What is an argument? Your first thought may be “a fight between two people,” but that is not the definition applied in relation to writing. According to the *American Heritage Dictionary*, 4th edition, this type of argument is as defined below:

2a. A course of reasoning aimed at demonstrating truth or falsehood: *presented a careful argument for extraterrestrial life.*  
b. A fact or statement put forth as proof or evidence; a reason: *The current low mortgage rates are an argument for buying a house now.*  
c. A set of statements in which one follows logically as a conclusion from the others.

Every day we are presented with dozens of arguments that purport to be factual. Every day we must evaluate these statements and decide what we think about them—not only whether we agree with them or not, but also whether we think they are true. As you read this, you might take a minute to stop and think about how many such messages and statements you have already encountered today and how you thought about them.

Table of Contents

<table>
<thead>
<tr>
<th>Parts of an Argument</th>
<th>Common Logical Fallacies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluating Arguments by Identifying the Assumption</td>
<td>Anecdotal Fallacy</td>
</tr>
<tr>
<td>Tools for an Effective Argument</td>
<td>Mistaking Time for Cause and Effect</td>
</tr>
<tr>
<td>Correct and Incorrect Use of Logic and Evidence</td>
<td>False Authority</td>
</tr>
<tr>
<td>Evidence from Experts</td>
<td>Slippery Slope</td>
</tr>
<tr>
<td>Evidence from Statistics</td>
<td>Either-Or Dilemmas (A False Dichotomy)</td>
</tr>
<tr>
<td>Evidence from Facts</td>
<td>Circular Reasoning</td>
</tr>
<tr>
<td>Evidence from Examples</td>
<td>Ad Hominem</td>
</tr>
</tbody>
</table>
Parts of an Argument

There are three basic parts to any argument, that is, three basic parts to any statement that is intended to persuade or prove something.

1. **Conclusion:** This may or may not come at the end and is the author’s main idea.
2. **Evidence:** This is whatever the author or speaker uses to support the conclusion. (Below you will read about the various kinds of evidence, how to use them, and how to recognize when they are being misused.)
3. **Assumption (or Warrant):** This is rarely stated explicitly in the argument, but is absolutely central. The assumption is what holds the argument together and determines how the author or speaker looks at the evidence and comes to the conclusion.

The **Toulmin Model** is also another common way to structure an argument. This method has seven parts to it (“Argument,” 2011):

1. **Claim:** In the simplest terms, a claim is your thesis phrased as an argumentative statement. A claim is often one sentence long and is phrased as an arguable judgment. The claim will need to be proven and supported throughout your essay, but is simply an assertion at this point in the argumentative paper (“Argument,” 2011).
2. **Qualifiers:** Qualifiers are conditional terms such as “sometimes” or “often,” and focus your argument and prevent it from becoming too grandiose or absolute. For instance, an effective argument would likely not state: “All men wear blue.” To qualify this statement, the arguer would likely write, “Some men wear blue.” This assertion is far more reasonable when cushioned with a qualifier (“Argument,” 2011).
3. **Grounds:** The evidence you use to support your claim. Grounds could include data sets, definitions, examples, and outside information that bolsters your claim (“Argument,” 2011).
4. **Warrant:** Warrant is a term that is synonymous with assumption. Warrants in the Toulmin Model are the assumptions you, the writer, implicitly (unspoken or not clearly stated) or explicitly (spoken or written) hold about how you use evidence, or the grounds, to support your claim (“Argument,” 2011).
5. **Backing**: Your explanation of why you hold certain assumptions as the writer. If your assumptions are held by the audience you’re addressing, then you may not include your rationale for why your warrants, or assumptions, hold true (“Argument,” 2011).

6. **Rebuttals**: Rebuttals investigate and anticipate key weaknesses from your opponent (or opposing viewpoints). Rebuttals are pre-emptive since you, as the writer, consider how your opponents might respond to your claim before they do and then explain how their objections or interpretations are unfounded or incorrect (“Argument,” 2011).

7. **Conclusions**: Do not simply restate your claim and rehash or summarize your points in the conclusion. Instead, in addition to a brief summary, explain why your rationale plus your evidence and rebuttals create a compelling case for the audience, your readers, to accept your argument.

