

MAJOR ASSIGNMENT

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13981

SUBJECT:

**LOGICAL & CRITICAL
THINKING**

SUBMITTED TO:

SIR MEHBOOB ALAM

Q:1 Discuss the analysis of argument in detail. Also discuss parts of the argument. Give at least 10 examples.

Ans: When you "Analyze an Argument" you evaluate someone else's argument. The task presents a brief passage in which the author makes a case for a course of action or interprets events by presenting claims and supporting evidence. Your job will be to examine the claims made and critically assess the logic of the author's position.

FIVE PARTS OF AN ARGUMENT:

Constructing a persuasive argument is no easy task, but knowing the parts of an argument can structure your thinking as you begin to put one together. Here are the five parts of an argument:

1. Claims
2. Reasons
3. Evidence
4. Warrants
5. Acknowledgment and Response

CLAIMS: The Five Parts of an Argument

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3. Evidence
4. Warrants
5. Acknowledgment and Response

Claims:

Your claim is your main point. It should either seek to change how the audience thinks or how the audience acts.

The audience should be able to agree or disagree with your claim, and they should understand the need for the claim. Sometimes a claim can seem more serious and necessary than it actually is. For example, take the claim that the Fourth Amendment should not be repealed. While technically a claim, it isn't a claim that carries much significance because there is no serious debate in the U.S. concerning the repeal of the Fourth Amendment. There is a serious debate, however, concerning the meaning, spirit, and breadth of the Amendment, with serious debates centering on specific issues within the topic of gun control.

REASONS AND EVIDENCE: You need reasons and evidence to convince audiences. Reasons and evidence answer the fundamental question: Why are you making this claim?

The evidence should support your reasons, and your reasons should be appropriate to your audience. You should choose the reasons and evidence that are also the most likely to convince your specific readers or listeners. Knowing the general values and priorities of your readers will help you determine what they will count as compelling reasons and evidence. Evidence should also be reliable and based on

authoritative and trustworthy sources. It should be appropriately cited and ample enough to convince, designed to appeal to your target audience's values and priorities.

WARRANTS:

Warrants express justifying principles, shared beliefs, or general assumptions. They are the spoken or unspoken logic that connects your reasons to your evidence.

Take, for example, the argument:

I need new shoes because these ones have holes in them and it's the rainy season.

One who accepts this argument is one who likely shares the following warrant (shared belief)

When shoes can no longer protect the feet, they need to be replaced.

ACKNOWLEDGE AND RESPOND:

Acknowledging and responding to opposing viewpoints can help your argument in a few ways:

- * It helps you build trust with your audience
- * It gives your argument additional context.
- * It challenges you to moderate or qualify your claim
- * It invites you to find common ground

When stating the opposing viewpoint, it's important to do so fairly. Misrepresenting the opposing viewpoint is not just unethical, but it will likely cause your audience to lose trust in your argument.

Q:2 What are fallacies? Discuss fallacies of relevance and ambiguity with examples.

Ans: FALLACY: A fallacy is the use of invalid or otherwise faulty reasoning, or "wrong moves" in the construction of an argument. A fallacious argument may be deceptive by appearing to be better than it really is.

FALLACIES OF RELEVANCE:

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These misconceptions are premises that are incompatible with the conclusion. They are:

1- AD-POPULUM :

Appeal to the people living in a particular country or region. Ad populum is a Latin phrase that means 'of the people'. It is most commonly used to describe a logical lie, where something is believed to be true because a large number of people believe it.

Example:

You should buy the latest HP laptop because everyone buys it.

2- AD-MISERICORDIAM:

The appeal to emotions. When appropriate rationality is replaced by appeals to specific emotions such as pity, pride or jealousy.

Example:

You should not send him to jail because it would break his mother's heart.

3- RED-HERRING:

Red herring is a kind of lie, an inappropriate title introduced in an argument to distract listeners or readers from the original affair.

Example:

Parent: Did you fail on paper?

Son: Everyone failed on paper. Because the teacher does not teach us well.

4- STRAW-MAN:

Replacing a person's true argument with a distorted, exaggerated or misrepresented version. The man who makes the straw man's lie illustrates the most extreme position on the opposite side.

Example:

Principal: You have to research the school lunch budget to cut waste. Parent: This guy wants to starve our kids.

5- AD-HOMINEM:

The correct rationale for certain issues can be replaced by an attack on a person's character or circumstances.

Example:

1- He may be a worthy candidate, but he has tattoos so I will not vote for him.

2- All murderers are criminals, but a thief is not a murderer, and therefore cannot be a criminal.

6- AD-BACULUM:

When replaced by rational threats to win the argument.

Example:

Dear Professor, when you consider my grade in your class, remember that my father is Dean.

7- FALLACY IGNORATIO-ELENCHI:

By rightly denying a position that is not in fact problematic when the right rationale is wrong.

Example:

Hippos cannot be dangerous to humans because they are so quiet and beautiful.

FALLACIES OF AMBIGUITY**FALLACY OF AMBIGUITY:****Ambiguity:**

Quality that is open to more than one description; inaccuracy.

Ambiguity is when the meaning of a word, phrase or sentence is uncertain.

Example: She gave a bath to her dog wearing a pink shirt.

Following are the kinds of fallacies of ambiguity:

1- EQUIVOCATION:

Informal fallacy that results from the use of a particular word/expression in multiple senses throughout an argument that leads to a false conclusion.

Example:

All trees have barks. Every dog barks. Therefore, every dog is a tree.

2- AMPHIBOLY:

Amphiboly occurs when the grammar of a sentence receives several distinct meanings.

