

Identifying the Mistake in Reasoning



The Selective Schools Test will **never** present the flaws in jargon terms. For instance, they won't state the words, "jumping to conclusion" or "confusion between necessary and sufficient conditions."

Instead, the logical flaw will be rephrased in more simple terms. However, it is useful to understand the most common types of flaws, so that you can spot them quickly.

Often, the flaw lies in the gap between the premises (supporting evidence) and the conclusion.

Common flaw types:

Causal Flaws: This happens when an argument gets mixed up about what's causing what. It's like assuming that just because it rained after you washed your car, washing your car must cause rain. In reality, two events happening close together in time doesn't mean one caused the other.

Inappropriate Analogies: This is when an argument tries to compare two things that aren't really comparable, like comparing apples to oranges. Each situation is unique, and drawing similarities where they don't exist can weaken the argument.

Jumping to Conclusions: Sometimes, arguments rush to a conclusion without enough evidence. This is like seeing one snowflake and deciding it's going to be a blizzard.

Generalisation: This flaw occurs when a broad statement is made based on limited evidence. It's like eating one piece of bad fruit and deciding all fruit is bad. Not considering exceptions or other possible explanations can make the argument less credible.

Confusing Necessary and Sufficient Conditions: This happens when an argument gets mixed up about what's needed versus what's enough for something to happen. For example, water is necessary for plants to grow (they can't grow without it), but just having water isn't sufficient for growth; they also need soil and sunlight.

Restriction of Options: This is when an argument acts like there are only two choices, ignoring other possibilities. It's like saying you can only have cake or ice cream for dessert, when in fact there could be many other options.

Personal Attack (Ad Hominem): This flaw occurs when someone attacks the person making an argument rather than the argument itself. It's like calling someone stupid instead of explaining why their idea won't work.

Circular Argument: This is when an argument uses its own conclusion as a part of its evidence. It's like saying you shouldn't do something illegal because it's against the law. It doesn't actually prove anything.

Representativeness Issues: This flaw is often found in scientific studies or surveys. If the sample size is too small or not chosen randomly, it might not represent the larger population correctly. It's like asking only your family if they like pizza and then deciding everyone in the world likes pizza based on that.

Double Counting: Incorrectly counting the same item or aspect more than once, perhaps due to failing to consider overlapping conditions, leading to an inaccurate conclusion.

DRILL: LOGICAL FALLACIES

1. In a pageant, awards are given to the top two singing performances and the top two dance performances.

Nadia: "This setup is great as it makes sure that four different contestants get recognised."

Which one of the following sentences shows the mistake Nadia has made?

- A. Contestants might not always perform their best under pressure.
- B. With a large number of contestants, it becomes challenging to fairly judge the best performances.
- C. Contestants with more experience in reality shows tend to win these awards.
- D. A single pageant contestant could win in both the singing and dancing categories.

2. Olivia, a librarian, has a detailed catalogue of books, which includes information about each book's title, author, and genre.

Olivia: "Just tell me the title of a book, and I can tell you its author and genre without needing any other information."

Which of the following statements highlights the mistake Olivia has made?

- A. Some book titles are very common and can refer to numerous unrelated books.
- B. Some books are known more for their authors than their titles.
- C. Some books have been re-published under different titles.
- D. The same book title can be used by different authors for books in different genres.



3. In 2008, the Australian government made a big decision to ban smoking in all enclosed workplaces like offices and restaurants. This was mainly because of the harmful effects of passive smoking, where people nearby smokers can also have health problems. Recently, this blanket ban on smoking in all enclosed areas has been met with increased defiance. A pressure group called 'Freedom to Choose' has recently criticised the law, claiming that it is a violation of human right of personal choice.

Which of the following best describes a flaw in the above argument?

- A. The purpose of laws is that they overrule what individuals want.
- B. Smoking can cost society money in health bills.
- C. Smoking negatively affects the health of not only the one smoking
- D. It is hard to enforce a smoking ban unless it is totally upheld in all enclosed areas.

4. **Anna:** "Hybrid cars use less petrol per kilometre than non-hybrid cars. Petrol pollutes the air, contributing to many environmental issues. People may save money by driving petrol-efficient cars, and they will be motivated to use hybrid cars if they know this. So, by promoting the benefits of hybrid cars, we will reduce overall environmental pollution."

Which one of the following is the best statement of the flaw in Anna's argument?

- A. People who drive hybrids might end up driving more since they're saving on petrol, which could mean they still pollute a lot.
- B. There are other things, not just cars, that cause pollution in the air.
- C. More and more people are already starting to buy hybrid cars.
- D. There will be even more efficient cars in the future.

ANSWERS:

- 1.D
- 2.D
- 3.C
- 4.A