

Conducting Research

Introduction

Choosing the right kind of research is imperative to technical writing, because it establishes your credibility and knowledge of the subject. Among the various types of research in the world, print research offers a wide variety with everything from books, magazines, scholarly journals, and many more. Some of these sources can be better than others, and some of them can hinder you from writing an accurate or trustworthy document. The list of the following print sources aims to help you write in a viable manner; along with a guide to what types of sources are the best for conducting research. Along with the lists are pros and cons of each type of source to help you decide which will be better for your writing.

Non-Fiction books

Non-fiction is usually a better route to go when it comes to using a book as a source. Non-fiction is typically written as factual evidence, or sometimes it is written with possible hypotheses. Either way, quoting non-fiction is generally a safer alternative to other sources, because it is not only generally accepted, but it is also a great way to discover new information.



(img source) Students collaborating on the Boston Common.. Emerson College, Boston.

Pros and Cons of Non-Fiction

<i>Pros</i>	<i>Cons</i>
The text is based on facts	Some Non-Fiction can be dated and no longer true
Generally helps you support your claims	The author may have a bad reputation

Gives your writing more credibility	Information may be too hard to understand for your audience
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Fiction books

Fiction is a dangerous area to use as a research source, because most of it isn't true. Fiction is best used in a literary sense, rather than an actual type of research. If you're looking to use an example to relate to your audience, some literary works of fiction can be a helping hand for you. Works such as Huckleberry Finn and many others can sometimes assist you to helping your audience with applicable examples they can understand. Of course, this all depends on what you are writing about. You surely wouldn't want to use this in a type of academic or scientific research, because it could plunder your integrity as a technical writer.

Pros and Cons of Fiction

<i>Pros</i>	<i>Cons</i>
Widely available	It generally does not help support your claims
Users may be able to relate to the information more easily	May give you a bad reputation
Could help build a better tone with your audience	May damage your credibility

Magazines

Magazines are also a good source for research, but only if they are credible. The only downfall to choosing a magazine is you will find they may stop printing that particular information where you got your source from, which can create a troublesome atmosphere. If you can, it would be preferable to choose magazines that have a database of all their issues. The reason for this is because sometimes in the technical writing atmosphere people will want to check your sources. It's always good to have the source readily available, rather than find out it's not there anymore.

Pros and Cons of Magazines

<i>Pros</i>	<i>Cons</i>

Establishes credibility depending on what kind of magazine	Some magazines are not credible, and quoting them could damage your credibility
Respected magazines can boost your audience's interest	Writers of the magazine may have published incorrect facts
Generally are very easy to find	The magazine may be out of print

Scholarly Journals

Scholarly journals are an excellent source of research, because they offer you information that is typically already backed up by other research. It's very important however to read the scholarly journal very closely, and to never take what the author is saying out of context. Taking what the author says out of context, especially in an academic journal, could create a potentially hazardous situation for your writing. For this reason, it's imperative to pay attention to the facts and theories in the author's work. In many scholarly journals, you will find portions that are only theoretical, not proven. Quoting a theory is fine, but if you claim the theory is true, you could be in danger of falsifying facts.

Pros and Cons of Scholarly Journals

<i>Pros</i>	<i>Cons</i>
The text is based on facts and evidence that generally support all of its claims	Could be time consuming to read each individual detail in order to quote the journal
Well respected in an academic atmosphere	The journal could be outdated
Are readily available in technical writing	Its information could be proven as false

Newspapers

Newspapers can be good sources, but they can also be misleading sources. The good side of newspapers is that they are usually updated on a regular basis if they are still in print, and they are also a helpful insight to deeper information you might need. The bad side of newspapers consists of dishonesty and exaggeration. You want to stay away from articles in newspapers that tend to carry

a reputation like this, because if your readers see you listing that as a source, they too will think of you as dishonest and an exaggerator.

Pros and Cons of Newspapers

<i>Pros</i>	<i>Cons</i>
Constantly updated	Some newspapers do not have the correct facts
Easy to find what you're looking for	Some journalists exaggerate their point
An abundance of subjects covered	The reputation of the newspaper could make readers avoid your work.

Language Translated Sources

There are many sources from all over the world, but not all of them are written in English. For this reason, it's very important that if you are using a translated source from another language that it is a reliable translation. If you use a translation that is simply accepted, you could fall into the danger of using something other than the literal translation. Using a literal translation is your best bet for exact textual evidence for your source, but it is not always the easiest to read. Sometimes the literal translation into English is harder to read than the other language it was originally written in. If you can, only use translated sources if you absolutely have to.

