' website at <http://library.uncg.edu>. The Libraries also have specific research guides for College Writing I and II. Click the "Research Guides by Subject" link, select "English" from the alphabetical list, and then choose the course you are in from the "Course Guides" box on the left side of the page, which lists each research guide that has been created for English courses. If you need help with your' research, you can always contact your College Writing Librarian or use the **Ask Us!** button on the Libraries' homepage.

As you use library resources, be aware that they do not speak Google. In general, you cannot type in a question or a long phrase and expect to get useful results. The best strategy is to do some brainstorming before you start searching to help you consider the terms you want to use. If you are researching our sample topic of how well the SAT predicts college success, you should make notes of any critical terms related to the topic: *SAT* and *college success* are terms that are obvious from our topic, but you might also want to consider terms that are broader (like *standardized test* or *college admissions test* for *SAT*) and narrower (like *grade point average*, *retention*, or *graduation* for *college success*). Having a variety of search terms ready helps if you find that your initial search is not as successful as you would like it to be. When you have identified a handful of useful terms, you can use those to search for relevant sources in the library catalog or databases. To make your search as effective as possible, use connectors like AND and OR to help target your search. A search for *SAT* AND *college success* will bring back results that deal with both of these topics, which helps you narrow down your results to those that are likely to be relevant. A search for *SAT* OR *college admissions test* will bring back any results that deal with either of those concepts, so that broadens your results.

## Library Catalog

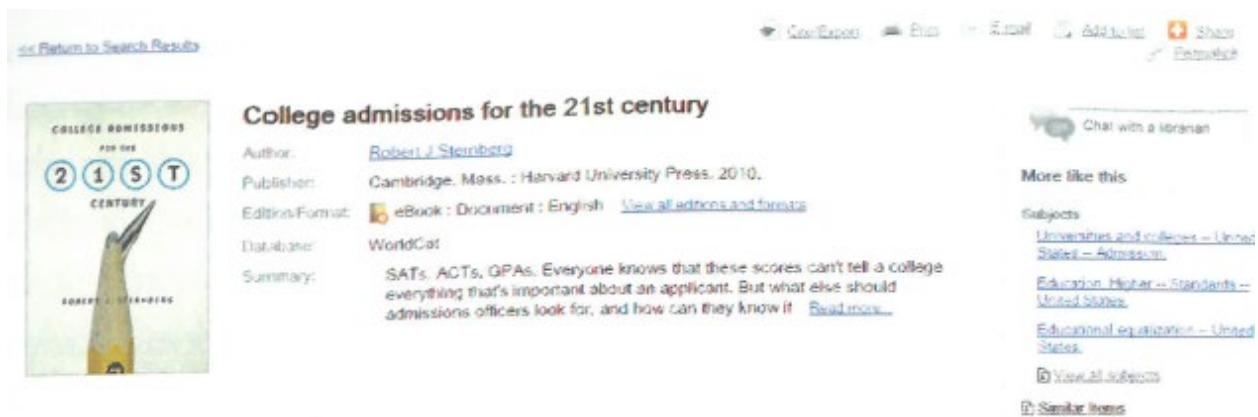
The library catalog is your gateway to the millions of books mentioned earlier. You can access the catalog anytime and from anywhere that you have internet access. Visit <http://library.uncg.edu> and click on the "Catalog" tab in the large red box. This will search for items that we own, including print and electronic books, DVDs, CDs, and more.



**Figure 1.** The UNCG Libraries' homepage.

The search depicted above brings back 13 results from UNCG Libraries. These 13 sources may be sufficient, or you may want to make some changes to your search. A search for *standardized testing AND college success* brings back 57 results-significantly more than our original search.

To get more information about one of your search results, you can simply click on the title. One result that came back for the second search above was *College Admissions for the 21st Century*. Clicking on the title leads to a page with more information about that book, including basic publication information, a summary, and location information within UNCG Libraries (see Fig. 2).



**Figure 2.** The catalog page for *College Admissions for the 21st Century*.

Scrolling a bit farther down the page, you can see that this book is divided into chapters (see Fig. 3). In order to use a book as a source, you may not need to read the entire work—focusing on the chapter or chapters that are most useful to you is your best approach. In this case, you might find good information in the chapter entitled "A New Way of Looking at Intelligence and Success."

<b>Description:</b>	[ online resource (xvii, 209 p.) ]
<b>Contents:</b>	<ul style="list-style-type: none"> <li>College admissions and testing --</li> <li>How we got here : the traditional college application --</li> <li>Alternative admissions practices --</li> <li>A new way of looking at intelligence and success --</li> <li>Assessing hidden talents --</li> <li>Encouraging creativity, practical intelligence, and wisdom --</li> <li>Implications for students, colleges, and society --</li> <li>Appendix. Kaleidoscope questions for the Classes of 2011-2014.</li> </ul>

**Figure 3.** Table of contents display for *College Admissions in the 21st Century*.

## Library Databases

You may have used library databases before, either here at UNCG or in high school. Simply put, a library database is a searchable collection of resources. The UNCG Libraries provide access to hundreds of these databases, and most of the content included is content that cannot be found on the free web. Each database is unique, but they all work on the same basic principles of using good search terms and search connectors like AND and OR. A general database that is an excellent starting point for most research topics is **Academic Search Complete**, which you can find on the Databases page on the Libraries' website. Looking at the Research Guides by Subject linked from the Libraries' homepage is a good way to find out which subject-specific databases are recommended for a particular area. In English, for instance, MLA International Bibliography, JSTOR, and Project Muse are great databases for finding scholarly sources related to literature, language, and rhetoric.