Example:

She saw the monkey eating the banana.

(Who ate the banana?)

3- ACCENT:

It is not clear when the meaning of a sentence should be changed by placing an extraordinary stress on it or on which word in the written passage.

Example:

Do not fall in love. Because everything that falls, breaks.

[Focus on the term ‘fall’ here]

4- COMPOSITION:

When one speculates that something is complete, it is true in its entirety.

Example:

The tire is made of rubber. So, the vehicle that is part of it – is also made of rubber.

5- DIVISION:

Error in logic when a reason is said to be true for some part of the whole.

Example:

Water is made up of hydrogen and oxygen. And water is liquid, So hydrogen and oxygen are also liquid.

Q:3 Discuss Categorical proposition and classic logic in detail.

Ans: CATEGORICAL PROPOSITION: Categorical proposition, in syllogistic or traditional logic, a proposition or statement, in which the predicate is, without qualification, affirmed or denied of all or part of the subject. Thus, categorical propositions are of four basic forms: “Every S is P,” “No S is P,” “Some S is P,” and “Some S is not P.” These forms are designated by the letters A, E, I, and O, respectively, so that “Every man is mortal,” for example, is an A-proposition. Categorical propositions are to be distinguished from compound and complex propositions, into which they enter as integral terms; in particular, being assertions of fact rather than of logical connections, they contrast especially with hypothetical propositions, such as “If every man is mortal, then Socrates is mortal.”

CLASSIC LOGIC:

Typically, a logic consists of a formal or informal language together with a deductive system and/or a model-theoretic semantics. The language has components that correspond to a part of a natural language

like English or Greek. The deductive system is to capture, codify, or simply record arguments that are valid for the given language, and the semantics is to capture, codify, or record the meanings, or truth-conditions for at least part of the language.

The following sections provide the basics of a typical logic, sometimes called “classical elementary logic” or “classical first-order logic”. Section 2 develops a formal language, with a rigorous syntax and grammar. The formal language is a recursively defined collection of strings on a fixed alphabet. As such, it has no meaning, or perhaps better, the meaning of its formulas is given by the deductive system and the semantics. Some of the symbols have counterparts in ordinary language. We define an argument to be a non-empty collection of sentences in the formal language, one of which is designated to be the conclusion. The other sentences (if any) in an argument are its premises. Section 3 sets up a deductive system for the language, in the spirit of natural deduction. An argument is derivable if there is a deduction from some or all of its premises to its conclusion. Section 4 provides a model-theoretic semantics. An argument is valid if there is no interpretation (in the semantics) in which its premises are all true and its conclusion false. This reflects the longstanding view that a valid argument is truth-preserving.

In Section 5, we turn to relationships between the deductive system and the semantics, and in particular, the relationship between derivability and validity. We show that an argument is derivable only if it is valid. This pleasant feature, called soundness, entails that no deduction takes one from true premises to a false conclusion. Thus, deductions preserve truth. Then we establish a converse, called completeness, that an argument is valid only if it is derivable. This establishes that the deductive system is rich enough to provide a deduction for every valid argument. So there are enough deductions: all and only valid arguments are derivable. We briefly indicate other features of the logic, some of which are corollaries to soundness and completeness.

The final section, Section 6, is devoted to a brief examination of the philosophical position that classical logic is “the one right logic”.

Q:4. What is symbolic logic? Discuss negation, conjunction and disjunction in light of symbolic logic.

Ans: SYMBOLIC LOGIC: a science of developing and representing logical principles by means of a formalized system consisting of primitive symbols, combinations of these symbols, axioms, and rules of inference.

SYMBOLIC LOGIC IN TERM OF NEGATION:

We prevent reality from claiming a sentence by stating its nullification. For instance; on the off chance that we think, 'Sugar causes tooth rot.' is bogus, at that point we can affirm, 'Sugar doesn't cause tooth rot'. Denial just means, it isn't the situation that p, and might be read as "not-p". We connected not to the main verb by attesting the invalidation of the announcement. The statement of refutation of compound sentences is somewhat entangled. For instance, 'Sugar causes tooth rot and bourbon cause ulcer'.

SYMBOLIC LOGIC IN TERM OF CONJUNCTION:

We use 'and' to join two sentences to make a solitary sentence, which in rationale is called, Conjunction of two sentences.

For instance; 'Mary loves John and John adores Marry' is the combination of 'Mary loves John' and 'John cherishes Marry'.

We utilize the ampersand sign '&' for combination.

Presently the above sentences can be composed as; P&Q; where P is articulation 1 and Q is explanation 2.

Every announcement is known as a conjunct.

EXAMPLE:

"Hamza is flawless" (conjunct 1) (Proposition 1)

"Hamza is sweet" (conjunct 2) (Proposition 2)

The image for combination is a speck (dot •), (Can likewise be "&").

• p • q, P and q (2 conjuncts)

SYMBOLIC LOGIN IN TERM OF DISJUNCTION:

Dis-junction of two proclamations: "... or... "

• Image is " v " (wedge) (for example $A \vee B = A \text{ or } B$)

• Frail (comprehensive) sense: can be either case, and perhaps both

EXAMPLE: "Plate of mixed greens or pastry" (well, you can have both)

We will treat all dis-junctions in this sense (except if an issue expressly says something else)

• Solid (selective) sense: one and only one.

EXAMPLE: "A or B" (you can have A or B, at-least one but not both)

The two segment proclamations so consolidated are classified "disjuncts"

Example:

• You will do ineffectively on the test except if you study."

P="You will do ineffectively on the test."

S="You study."

• $P \vee S$

*****THANK YOU*****