Pros and Cons of Non-Fiction

<i>Pros</i>	<i>Cons</i>
Provides a bridge between the language gap	May not be the actual translation
Brings understanding to readers unfamiliar with that culture	Certain words in other languages mean two different things than the translated version you write about
Allows you to elaborate more	Literal translations are too hard to read sometimes

Scientific Research Sources

Scientific research sources offer a good foundation to build your work upon, but they must be used in their literal sense. Scientific research is different than the scholarly journal research, because it uses facts and evidence to support its claims about hypothesis, laws or discoveries. Not all scholarly journals are scientific, so that's why there is a difference.

Scientific research can be troublesome to work with however, because it opposes the readability for your audience. A lot of printed scientific research deals with data, numbers, figures, graphs and many other variables that might not be user friendly. Be careful to represent your scientific research in a clearly understood way, rather than a confusing scientific terminology.

Pros and Cons of Scientific Research Sources

<i>Pros</i>	<i>Cons</i>
Scientific research can be backed up by proofs, laws, and other scholarly research.	Very hard to understand at times
Very well respected within academia	May be outdated and need additional work to prove its research
Increases your credibility among audiences.	Author may have bad credibility that could hurt yours

Basic Information Resources

Basic information resources contain references such as dictionaries, encyclopedias, almanacs, and many more. They are good to provide your writing with a general statement about what you're talking about, and where to find a good summary of it. They are good for finding quick information and illustrating it in an understandable way for the reader. These quick sources come with a lot of drawbacks such as outdated, updated information about the topic, and unreliability. Print versions of these basic information resources are known to have these drawbacks more so than electronic versions. The outdated information is perhaps the biggest one, because the topic could always be changing. Updated information about the topic damage your credibility, because your readers may think you don't even know the latest about what you're writing about. Finally, print versions are unreliable because not very many are in print anymore with the use of electronic sources.

Pros and Cons of Basic Information Resources

<i>Pros</i>	<i>Cons</i>
Quick information about your topic	Information is no long current

General overview for your readers	Electronic versions are easier to find
Helps you summarize things quickly	Out of print

Statistical Sources

Statistical data for your writing seems to have an equal disadvantage. On one end, you can present facts with actual numerical data, and on the other hand you can easily confuse your readers. Statistics are not the most user friendly form of presenting information because they can be hard to read. Reorganizing the statistic in your own way can also bring in a question to your credibility, because you altered the information. In the technical writing atmosphere, statistics are a good way to illustrate important information because they generally provide evidence. The best way to use statistical sources is to find easy to read statistics that won't confuse your readers. Numerical data can provide better credibility towards your writing, because numbers don't lie. However, the writer can lie, so it's important to make sure your numbers are always correct.

Pros and Cons of Statistical Sources

<i>Pros</i>	<i>Cons</i>
They can be backed up with scientific data	Not very user friendly
Used widely in technical writing	Confusion among readers
Numerical data provides a chance for better credibility	Too much statistics will make readers distance themselves from your work

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#.3 Where to Find Quality Research

Introduction

Finding good quality research takes time and patience, and should never be rushed. It's very easy to search for multiple printed sources that are either outdated or completely irrelevant in today's society. The first thing to always consider before starting your research is to think of what might be a respected name in the atmosphere you are writing in. Rather it is a respected scientist from a university, or an association known for its academic integrity, be sure to do some research on your sources.

Resources within the Technical Atmosphere

Finding the appropriate resources in a technical setting can be a bit more challenging than having to find some that you would normally do on an essay style of research. The reason why is because your work may be evaluated upon what kinds of data you use in your writing. This data includes everything from charts, graphs, statistics, scientific discoveries, and much more. These types of data are crucial to your credibility, and are the cornerstone of your informative approach.

Evaluation

Perhaps the best way to evaluate what kind of research your using is to look at what the source cited for its research. Sometimes going back and evaluating the sources your resource used will save you many steps from being proven wrong. It will improve how well you choose research in the future, and show your readers that you use well documented sources.

Accuracy

It is important to not only evaluate your resources correctly, but also to know what your topic. If you don't have accurate details on your subject, than your audience may perceive you as someone who doesn't know what they are writing about. Good evaluated resources are not enough in technical writing, so do your own research on your topic to become familiar with it. Being aware of some of the major precautions in quality research will make your writing stand out as not only a viable source of information, but as someone who generally knows what they're writing about. It's always best to remember that if you don't know what you're writing about, than you won't be able to write about it to your audience.

