

GLOSSARY

Abductive Reasoning

A form of reasoning that tries to find the simplest and/or most likely explanation for observed phenomena. Also referred to as “inference to the best explanation.”

Anchoring Effect

A heuristic or cognitive bias that involves fixing (or “anchoring”) a quantity in someone’s mind before asking them to examine quantitative information or make a judgment based on numbers or values. For example, the asking price of a house will often become the starting point that anchors the buyer’s perception of what a house is actually worth. See also **Cognitive Bias**.

Argument

A set of statements that provides evidence in support of a conclusion.

Argument Mapping

A graphical method for analyzing arguments that involves turning the language of written or spoken arguments into claims, organized so that any claim below another claim provides a reason to believe the claim above.

Bloom’s Taxonomy

A hierarchy of learning objectives, published in 1956 and updated in 2001, that organizes learning based on levels of cognitive complexity.

Charity/Principle of Charity

A philosophical rule that asks you to engage with the strongest version of an opponent’s argument, as well as to translate other people’s arguments into premises and conclusions the originator of the argument would agree reflects the meaning they were trying to convey.

Cognitive Bias

Flaws in mental reasoning resulting from the use of mental shortcuts, called *heuristics* (see **Heuristics**) that can distort judgment, such as confirmation bias that makes it easier to accept evidence and arguments that align with what you already believe.

Committee of 10

A group of educators, led by Harvard president Charles Eliot, that came together in 1892 to establish a standardized curriculum for American schools still largely in use today.

Conclusion

The part of an argument you are asking someone to believe is true if they accept the premises of the argument as true.

Confirmation Bias

See **Cognitive Bias**.

Construct

In test development, the combination of knowledge, skills, abilities, aptitudes, and/or attitudes a test is designed to measure.

Deduction or Deductive Reasoning

A form of reasoning in which accepting the premises of an argument requires you to accept the argument's conclusion. A mathematical or geometric proof is an example of a deductive argument.

Deliberate Practice

Systematic practice of a skill that is designed to provide opportunities to increase ability in the area being practiced.

Dispositions

Personal characteristics that lead to a specific kind of behavior. For example, curiosity is a disposition that can lead people to ask questions and try to discover answers to those questions, making it an important disposition for becoming a critical thinker.

Economy

A principle in argumentation that asks you to make an argument using the fewest number of premises necessary to support the conclusion.

Enthymeme

A hidden premise contained but not stated outright in a spoken or written prose argument.

Exhibit

In test development, a text passage, image, or other type of media that provides information necessary to answer a test question.

Fallacy

A logical flaw that causes an argument to fail. Formal fallacies involve flaws in the structure of an argument, while informal fallacies involve issues related to the language used in the premises and/or conclusion of the argument.

Formal Logic

A form of logic concerned with the way arguments are structured, rather than the language used in the statements making up the argument.

Formative Assessment

A form of assessment (usually ungraded) designed to determine what a student knows or does not know in order to help a teacher provide timely feedback based on an understanding of what the student needs to learn.

Heuristics

Mental techniques or pathways designed to quickly solve a problem or answer a question. In many cases, these shortcuts can lead to systematic flaws in reasoning (see **Cognitive Bias**).

Hypothesis

A proposed answer to a question or solution to a problem that is held as conditional while data is collected and tests performed to determine if enough evidence exists to raise the hypothesis to the level of a theory (see **Theory**).

Inductive Reasoning

A form of reasoning in which accepting the premises of an argument does not require you to accept the argument's conclusion as certain. Inductive arguments are judged as strong and weak, normally based on the probability of a conclusion following from the premises.

Inference to the Best Explanation

See **Abductive Reasoning**.

Informal Logic

A form of logic concerned with how arguments are constructed and the language used in the statements making up the argument.

Information Literacy

A method of research, developed in the library science field, for locating, evaluating, organizing, synthesizing, and communicating information, increasingly from online sources.

Logical Form

The abstract structure of an argument, which can be expressed symbolically, separate from the words that make up the argument.

Metacognition

Being aware of and thinking about your own mental processes.

Paradigm

A way of thinking about the world ingrained in an individual, group, or society. For example, Newton's theories created a paradigm for thinking of the universe in terms of mechanical processes that could be explained mathematically.

Premises

Statements in an argument that the arguer is asking you to accept as true and further claiming that those premises lead logically to the argument's conclusion.

Pre-Socratics

A group of early philosophers that preceded the ancient Athenian philosopher Socrates. Their work focused on physical and scientific explanations for natural phenomena.

Rhetoric

Techniques and methods for persuasive communication.

Selected-Response Item

In test development, a question that has a correct or incorrect answer. Multiple-choice is an example of a selected-response item format.

Soundness

In logical argumentation, an argument is sound if (1) it is valid (see **Valid Argument**) and (2) the premises of the argument are true.

Summative Assessment

A form of assessment (usually graded) that determines if students have learned the knowledge or mastered the skills being assessed.

Syllogism

Aristotle's original method for constructing arguments that included two premises (including a major and minor premise) leading to a conclusion.

Theory

A principle that explains a phenomenon. In science, hypotheses (see **Hypothesis**) become theories when they have passed enough tests to be broadly accepted as reasonable within the scientific community.

Transfer

The ability of knowledge or skills to be applied between domains. For example, the successful transfer of scientific reasoning skills might involve being able to apply the scientific method to problems related to history or to personal decisions outside of school.

Valid Argument

A deductive argument (see **Deduction or Deductive Reasoning**) is valid if accepting the premises requires you to accept the conclusion.

Validation

In test development, validation involves amassing evidence that supports the claim that a test measures what it claims to measure.

Warrant

Justification for a belief