When you use a library database, it is a good idea to have your list of potential search terms handy. Your best bet is to split your terms into separate search boxes, which are connected with the AND search connector. A search for *SAT college success* in Academic Search Complete brings back 14 article results, while splitting the terms into two boxes with *SAT* in one and *college success* in another brings back 52 results. On your search results page in Academic



Search Complete, you will find plenty of options to narrow and filter your results, including a box that limits your results to articles from peer-reviewed or scholarly journals.

The screenshot displays the Academic Search Complete search results page. On the left, there are filters for 'Refine Results', 'Current Search', 'Limit To', 'Show More', and 'Source Types'. The main area shows 'Search Results: 1 - 20 of 53'. The first result is 'Are the Best Scores the Best Scores for Predicting College Success?' by Patterson Brian F., Malton, Krista D., and Swartzbach, Peter. The second result is 'NON-COGNITIVE PREDICTORS OF STUDENT SUCCESS IN COLLEGE' by Sparks, L. Henry A., Muller, J. Thomas S., Roberts, J. Alan L., and College Student Journal. The third result is 'Why Your College Should Dump the SAT' by Prange, John. The fourth result is 'Are Homeschoolers Prepared for College Calculus?' by Wilens, Christopher P., Wade, Carolyn, Schmitt, Deborah, and Phelps, M.

Figure 4. Academic Search Complete results page.

To find more information about a source that looks interesting in Academic Search Complete, click on the title. There, you'll find everything you need to cite the article, subject terms that can help you come up with new search terms, and usually an abstract that will give you a sense of what you can expect from the article. You will also find links to full text if UNCG has access to it, and a toolbar that allows you to email, save, or print the article. Even if UNCG does not have access to an article, you can place a request to have the article sent to you through a service called Interlibrary Loan (ILL). This also works for book sources, but you will want to make sure you leave plenty of time for the source to be sent to you. It can take a few days for an article and a week or more for a book to get to you, so ILL is not a great option if you've waited until the night before your project is due to start researching. Starting early will give you access to even more resources and help.

The screenshot shows the detailed record page for the article 'Are the Best Scores the Best Scores for Predicting College Success?'. The authors listed are Patterson Brian F., Malton, Krista D., and Swartzbach, Peter. The source is 'Journal of College Admission, Fall 2012, Issue 217, p34-45, 12p'. The document type is 'Article'. The subject terms include 'PREDICTION of academic success', 'SAT (Educational test)', 'RESEARCH', 'UNIVERSITIES & colleges -- Entrance requirements', and 'UNIVERSITIES & colleges'. The geographic terms are 'UNITED States'. The abstract states: 'The article presents a study that investigates the efficacy of SAT scores in predicting the student success in colleges in the U.S. Researchers gathered and assessed the first year college grade-point average (FYGPA) of samples from 150,377 students of 113 institutions. They found that their scores are equally predictive and valid for all student groups and institutions.' The ISSN is 0734-6679. A toolbar on the right includes options like 'Add to folder', 'Print', 'Email', 'Download', 'Save', 'Export', 'Cite this', 'Permalink', and 'Share'.

Figure 5. An article page from Academic Search Complete.



## Citing Sources

Citing sources is a critical part of the research process. Not only does it protect you from plagiarism, which is a violation of UNCG's Academic Integrity Policy, it also builds your credibility by indicating that your ideas are supported by research. In most English classes, you will typically be asked to cite sources in MLA style. Citations are meant to help your audience find the sources you have consulted, which is why they require so much detail; your readers need to have as much information as possible in case they want to find any of your sources. One thing to remember about citations is that they are somewhat like mathematical formulas. You never have to memorize the order of citation elements; you just need to be able to plug the information about your sources into the correct format. There are excellent citation resources online—OWL at Purdue and Citation Fox are two great sites maintained by universities. Citation generators like EasyBib can be very helpful, but it is important to check the generated citation against a source that you trust, like the MLA citation manual, or an online source like OWL at Purdue, just to be sure that the details are correct.

You may already be familiar with citing sources in MLA for written work, like research papers. For a research paper, you provide a Works Cited list at the end of the paper and create parenthetical citations when you refer to a source in-text. Citations in a speech or presentation work in a similar way. Typically, you will turn in a Works Cited list containing all of your sources or create a Works Cited slide at the end of your presentation. During your speech or presentation, you will provide oral citations for your sources as you reference them. For instance, if you are referring to an article by John Smith called "Standardized Testing is Good," you would say something along the lines of "According to John Smith in his article 'Standardized Testing is Good,' standardized testing has positive effects on student academic success." Introducing the statement by indicating the source is a verbal cue to your listening audience that you are pulling in an outside source. You will also need to cite all images or videos used in your presentation. (For more detailed information on citations, see Ben Compton's chapter "Rhetorical Elements of Academic Citation.")

## Getting Help

This chapter only scratches the surface of the resources we have available and the strategies that can help you use them most effectively. If you need help with any part of the research process, from brainstorming search terms to selecting the appropriate library resource to citing your sources, you can always contact the UNCG Libraries. You can contact the Reference Desk in Jackson Library for help in person, by phone, by text, or by chatting with us. Click the **Ask Us!** button on the library homepage for more details.