Relevancy

A good idea to always consider when writing is what makes your resources relevant to your readers. Relevant resources should typically be current for the most part, and carry a relatable tone for your audience's information purposes. Irrelevant resources damage your credibility, because they don't relate to anything you're writing about. If the source only briefly mentions something you are writing about, than it has a larger chance of being considered irrelevant. A source that only briefly mentions the topic and then strays off into a different subject is not the kind you want to use. Always try to choose topics that are extremely relevant to your writing, and stay away from the kind that could question your work.

Reputation

The reputation of the source you use is the same reputation that could be applied to your writing. If your audience generally thinks of the author you quote as arrogant or untruthful, than you may need to find a better source for your work. For example, if you were to quote a publication known for spreading lies, your audience could easily come to the assumption that you do the same thing.

Resources within the Academic Atmosphere

The right kind of research from the appropriate academic atmosphere is crucial to any type of writing, and it especially depends on the types of research from what type of academia. Some types of research are easier than others to use because of their universal versatility. However, some subjects like math, science or even the medical field can be troublesome. You will find many people who disagree because of what you chose as a resource and its associated academia.

For example, you would not want to talk about how great the literature program is at a university known for its mathematics department. This is not to say that you have to write or use research from places or persons who are only associated with one thing, but to be weary of what the academia information is associated with.

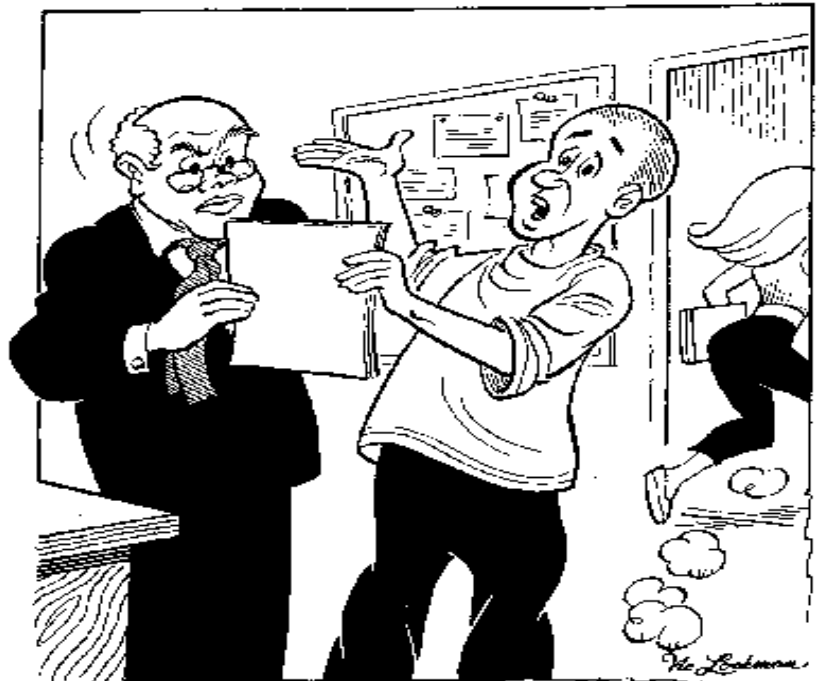
The association with each different type of academia research will define what you may know about the research you're writing about. Again, this is dependent upon your accuracy, evaluation, relevancy and reputation. These guidelines should help you in your search for good quality resources for technical writing.

- Evaluate what source you want to use
- Accurately describe what you want to talk about
- Make sure your information is relevant
- Whatever reputation your resource has, is the one your audience may place on you
- Research the academia

#.4 Plagiarism

Introduction

Technical writing deals with correct forms of documentation, and when you are dealing with such accuracy, it is important to never plagiarize. According to the Center of Academic Integrity, 80% of college students admit to cheating once ([Kapfhammer 2010](#)). That statistic alone will make anyone reviewing your work skeptical of plagiarism, so it's always a good idea to cite your sources no matter what. A good rule of thumb is to remember if you're using any text from someone else, go ahead and cite the source just to be sure.



Definition of plagiarism

The definition of plagiarism is best described by Duke University as:

“Plagiarism occurs when a student, with intent to deceive or with reckless disregard for proper scholarly procedures, presents any information, ideas or phrasing of another as if they were his/her own and/or does not give appropriate credit to the original source. Proper scholarly procedures require that all quoted material be identified by quotation marks or indentation on the page, and the source of information and ideas, if from another, must be identified and be attributed to that source (Duke).”

