

Logical fallacies

A. Goal of the lesson

The goal of this lesson is to introduce students to major logical fallacies which can be made in debates as well as daily discourse. By the end of this lesson students should learn how to identify fallacious arguments, explain why are they so and be able to find ways to transform fallacious arguments into perfectly good ones.

B. Activities

Interactive lecture (45min)

Explain the basic concept that a logical fallacy is a commonly made error in reasoning, an argument which can seem better than it really is. Set up that the lesson will predominately cover informal fallacies which have to do with *what* you are saying (i. e. the content of an argument).

Explain how the knowledge of logical fallacies can be useful in making stronger arguments and refuting the content which opponents bring.

The manner in which all logical fallacies should be introduced:

- 1) give the name of a fallacy and explain the theory why a precise reasoning pattern is fallacious, why it does not prove anything.
- 2) Give a fairly primitive example of such faulty argumentation and ask the students to identify where is the reasoning broken.
- 3) Give students a less obvious example of faulty argumentation
- 4) Ask all of them individually to write down refutation of the example in format "Point X is fallacious/irrational/ point X is not how things work in real life - because of theory Y and that is why this argument falls"
- 5) Ask somebody to present.

Cover these logical fallacies:

1. *Ad Hominem*

Ad hominem is Latin for "against the man." Instead of advancing sound reasoning, *ad hominem*s replace logical argumentation with attack-language unrelated to the truth of the matter. It attacks the person making the claim rather than the validity of the evidence or logic. This is to be avoided when building and refuting arguments because it does nothing to discredit the argument itself and shows the judge avoidance or incapacity to engage with arguments. rather than on the validity of the evidence or logic.

E. g. "They claim that becoming a vegetarian is good for the environment but all of them eat meat" "Pediatricians who do not have children themselves can not make reliable decisions about a child's health" "Donald Trump's immigration policy is bad because it is racist"

2. *Straw Man*

The Strawman Fallacy involves misrepresenting an argument to make it easier to attack. One side of the argument is presented as so extreme that no one will agree with it. Often this is done by referring to the exception, rather than the rule, and inferring that the exception is the rule. For example, someone in opposition to your argument refutes it, often irrelevantly, by claiming that you are actually arguing in favor of something else. In this case, the 'something else' is the strawman the

opposition has purposefully built in order to make it easier to refute your stance, even though the 'something else' was never argued for in the first place. Simply, a strawman is built so it can be knocked down. This is to be avoided when building and refuting arguments because it avoids engagement with the bulk of a certain issue.

E. g. "Statement A: Advertisements for beer encourage underage drinking. Underage drinking has negative consequences. Therefore, advertisements for beer should be banned from TV. Statement B: People will never give up drinking beer because they have been doing it for ages."

3. Hasty Generalization
4. Slippery Slope
5. Circular Argument
6. Hasty Generalization
7. Fallacy of Exclusion
8. Red Herring
9. Casual Fallacy
10. Appeal to Authority/Bandwagon fallacy
11. Equivocation
12. Faulty Analogy

C. Preparation

- When preparing for the lecture think of simple examples of various fallacies which would be familiar to students, something they have encountered in public discourse as well as more complex fallacies which can occur in various debates.
- Think of how you would refute and deconstruct logical fallacies.
- Depending on the length of the lesson consider if you will be able to cover all the logical fallacies listed above. In depth explanation should be prioritized so students would be able to truly grasp how these fallacies work, thus it could be wise to cover fewer logical fallacies which occur most often in debates (Hasty Generalization, Slippery Slope, Straw man)
- Read the theory.
- In a debate format that limits each debater's speaking time, it is simply not reasonable to expect every proposition or conclusion to follow precisely and rigorously from a clear set of premises stated at the outset. Thus, certain logical fallacies are inevitable and can even be useful sometimes when making arguments. Before the lesson look through examples of logical fallacies and find a few which could, if contextualized, pass through as legitimate arguments or statements. (Ex. "Research about tobacco's impact on health published by tobacco companies is misleading" - is technically and ad hominem but if it profit incentive of tobacco companies and research impact on sales is explained it could be a solid argument.)

D. Hints

- Be prepared to help students do analysis of logical fallacies as they go along.
- Discuss if it is possible for a statement to be logically fallacious and true at the same time.
- Discuss in what kind of motions certain fallacies can occur.

- Discuss if it is possible to make logical fallacies into sounder argument by noticing them.

E. Verification

- What kind of impression about debates students take from the lesson? Why is it a positive/negative one?
- What should every trainer do to learn from the lesson for the future:
 - a. What activity/example/discussion had the students engage most?
 - b. What was the biggest problem during the lesson? What can be done to prevent it in the future?

F. Theory

<https://thebestschools.org/magazine/15-logical-fallacies-know/#tuquoque>

<http://www.csun.edu/~dgw61315/fallacies.html>

<https://blog.hubspot.com/marketing/common-logical-fallacies>

https://www.unb.ca/fredericton/studentservices/_resources/pdfs/wss/fallacies.pdf

<https://www.wcv.k12.ia.us/vimages/shared/vnews/stories/57a0ef4a69d9b/Logical%20Fallacies%20Notes.pdf>

<https://www.futurelearn.com/courses/logical-and-critical-thinking/0/steps/9131>

<https://www.iep.utm.edu/fallacy/>