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**Evaluating Arguments by Identifying the Assumption**

The following examples illustrate how you can identify an author’s assumption by looking at the other parts (evidence and conclusion) of their argument:

**Evidence**: Arbuthnot looks out his window and sees that it is snowing heavily.

**Conclusion**: Winter is a difficult and dangerous time of year.
What is Arbuthnot’s assumption in making this statement? Although we cannot know with absolute certainty, we can make a well-informed guess that his assumption has to do with how dangerous snow is. For instance, Arbuthnot may be afraid of driving in snow or afraid that he will have a heart attack while shoveling snow. Whether you agree with his conclusion or not, you can at least see his assumption at work. Here is another example:

**Evidence:** Montgomery looks out his window and sees that it is snowing heavily.
**Conclusion:** Winter is great! I look forward to it every year.

What is Montgomery’s assumption? Well, without more to go on we cannot say absolutely, but we can safely guess that it must be something that includes an enjoyment of snow. For instance, Montgomery might love downhill skiing, snowboarding, and snowmobile-riding or making snow angels. Do you see how this works?

So, in order to evaluate the worth of any argument, you must consider what the author’s assumption might be. In the examples, Montgomery and Arbuthnot have exactly the same evidence, and yet have come to very different conclusions. What makes the difference? They started from different assumptions. Thus, when you are evaluating an argument presented to you, ask yourself what the author’s assumption might be. Then, consider whether you think that is a sound assumption. For instance, here is an argument:

We are the best because we sell the most!

Have you ever heard this argument before? What is the assumption here? It is that quantity (of sales) equals quality (of product)? Do you think that is a sound assumption? Do you agree with it?

**Tools for an Effective Argument**

In addition to operating on a sound assumption, to argue convincingly the author must present evidence and analysis that support the conclusion. Five common tools in an effective argument:

1. Expert opinions
2. Statistics
3. Facts
4. Examples
5. Logic
These tools can all be used or misused. When arguments are misused, they often result in logical fallacies. The remainder of this essay is broken into two parts: 1) Correct and Incorrect Use of Logic and Evidence 2) Commonly Used Logical Fallacies.

For more information, please visit the Writing Center’s resources on [Using Facts, Examples, and Definitions](#) and [Using Statistics](#).

**Correct and Incorrect Use of Logic and Evidence**

**Evidence from Experts**
The opinions of experts (also called authorities) can be invaluable. These are people who have some special knowledge on the subject and their support lends believability to the author's point. For instance, in a paper on why smoking is unhealthy, the U.S. Surgeon General and the chairs of either the American Lung Association or American Cancer Association would be strong authorities. Their authority comes from their professional experience. People become authorities for different reasons. They may have academic or professional training and experience, or they may also be people with extensive personal experience. Another authority on this topic might be a life-long smoker who now has extensive health problems.

However, using authorities may pose some dangers: the person may not be an authority in the right area. For example, "My lawyer told me about a great way to make my car run more fuel-efficiently." Advertising is notorious for using false authorities. For instance, Michael Jordan might be a good authority on the best basketball shoes, but does he really know more about underwear than anyone else? The classic example: "I may not be a doctor, but I play one on TV, so I know this is the best flu relief out there."

Additionally, the topic may be hotly debated within the field—experts may disagree. When citing an authority, ask yourself not only if the person is truly an authority, but if they are in the area you are discussing. Also, note whether peers in the field generally accept what the authority says as true.
Evidence from Statistics

Statistics are numerical data collected in a population. For instance, as of July 2008, there are 50.7 women in the U.S. population. This statistic comes from the U.S. Census website.

Is the U.S. Census a reputable source for this kind of information? Yes, but this data may have some shortcomings since it is hard to reliably survey everyone who live in the United States and the data are only updated every 10 years.

The U.S. Census is not the only place to find statistics, as many organizations assemble them. The Internet Public Library’s Finding Statistics guide is a valuable resource for finding statistics as is the U.S. Census Bureau’s American FactFinder site. Ibiblio.org also contains an extensive set of statistic-finding links. Also, the Kaplan Online Library offers a wealth of information and electronic databases to find the most current statistics available.

What types of arguments might statistics support? Here are a few arguments that the “50.7 percent of the U.S. population are women” statistic could support:

- Politicians should pay more attention to women voters.
- We need increased medical research on women-specific diseases.
- The explosion of women-centered TV networks (Lifetime, Oxygen, and other cable networks) is justified.

Now, you may be thinking that statistics seem pretty straightforward, so what is the danger in using them? Consider the following example: a few years ago, the chief of police in an East Coast city used this statistic in a press conference about illegal drugs in his city—89 percent of the drug dealers in his city were African-American. This statistic was not untrue, but do you see a problem with it? Many people found it to be racist, but if the statistic was true, how could it be?

