

LOGOS

Logos (or *the logical appeal*) is concerned with showing (or seeming to show) something logical, rational, or reasonable.

Most scholars equate Logos with reasoning (or thought processes).

MAN-MADE KNOWLEDGE

Using inductive and deductive reasoning, a person using logos may use existing facts to create what appears to be new knowledge or new conclusions.

EX:

Mary is sick. Mary misses school when she is sick. (Two facts)

Thus, Mary will miss school today, because she is sick. (The conclusion deduced from the two facts).

The following man-made forms of reasoning are the most common forms of logos:

- +Predictions
- +Considering facts and forming a conclusion from these facts
- +Statistics (If something is true for most people, then it may be true for others)
- +Analogies (considering how things may be similar to other problems/conditions/situations)

SUPERSTITIONS, ASSUMPTIONS, AND BELIEFS

Some scholars argue that Logos tries to connect the audience's thinking to commonly held assumptions, beliefs systems, or other forms of reasoning which persuade the audience to act or think a particular way.

A person using Logos may observe the values of the audience (Asking: Are they religious, superstitious, etc?). A person may relate to the audience's assumptions, common values and/or common beliefs (challenging them or reaffirming them) with logos.

EX:

If an audience believes that doing a religious ritual dance will cause rain to fall, then such a belief is reaffirmed when the dance is done and rain begins to fall. Regardless of whether the rain falls immediately or within a few weeks, the audience believes that the dance indeed was the cause of the rain.

Note: We know that rain is caused by weather patterns and available moisture in the area.

INDUCTIVE REASONING (predicting things or making predictions)

1.1. Basic Predictions

Give a future prediction based on past events. Allows the reader to consider what is probable based on solid evidence?

EX: Consider that there is a high probability that the sun will rise tomorrow (just as it has risen for the last millions of years). But, does that necessarily mean that it will? The sun could go supernova, then there would be no place for it to rise....

Regardless we trust that past events allow us to see the future.

1.2. *Statistics*

Statistics are made by questioning or counting the prevalence of certain variables among a smaller population (which is supposed to be representative of a larger population).

However, statistics are subject to error (e.g., a miscount of questions or subjects) and corruption (e.g., a person deliberately skew the results in his/her favor).

Using statistics, especially those collected under positive and controlled circumstances by a reputable company, agency, or institution may be useful in terms of showing trends and values to your audience.

Note: Although you may want to present statistics textually, presenting them visually may offer you a much more compelling way to persuade your audience. Thus, you might try charts, graphs, etc.

EX: 20% of the Population Smokes (Based on a sample size of 20,000,000)

1.3. *Generalizations*

Generalizations are conclusions created from Statistical Samples (small or large)

EX: 80% of the population will die from heart attack, stroke, or cancer. Therefore, the likelihood of dying in old age from any of the three is pretty good.

Conclusions or claims which are based on statistical samples can provide quite a case. However, Statistics are man-made constructions, making them entirely artificial. Just because a person uses statistics does not prove anything. Just as the example points to a cause of death, you have to realize that it does not include other things such as risky behavior, other illnesses, or even accidents.

1.4. *Authority*

Allow an authority or expert make a claim based on experience or prior knowledge.

EX: Dr. Donaldson is an expert with Whales. He predicts: Given the declining number of whales encountered on his last few excursions, whales may become extinct in the next twenty years.

Now, because a person is an expert, we tend to trust them. However, experts opinion is still not solid (for example, whales may have traveled to areas unknown to Dr. Donaldson, thus he was unable to make a solid claim).

1.5. *Signs*

Discuss how particular facets are like symptoms pointing to a diagnosis

EX: You feel sick, then you go to the doctor. If you present with a runny nose, a sore throat, and a cough, then (recognizing that a viral flu is going around) the doctor will pronounce that you have the "flu." He will usually order you home without a second thought....

Note: Many other illnesses have similar symptoms. For example, you could have a viral cold or even a bacterial infection, which present with similar symptoms. If he or she does not do a test, then you do not have solid evidence. Thus, a doctor may be strictly using inductive reasoning.

1.6. Causal Inferences

Rely on the cause and effect relationships to illustrate how one event/condition/situation may lead to another.

EX: If pets in the local area have been mysteriously disappearing, then you may have a coyote infestation (given that no carcasses are found).

Recognizing that one facet of the effect may lead to the cause is typical of this form of reasoning. With this example, since coyotes often consume small pets when they encroach on an urban area, then the effect points to the cause. This process works in the opposite direction, where a cause points to possible effects.

1.7. Process of Elimination

Like a syllogism which points to different facts to support a conclusion, the process of elimination works in reverse to use facts to eliminate causes/answers towards one cause/answer.

