

Lines of Reasoning

Learning Objective: In addition to choosing valid evidence to support their proposition, public speaker's need to use logical reasoning to develop persuasive arguments.

Learning Objective: Determine if a persuasive speech argument is logically sound.

Key Terms:

- **Deductive reasoning:** A kind of reasoning in which you surmise specific examples from general propositions.
- **Inductive reasoning:** A kind of reasoning that constructs or evaluates general propositions that are derived from specific examples.
- **Syllogism:** An inference in which one proposition (the conclusion) follows necessarily from two other propositions, known as the premises.

What Makes an Argument Logical?

Reasoning is consciously making sense of things, establishing and verifying facts, applying logic, and changing or justifying practices, institutions, and beliefs based on new or existing information.

Logic is a branch of philosophy devoted to understanding how human beings develop valid arguments by conveying evidence in compliance with logical reasoning. In addition to choosing valid evidence to support your proposition, you need to use logical reasoning to develop your persuasive argument.

Deductive Reasoning

Deduction is a form of reasoning in which you surmise specific examples from general propositions. The term deduction is used for the conclusion reached by a deductive reasoning process. Deductive reasoning often includes a syllogism, which is a kind of logical argument that applies deductive reasoning to arrive at a conclusion based on two or more propositions that are asserted or assumed to be true.

One classic example of deductive reasoning syllogism is as follows:

- Premise 1: All humans are mortal.
- Premise 2: Socrates is a human.
- Conclusion: Socrates is mortal.

The reasoning in this argument is valid because there is only one logical conclusion to these statements. There's no way in which the premises, 1 and 2, could be true and the conclusion, 3, could be false.

Inductive Reasoning

When you use inductive reasoning, you construct or evaluate general propositions that are derived from specific examples. With inductive reasoning, you draw conclusions about future possibilities based on previous observation.

Unlike with deductive reasoning, the truth of the premises does not guarantee the truth of the conclusion. Instead, the conclusion of an inductive argument is most likely (probably) going to happen.

A classic example of inductive reasoning comes from the philosopher David Hume:

Premise: The sun has risen in the east every morning up until now.
Conclusion: The sun will also rise in the east tomorrow.



Here's another example that uses a statistical syllogism to illustrate inductive reasoning:

Premise 1: 90% of humans are right-handed.
Premise 2: Joe is human.
Conclusion: Therefore, the probability that Joe is right-handed is 90%.

In other words, if you were required to guess, you would choose "right-handed" in the absence of any other evidence.

Is Your Reasoning Sound?

When you deliver a persuasive speech, the burden of proof is on you. You are responsible for selecting believable evidence and for organizing that evidence into a well-reasoned argument. The success, or failure, of your persuasive argument will largely depend on whether your audience accepts your reasoning as sound.

For example, if you are engaging in deductive reasoning, you'll want to consider whether or not your audience is likely to accept your general premise as valid and true before you attempt to deduce other ideas or courses of action based on that general premise.

If you are quoting an authority and drawing conclusions from that authority, it is important to ask yourself if the audience will accept or believe the authority. Remember to only use sources with which the audience is familiar and will believe.

If you are engaging in inductive reasoning, you'll want to consider whether you have observed or collected enough evidence to draw a highly probable conclusion. If you discover you've drawn a hasty conclusion based on too few examples or observations, go back to your research and find more evidence to support your conclusion. If you can't find more evidence, your audience will likely perceive your argument as weak. In which case, you'll want to seriously consider revising your conclusion or developing a different argument.

From Concept to Action

Choose a controversial topic that's currently in the news, such as gun rights, reproductive rights, or the validity of climate change. Next, conduct a YouTube search to identify two short videos that represent opposite sides of the debate. Once you find the videos, analyze them one at a time. Do they use deductive or inductive reasoning? Is their reasoning sound? Have they quoted respected authorities? Or are they themselves respected authorities? Have they referenced enough examples to build their argument? After listening to both, determine which video made the best argument. Were you convinced? Why or why not?

OER IMAGE SOURCES:

"Sunrise Sun Clouds Sky Mood Sunset Romantic." Pixabay. <https://pixabay.com/photos/sunrise-sun-clouds-sky-mood-3533173/>. Accessed 7 June 2019. [CC0]

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