Consider the other ways this group might have been characterized, instead of racially. What about gender? What percentage were men? Or age? What percentage were 18 to 29 years old? What are your guesses? What if the police chief had said 89 percent of the drug dealers were men or that 89 percent were 18 to 29 years old; what would this have made you think about the criminal tendencies of men or of young adults? Here is an important statistic that was missing: what percentage of African-Americans in that city were drug dealers? Think about it—what is your answer?

If you said 89 percent, you are wrong, but it is a common mistake. The answer is that we do not know from this. Let us say this was an average-sized city (100,000 people) and 20,000 African-Americans were in that city. Do you think all 20,000 were drug
dealers? Of course not, but that is what the statistic implies. Probably a pretty low percentage of African-Americans in that city were drug dealers, right? Let us find out. Let us assume there were 200 drug dealers. What we know from this statistic is 89 percent of the drug dealers were African-American. That means that 178 African-Americans were drug dealers. Now, let us return to the second question—what percentage of African-Americans in that city were drug dealers? With 20,000 African-Americans, 178 of whom are drug dealers, 0.01 percent of African-Americans in that city were drug dealers.

The problem with the police chief’s use of the statistic was that while it was supposedly true, it left his audience believing NOT that a large percentage of drug dealers were African-Americans, but that a large percentage of African-Americans were drug dealers. See the big and important difference? Stereotypes are often the cause of these misconceptions. Do African-American criminals, dumb blondes, and Italian mobsters exist? Yes. What percentage of blondes are dumb, Italians are mobsters, etc.? A really low percentage, as demonstrated in the African-American example above. This is precisely why statistics based in stereotypes are misleading; they do not reflect reality. This issue is incredibly important because often people think that just because a statistic is true it is okay to use as evidence. You need to question the motivation behind a statistic that divides groups in this way.

Evidence from Facts
According to the Oxford Dictionaries, a fact is “a thing that is known or proved to be true, information used as evidence or part of a report or news article, used to refer to a particular situation under discussion, [and/or] the truth about events as opposed to interpretation” (“Fact,” 2011).

Most importantly, facts are proven to be true. For example, Helen Keller died on June 1, 1968. Support for this comes from many sources, one of which is her obituary in the The New York Times: http://www.nytimes.com/learning/general/onthisday/bday/0627.html

Facts are reliable sources of evidence. The problem comes in distinguishing fact from opinion. Opinions may look like facts, but they cannot be proven. For example, “The death penalty is wrong.” While one could gather evidence to support this opinion, one could also gather evidence against it. Ultimately, whether something is “wrong” or “right” is opinion.
Additionally, people may disguise opinion as fact by saying things like "The truth of the matter is..." or "It is a fact that..." but that does not mean what follows is fact. As a reader and writer, you need to evaluate what follows to determine if it is truly fact or opinion.

**Evidence from Examples**
Examples can be useful forms of evidence. In fact, in conversation, we often ask people to “give me an example,” meaning: support the point you just made with an example. For instance, your child comes home and says, “My teacher is not fair and does not like me.” You would most likely ask your child to give you some examples to support this claim. What could your child say back to you that would support the claim about the teacher?

Here are some possibilities: “She never calls on me,” “He laughs when I give the wrong answer,” and so on. These examples clearly support your child’s claim, and so they would be considered useful. What if, instead, your child said, “She wears the same outfit every day” or “He drinks too much coffee”? Unless the teacher wears a shirt that says “I hate little Bobby” on it every day, you would say, “What does that have to do with how much he/she likes you?” These examples do not support the claim. This example is an exaggeration, of course, but oftentimes people will use examples as evidence even though they really do not support their claims. You have to be on the alert for this as a writer and reader.

Examples should be used sparingly. They work best as additional supporting evidence, but should not be relied on exclusively. The reason why is that the example may not be representative of the general situation. This is referred to as an anecdotal fallacy. For example, “Smoking cannot be bad for you—my uncle smoked two packs a day and lived to be 102.” This one example is an oddity; it does not represent the normal experience of a life-long heavy smoker, plus it was chosen specifically to the exclusion of all other evidence. It ignores all the counterexamples out there.
Using Logic
The last tool used in developing arguments comes from within. Authors use logic to build one known or proven fact upon another, leading the reader to agree that a certain point is true. For example, consider the case of Frank, who has six cats. To prevent having even more cats, all Frank's cats are female. Now consider his cat Zoe. What is Zoe's sex? We know that ALL Frank's cats are female, and we know Zoe belongs to Frank, so we can conclude that Zoe is a female. That is logic.