EX: Someone stole my chocolate-covered raisins.
Andy was not in the building, and he does not have a key.
Ted is on vacation, and he does not have a key either.
But, Daniel has a key to my office, and he loves chocolate. So, obviously, he was the only one who could have committed the crime.

1.8. Question Heuristic

Similar to definitions, a question heuristic is a way of asking questions to narrow down a result, definition, or cause. Psychologists readily use such heuristics to diagnose patients.

EX:

- a. Have you had sexual intercourse with your father or mother?
- b. Were they an authoritarian figure in the house?
- c. Did you cope with this situation by daydreaming or escaping in your mind?

Ideally, if the answers to the questions are both yes. Then, the psychologist knows that the patient may be more susceptible to disorders like Bipolar Disorder or Borderline Personality Disorder.

The doctor may ask:

- d. Do you cut on yourself?
- e. Have you had ideations of suicide or self-harm?

If the answer is yes to both, then Borderline Personality Disorder is more likely.
If the answer is no to both, then Bipolar Disorder is more likely.

EX:

In addition to diagnosis, psychologists/engineers have devised a few websites with algorithmically-oriented question heuristics which ask you to think of an object. Asking specific questions, the site factors in information to lead itself to figure out what the object is....

1.9. *Conditionals or Conditional Statements*

Conditionals are grammatical structures which rely on a simple cause/effect or effect/cause relationship. Because they rely on causal inference, they become inductive.

EX:

If the lake is full, then we can swim.

Notice how the statement makes use of causality; obviously, you cannot swim if there is no water.

DEDUCTIVE REASONING (reaffirming existing knowledge or using existing structures to create new knowledge)

2.1. *Mathematic Computations or Measurements*

Show any applicable Mathematical Computations or Measurements.

EX: Example $2+5=7$. Therefore, $5+2=7$.

Mathematic computations or measurements are usually static (or unchanging). Therefore, when you use a mathematical formula/process, you simply reaffirm it.

2.2. *Definitions*

EX: John is a bachelor; therefore, John is unmarried.

Definitions help to reaffirm both connotative and denotative meaning. Further, when using a definition for the purpose of deduction, try to have a single word with the correct meaning attached to it.

2.3. *Syllogisms or Syllogistic Reasoning*

The basic premise to syllogisms is that certain facts may lead to a factual conclusion. Syllogisms are logical structures which use a formulaic method to lead a person to recognize how two propositions (two factual statements) lead to a conclusion (a result).

EX:

Socrates is a man.

All men are mortal.

Therefore, Socrates is mortal.

Two factual propositions (or statements) relate two things (e.g., "Socrates is a man," "All men are mortal,"). A conclusion contains an equal sign (therefore) and the deduced conclusion (Socrates is mortal), which ideally is factual and valid (meaning that it makes sense).

Here is another one.

EX:

All women are wise

Marcia is a Woman.

So, Marcia is wise.

Notice how the logic may be sound/valid and may appear correct, but the outcome is not true (since one of the premises/propositions is not true - thus, not all women are wise...). However, some people may succumb to the logic presented here, believing that Marcia is indeed wise.

2.4. Enthymemes (Formal and Informal)

Similar to syllogisms, enthymemes are essentially two factual premises which allow the audience to 'fill-in' the conclusion, or an enthymeme may even be a conclusion where the premise/premises are generalized or implied.

EX: Socrates is mortal because he's human.

Notice how the enthymeme is a condense version of the syllogism above:

Socrates is a man.

All men are mortal.

Therefore, Socrates is mortal.

However, notice how you must deduce (or fill-in-the-premise):

Humans are mortal

Humans are men.

Here is another (more informal) enthymeme.

EX: I love my girlfriend. I must love being broke.

The assumption-based conclusion to draw is that the girlfriend likes the speaker to spend money on her.

2.5. Contrasting

An audience can derive "what something is" by considering "what it is not." The situation is similar to reaffirming a definition.

EX: Jim is like Dwight. Jim is very easy to deal with, while Dwight is very difficult to deal with... Jim has a sense of humor, while Dwight does not.

ASSUMPTIONS

3.1 Common Assumptions

Ask yourself if there are any common assumptions of your audience.

EX: Men have stronger upper bodies. Women have stronger lower bodies. Thus, we will hire only men to load boxes into the trucks since men have strong arms.

This statement operates under the "assumptions" that because men have upper bodies, they must be the only ones who can lift boxes. However, usually when you lift, you use your whole body. Moreover, this assumption negates the possibility that women may be just as strong as men.

3.2. Traditional Value Statements

You can ask if something discussed fits into traditional value system or traditional ways of being. If it does, then often it is easier to persuade towards it.

