

Critical thinking © copyright, Donald R. Woods, 2007

Critical thinking is gathering and validating information, checking for consistency, classifying information, recognizing patterns, reasoning and drawing valid conclusions.

Evidence-based targets for critical thinking

Evidence-based targets	Progress toward internalizing these targets				
	20%	40%	60%	80%	100%
● we think in terms of our past experience					
● we accept new ideas because of logic (logos), of emotions (pathos) and of credibility of the source (ethos)					
● logical reasoning can be deductive (if... then) whereby we accept a general conclusion and then accept a specific instance					
● Logical reasoning can be inductive where facts are gathered and then we accept a generalization					
● You can identify and combat about two dozen commonly-used fallacies in logic					
● You can identify and combat about a half dozen commonly-used emotional appeals					
● You can identify and combat about a half dozen, commonly-used ethos appeals					
● You can list and apply a 10-step process for critical thinking, 1. context; 2. definitions; 3. identify conclusions; 4. check the evidence; 5. identify the point of view or assumptions; 6. diagram the argument; 7. identify whether inductive or deductive and rate quality of evidence; 8. assess counterarguments; 8. assess consequence and implications; 10. evaluate					
● Can define and classify information into primary facts, event facts, reasoned facts, opinions and opinionated facts					
● Can locate the data by using such words as <i>because, for, since, Table show, if, as shown by, as indicated by, the reasons are, this is inferred by, the evidence is, assuming that, based on, whereas, it follows from</i>					
● Can correctly identify the stated conclusions by locating such trigger words as <i>and so, I conclude, in conclusion, it is clear that, hence, thus, then, consequently, for these reasons, shows that, therefore.</i>					
● Can check the validity of the data via statistical analysis (for cause-effect identification or to identify a relationship) or check the premises (for arguments and reasoning)					

Evidence-based targets	Progress toward internalizing these targets				
	20%	40%	60%	80%	100%
● Can correctly diagram the structure of an argument					
● Can evaluate the acceptability of premises/data					
● Can evaluate the credibility of the sources					
● Can correctly identify implied assumptions, implied assumptions and hypothetical information in the given scenario					
● For premises, can determine the consistency, relevance to the conclusion and adequacy to support a conclusion					
● For deductive reasoning, can astutely analyze linear orders, syllogisms and “if..then” statements					
● For inductive reasoning, can astutely use statistical methods					
● For statistical methods, recognize the need to isolate and control variables in order to make strong causal claims					
● For statistical methods, check for adequate sample size and unbiased sampling when a generalization is made					
● For statistical methods, able to describe a relationship between any two variables as being positive, negative or unrelated					
● For statistical methods, can check for and understand the need for control groups					
● Can consider missing components by assuming a different perspective.					
● Can assess the overall strength of an argument					