Spotting Fallacious Arguments

by Winston Sieck - April 29, 2013

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Starting an argument with someone can be a great way to learn more about a topic. Arguments help us check our own thinking, come to terms with someone else’s reasoning, and occasionally even arrive at a shared understanding about what we believe to be true. Being open to debate is a great way to promote critical thinking.

Everyday arguments are often messy. The parties involved in the argument may well commit an informal reasoning fallacy at one point or another. They try to prove their ideas with bad or fallacious arguments. Fallacious arguments can seem convincing, even though they shouldn’t, as the conclusions do not follow from the premises.

It can be easy to fall prey to fallacious arguments, especially when the issue is complex, or the argument is offered by a charming person. Being able to readily recognize argument fallacies helps avoid being led astray. What thinking skills help us spot fallacious arguments?

One possibility is that knowing deductive logic would help.

Another is that detecting fallacious arguments is more related to comprehension skills.

Yair Neuman of Ben-Gurion University studied high-school students’ ability to identify fallacious arguments. The point was to determine whether students’ ability to identify fallacious arguments was related to deductive logic ability and/or a specific aspect of reading comprehension. Neuman’s results were published in the journal, Learning and Instruction.

Neuman examined three common types of fallacious arguments:

- The false cause fallacy.
- The appeal to the people fallacy.
- The appeal to ignorance fallacy.

An argument using the false cause fallacy implies that something that happens before an event occurs is the cause of the event. For example:

*I watered my lawn and then it rained. It must have rained because I watered my lawn.*

An argument that appeals to the people is one that reaches the conclusion by saying it must be so because popular opinion favors it. For example:

*Most people believe that extraterrestrials exist, so you should too.*
An argument that includes an appeal to ignorance suggests that not knowing for sure that something is false implies that it is true. For example:

*We know that Big Foot exists, because no one has been able to prove that it doesn't.*

Neuman’s idea is that the ability to detect fallacious arguments, such as these, is related to skill in drawing inferences from text. In order to test his idea, Neuman measured student’s performance on detection of argument fallacies, deductive logic, and the inference process in reading comprehension.

He found that comprehension was significantly related to spotting fallacies. Performance on the pure deductive logic task was not.

His results suggest that if you are actively generating inferences when you read (or listen), then you may be more likely to detect a gap or disconnect between what comes next and what you were expecting. Actively trying to put together the story on your own helps to see that the other person has made a bad move in their argument.

Logic puzzles and games can be quite a lot of fun. Yet little of what appears in our natural arguments is likely to resemble pure deduction. This may be why skill in deductive logic appears to be less important to detecting fallacious arguments than the ability to make your own connections between everything that’s been said.

Image Credit: Br3nda

Neuman, Y. (2003). Go ahead, prove that God does not exist! On high school students’ ability to deal with fallacious arguments Learning and Instruction, 13 (4), 367-380 DOI: 10.1016/S0959-4752(02)00011-7

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