CRITICAL THINKING Lecture #2

What is an Argument?



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The Structure of Arguments

An argument is a collection of statements that are connected in a certain way. In particular, statements in an argument are linked together by inferences.

An inference asserts the truth of one statement on the basis of one or more other supporting statements. These supporting statements provide the *reasons* or *evidence* for believing the statement being affirmed.

The Structure of Arguments: Example

Consider the following sentence:

Logic is hard because it involves a lot of symbols.

Why is this an argument?

What is the statement being defended?

What reason is offered to defend that statement?





The Structure of Arguments: Example

Logic is hard **because** it involves a lot of symbols.

This involves two simple positive statements:

- I. Logic is hard, and
- 2. Logic involves a lot of symbols.

evidence for us to believe that the first statement is true.



The word "because" indicates that the second statement is supposed to provide a *reason* or some



The Structure of Arguments: Example

Logic is hard because it involves a lot of symbols.

Do not treat this argument like a single compound statement. Yes, there are two simple statements in this sentence—but these statements are connected by an inference ("because"). They are not connected in a way that is hypothetical ("if ... then ..."), conjunctive ("and"), or disjunctive ("or").

Remember this: A statement is not an argument!





The Structure of Arguments: Premises & Main Conclusion

Premise: A statement in an argument that is used to support another statement; it is the basis on which an inference is made.

Main Conclusion: The statement in an argument that is supported by the premises; it is the one statement that is ultimately affirmed by all of the argument's inferences.





Inference Indicator Words Common Premise Indicators in view of the fact because given that since seeing that for due to the fact that as follows from being that **Common Conclusion Indicators** which implies that therefore

thus

hence

consequently it follows that we can conclude that assuming that for the reason that inasmuch as as indicated by the reason being

it must be that as a result which means that

ergo



Parsing an Argument: Instructions

Parsing an argument for its logical content works as follows:

- Underline and denote with a CI any conclusion indicators, I.
- Circle and denote with a PI any premise indicators, 2.
- Circle and denote with a C the argument's main conclusion, and 3.
- Underline and number each premise. 4.



Parsing an Argument: Illustration

Logic is hard because it involves a lot of symbols.

The premise indicator "because" helps us to understand which statement is the premise and which statement is the conclusion in this argument.

We can then parse this argument as follows:

Logic is hard because it involves a lot of symbols.



Consider the following argument:

Philosophy teaches critical thinking skills, so students should take more philosophy classes. For critical thinking is essential to living a good life. 11

First, identify conclusion indicators (if any are present):

a good life.

Philosophy teaches critical thinking skills, so students should take more philosophy classes. For critical thinking is essential to living



Second, identify premise indicators (if any are present):

Ы a good life.

- Philosophy teaches critical thinking skills, so students should take more philosophy classes. (For)critical thinking is essential to living

13

Third, identify the main conclusion:

a good life.

ΡΙ

Philosophy teaches critical thinking skills, <u>so</u> students should take

more philosophy classes. (For critical thinking is essential to living



Fourth, identify the premises supporting that conclusion:

Philosophy teaches critical thinking skills, so students should take more philosophy classes. For critical thinking is essential to living <u>a good life.</u>



Now we have parsed the argument, revealing its logical structure!

<u>a good life</u>.

Philosophy teaches critical thinking skills, so students should take

more philosophy classes. For <u>critical thinking is essential to living</u>



What is an Argument?

An argument is a collection of statements about which the claim is made that the truth of all the premises entails the truth of the conclusion.

So an argument asserts that the conclusion can be inferred from the premises. That is, the claim is that *if* the premises are true, *then* the conclusion must be true as well.





Next Class...

We will look more closely at parsing arguments when the statements involved are compound, while not being distracted by material that is not essential to the argument's core premises and conclusion.



