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Questioning as we learn: An introduction to critical thinking

Material for Higher Education students in Sierra Leone by INASP, UK

Assuring

Quality Higher Education

in Sierra Leone (AQHEd-SL)

Provided by the Critical Thinking Taskforce (CTTF)
within the project AQHEd-SL

Unit 3 - Snippet 68

Deductive arguments

A deductive argument follows deductively from its premises. In other words, we base our argument on the inference of a particular case from a general law. These arguments are said to be truth-preserving, because the truth of the premise(s) guarantees the truth of the conclusion. Conversely, if at least one of the premises is not true, one cannot draw a conclusion any more.

Deductive arguments are said to be logically valid if the truth of the conclusion follows from the truth of the premises. This means if a deductive argument's premises are all true and nevertheless you find the conclusion is false, the argument must be invalid.

Deductive arguments are called 'sound' if all of their premises are true and 'unsound' if at least one of their premises is not true.

Consider the following logically valid and sound deductive argument:

Premise 1: Dr Mwanzu is always in her office on a Monday morning.

Premise 2: It is Monday morning.

Conclusion: Therefore, Dr Mwanzu is in her office.

Let's briefly analyse it: 'Dr Mwanzu is in her office' – the conclusion – is said to be true based on the premises that 1) 'It is Monday morning' and 2) 'Dr Mwanzu is always in her office on a Monday morning.' The general law is that 'Dr Mwanzu is always in her office on a Monday morning'. The particular case is this Monday morning – indicated by 'It is Monday morning'. So as long as we accept the truth of the premises, we will also accept the truth of the conclusion. However, we have not really learned anything new from the conclusion here. We merely concluded relative to a particular case inferring from the already accepted 'law'.