Logical arguments fall into two categories: induction and deduction. Deduction takes a generally known fact and uses it to argue for a more specific point. The example above of Frank and his cats is an example of deductive reasoning. Deduction is common. Induction, on the other hand, takes a specific case (or cases) and uses it to argue for a bigger generalization.

For example, it was hot today. It was hot yesterday, the day before, and the day before that. A logical conclusion is that it is summer. Induction is widely used in science. Scientists studying a particular species may notice that several individuals of that species exhibit a particular behavior.

They may then induce that all members of that species exhibit the behavior, even though they have not examined every individual member.

Induction is used less frequently because it can be faulty. For example, it was hot today. It was hot yesterday, the day before, and the day before that. What if it is not summer, but actually just a record-breaking October? Induction becomes more valid as the instances used to support the general conclusion become more specific.

Common Logical Fallacies
As seen above, even logical reasoning can result in incorrect conclusions. These are called logical fallacies. Several are common enough to have their own names and are described below.

Anecdotal Fallacy
Anecdotal fallacy, also called a hasty generalization or jumping to conclusions, is an inductive fallacy that occurs when one instance supports a general claim that is not true. For example, "I had a female boss once. She was demanding and unfair. Female bosses are the worst." The speaker is using one example, the one female boss he or
she had, to argue that all female bosses are horrid. Obviously—and your own personal experience may speak to this—they are not all bad.

**Mistaking Time for Cause and Effect**

Just because one thing happened prior to another does not mean the first caused the second, yet frequently people will argue just that. For instance, "The repairman was here this morning, and now my keys are missing. He must have stolen them." The speaker could have just as easily misplaced them. Maybe her teenager grabbed them by accident. Just because A (the repairman at the house) happened before B (the loss of the keys) does not mean A caused B.

**False Authority**

When we trust authorities, we need to make sure they are authorities on the subject about which they are speaking. The speaker could tell you a great deal about acting, but not about your health.

**Slippery Slope**

Slippery-slope arguments are based on the idea that if one thing happens, then another thing will, then another, and another. Think of this as the "domino effect." The problem is that while the first thing might lead to the next, there is no proof that any of the other things will happen. For example, "If I let my brother borrow this CD, then he will borrow my books, then he will want to borrow my clothes, and pretty soon, he will take over my bedroom!" (Children, among others, use this argument a lot.) While a brother allowed to borrow a CD might then ask to borrow a book, the guarantee that this will lead to room invasion is nonexistent. This logical fallacy should seem familiar—it is frequently used in political discussions on gun control and abortion.

**Either-Or Dilemmas (A False Dichotomy)**

"It is your choice—get a gym membership or be alone forever." Are these really the only two options? Are there ways other than a gym membership to find that special someone? Of course there is. Either-or dilemmas, however, hide that fact by claiming only two options exist. Whenever you hear only two options, be suspicious. Other options likely exist.
Circular Reasoning

Circular reasoning, also called begging the question, happens when an assumption is used to prove the same assumption is true. In other words, the conclusion simply puts the assumption in other words. For example, “Jennifer Anniston is more popular than Courtney Cox-Arquette because more people like her.” Being popular and being liked are basically the same thing, so all this says is "She is more popular because she is more popular," which is not saying much.

Ad Hominem

This literally means “against the person.” When a claim is rejected based simply on the person making it and not on the evidence the person has put forth, it is an ad hominem logical fallacy. The person, not the claim, is attacked. Why is this a logical fallacy? Because the claim the person is making is never attacked—only the person is. This personal attack is then used, falsely, to undermine the claim. Since the claim was never attacked, logically it has not been undermined, yet the attacker claims that it has. Here is an example:

Meg: I hope the NFL is able to keep its eligibility requirements. According to ESPN, there are 1200 agents registered with the NFL. Over half have no clients. If the eligibility requirements are dropped, these agents are going to be filling high school football stadiums, scouting for new prospects, and convincing a lot of kids to forgo college in hopes of an NFL career. The bottom line is most won’t make it, and what will they have? No education, no job, and no hopes.

Alan: You’re just a girl—what do you know about football?

There are many more logical fallacies; those listed above are some of the most common. To learn more about logical fallacies, please visit the following Writing Center resources:

- [How to Avoid Hasty Generalizations and Other Logical Fallacies](#)
- [Name that Logical Fallacy (Worksheet)](#)
References


http://www.evolvingtextbook.com/argumentstructure.htm


http://www.oxforddictionaries.com/definition/fact?view=uk