Plagiarism carries two keywords about its definition, which is: scholarly procedures. It's extremely important to remember the scholarly procedures involved when using sources of any kind, and when inputting them into your writing. This is not something you would ever want to get caught

doing in the realm of technical communication, so this section of the guide will attempt to help you avoid that.

Consequences of plagiarism

There are many things that could happen to you, your work, and your writing if you plagiarize. Usually the first thing that occurs is your work is no longer credible in the eyes of your audience, because there has been an act that violates scholarly procedures. As a technical writer, this is one of the most important things to your credibility, because without it no one will want to trust you.

Cartoon, by Vic Lockman, from *Plagiarism*. Los Angeles: Pyczak Publishing, 2001

Another consequence of plagiarism is the academic violations. This could ultimately result in your expulsion from the school. Even today, there are a large number of students who are still plagiarizing in the academic world. Some of them do it intentionally, and others do it unintentionally. Whichever the case, it is not worth risking your future because of it. Being expelled from a school because of it will dramatically lower your chances of ever getting into another institution again.

Unintentional Plagiarizing

Unintentional plagiarizing has cost many writers their hopes and dreams. Maybe they forgot to cite the source, or didn't properly list it when quoting it. You always want to make sure when quoting, paraphrasing, or even mentioning something someone else said, to always cite its source. If you can't find where the person said it, or what was said, than it probably isn't worth mentioning in your technical writing environment.

The best way to avoid unintentional plagiarism is to always cite every source in a scholarly procedure. The scholarly procedure is simple documentation where you list where you got the source, and where others can find it. If the scholarly documentation has been accomplished correctly, you should never have to worry about unintentional plagiarism.

Types of Plagiarism

There are several types of plagiarism in academic and technical writing. A lot of these are things you may already be aware of.

One of the first types is repeating or paraphrasing a source without documentation. For example, if you found a sentence in a book and just reworded it to make it sound like you wrote it is considered plagiarizing. Repeating the words written or rewording it in your own way is very detectable. A lot of scholars already know the additional sources about what you're writing about, and can easily find out if you are plagiarizing or not.

Another way plagiarism is committed is by writers not citing where the particular phrase they are using came from. For example, Malcolm Gladwell in his book called "Blink" calls the time it takes to asses a personal judgment on someone is within the "Blink" of an eye (8). If someone used that term

in another work and didn't cite Gladwell as the author of the phrase, it would be considered plagiarism.

When Documentation is not needed

There is times when your document will not need any additional sources. This usually occurs when the information you are using is either generally known. For this, you will need to use your best judgment. Some topics are more broadly spread among the public than others, so a good idea is to always know who your audience is.

If your audience is culturally different, than make sure you tailor your undocumented sources correctly. Think of whether or not if what you consider general information that the public knows about is publicly known to what culture you are writing to. Something as simple as the color yellow in America can mean a variety of different things in other countries. If that was your audience, they would be unclear as to what you mean. A good approach to undocumented sources and general information is to know what is generally accepted by the audience you are writing to.

Using common sayings or anything along those lines will generally be accepted without any extra documentation. However, if you are still unsure, go ahead and cite it anyway.

Copyrights and Other Legality Issues

There is always the possibility that your writing, even with the appropriate citations, could fall into a legality issue. This usually happens when the writer has not checked with the author of their research to make sure it can be reprinted, or how much of the material can be inputted in their work. If you use too much of another authors work, you might get involved a dispute because of the author's copyright. The copyright generally protects the author against many things including infringement.

Infringement is typically when the writer has not obtained the permission from the author or copyright holder to include their work even with proper citation. Sometimes getting the permission from the author is not enough, because you also need to obtain it from the author's publisher who might hold the copyright. For more on the copyright infringement and other legality issues within plagiarism, please visit: www.copyright.com

How to Avoid Plagiarism

Rather the act of plagiarism is intentional or not, there are some simple ways to completely avoid the subject in the first place. This list below should help you avoid plagiarizing.

- The first way is to always cite your sources. This can be troublesome and tiring, but overall it will prevent any mistake on your part whether it is intentional or not. The idea here is that it's better to have it and need it, than to not have it and need it.
- Secondly, keep track of where your research came from. No matter what kind of print research, keep the copy you have of the source where it is accessible for you and your reader. You may never know when other scholars may want to check your sources.

- A third way is to compare what you're writing about to the acts of plagiarizing. If you have any doubt at all, go ahead and cite it just to be safe.