EX: If a man cooks a meal, then an older man with more traditional values, may claim that he is acting more like a woman... since tradition dictates that men do not cook meals (women are expected to cook meals in the older man's culture).

ANALOGOUS REASONING

4.1. Analogies

Explain how things are alike or exist under similar situations/contexts

EX: If you have a brother or sister who "played with matches" and burned down your garage, then your mother or father may not like you to play with matches for fear of the same outcome. Generally, people tend to equate one circumstance with like circumstances. Consider stereotyping as one example of analogous reasoning as well.

4.2. Stereotypes

A specific kind of generalization is a stereotype. Stereotypes can be based on class, gender, race/culture, or other information which is again based on a conclusion from a sample, usually small.

EX: These sorts of people are good at math.

4.3. Comparisons

Similar to analogous reasoning, a person may compare one object to another, one person to another, one instance to another, etc.

EX: Mary is like Elizabeth. They both have blond hair. They are both "A" students.

4.4. Anecdotes

Recalling ideas, events or persons from the past or creating an illustrative anecdote (giving a short story in order to illustrate the conditions or context of a given situation) can help a reader to see patterns of being, patterns of behavior, or even direct associations. (Similar to Analogies)

EX: Every time Johnny goes to the store with his mother, he asks for a toy. Children tend to do that...

So, if someone shares this example with you, will it apply to your own children? Not necessarily... Some children are taught very early not to ask for things; therefore, they don't do it.

4.5. *Allegory*

Using a short allegorical story (presenting an extended metaphor as a way to disarm your reader about the topic and allow them to accept the similar conditions).

EX: Having sex with a stranger is like playing Russian roulette. You could end up with an incurable disease, which could be like having a bullet in your head.

SUPERSTITIONS AND OTHER BELIEFS

5.1. *Superstitions*

Superstitions operate because certain fears have been reaffirmed by pure coincidence. Most superstitions are born from not understanding the scientific processes behind something or having an irrational fear of the unknown.

EX:

If your audience adheres to a common fear or superstition that driving on a particular day of the week (e.g., Sunday) is bad luck, then it is possible to claim that an accident which happens on that day reinforces commonly held superstitions. Thus, a person could claim how breaking the superstition would only harm a person.

5.2. *Religious Doctrinal Statements*

If your reader/audience assumes that their religious is valid, you can quote a passage from their religious texts referring to religious laws or doctrine. Such codes can easily be used to persuade those of "strong faith," since doing the contrary would seem to be sacrilegious, heretical, or blasphemous.

EX: Killing a person is a sin; thus, we should not kill in the name of the law or more specifically use capital forms of punishment (i.e., the death penalty).

If the audience is largely Christian or Jewish, even Muslim, then they recognize fundamental Mosaic Laws, such as to kill another man is a sin. By recognizing this ideal (this assumption), it is possible to argue that sentencing a criminal to death in the name of justice is just as wrong (since it is killing -> Against Mosaic Laws).

OTHER STRUCTURES OF REASONING

6.1. *Commentary*

You can quote a passage from a non-fictional text (something containing natural support) and comment on it. In a sense, you can move towards confirming a statement by referencing generally accepted principles or factual ideas.

EX: The comedian stated in his book that “He had a childhood fear of snakes. Once a friend threw a snake on him when he was little.”

Now, we know that most fears

6.2. *Question and Answer* (ratiocination or Socratic reasoning).

Questions can be used to help your audience to consider logical relationships. Ask questions for every statement that you plan to make and work towards instilling the meaning in each successive affirmation/answer. You should have an ultimate aim/goal and construct questions towards having the person answering meet that aim/goal (or arrive at the knowledge or idea you want them to understand).

EX:

What is in this drink? Alcohol...

What do alcoholics drink? Alcohol....

Why do you expect me to drink it? To be social and relax...

Do I need alcohol to be social and relax? Well, no...

Okay, then I do not have to drink it....

Notice how the example starts with a very fundamental/basic question, but then turns the questioning into a self-exploration of the person asking you to drink.

6.3. *Rhetorical Questions*

Asking certain kinds of rhetorical questions can be used to help your audience to consider logical relationships. Rhetorical questions have the properties which seem the most beneficial in terms of helping to “change” the mind of the reader and to help them to use their reasoning skills.

So, consider asking challenging, rhetorical questions to the audience.

EX:

If you are writing a paper about water pollution and purification standards, you might ask:

Do you really know what is in your tap water?

Do you know where your tap water comes from?

Why not?

You drink it every day, and you do not know where it comes from?

So, why do you trust it?

Why do you trust the people who supposedly purify it properly?