Appendix C: Examples of Critical Thinking Skills

This list is taken directly from a useful study of critical thinking.


Predisposing Factors for Critical Thinking

1. Knows that opinions vary in quality, with good opinions supported by reasons
2. Intellectual honesty
3. Skeptical
4. Fair-minded
5. Respects clarity and precision
6. Demands justification
7. Reflective cognitive style
8. Persistence (some people opt not to begin the thinking process)
9. Ability to “break set”
10. Having incremental (as opposed to an entity) view of intelligence
11. Willing to suspend judgment and gather more information
12. Aware of own gaps in knowledge
13. Concern for accuracy
14. Maintains an open attitude
15. Adaptability
16. Objectivity
17. Cognitive flexibility to detach reasoning from prior knowledge
18. Desire for knowledge even if it undermines own cause
19. Open-mindedness—tolerance for other views
20. Analyticity—anticipate consequences
21. Confidence in own reasoning skills
22. Intellectual curiosity—eagerness to learn even when knowledge is not immediately useful
23. Cautious in making judgments

Interpretation Skills

1. Recognize gist in material
2. Break goal into sub-goals
3. Strip verbal argument of irrelevancies and rephrase it in essential terms
4. Extract meaning from context
5. Understand contextual nuances
6. Frame the message
7. Probe question or problem to obtain clarifying information
8. Question deeply
9. Redefine problem and goal
10. Seek clear statement of the question
11. Understand intended definition of certain words
12. Discern when a term is used with different meanings
13. Recognize need for operational definition
14. Identify and challenge assumptions
15. Identify unstated assumption in a discussion
16. Identify missing information from an argument
17. Identify premises and conclusions
18. Identify missing premises
19. Analyze ambiguities in arguments
20. Critique to distinguish reliable from unreliable assumptions
21. Distinguish fact/opinion/assumption elements in an argument
22. Distinguish relevant from irrelevant information
23. Examine evidence to distinguish anecdote from fact
24. Determine whether a statement is overly vague or overly specific
25. Identify own assumptions

**Reasoning Skills**

1. Understand limits of extrapolation
2. Reason by finding analogous arguments to bolster conclusion
3. Refine generalizations and avoid oversimplification
4. Apply general principles to specific cases
5. Generalize from specific instances to broader classes
6. Determine whether a simple generalization is warranted
7. Draw inductive inference from observations
8. Reason by taking representative samples
9. Distinguish between deductive and inductive reasoning
10. Reason by deductive logic to draw conclusions from premises
11. Reason dialogically to identify and compare perspectives
12. Reason dialectically to evaluate points of view
13. Trace logic in an argument
14. Determine whether a statement follows from premises
15. Distinguish between logically valid and invalid inferences
16. Check consistency of information in the problem
17. Avoid ad hominem reasoning fallacy (consider argument not the person)
18. Avoid false dichotomy reasoning fallacy (artificially reduce the number of choices)
19. Avoid guilt by association reasoning fallacy
20. Avoid emotional appeal reasoning fallacy
21. Identify instances of faulty thinking
22. Mentally simulate plans to see if they achieve goals
23. Mentally generate a structure of possibilities that presently don’t exist
24. Mentally simulate probable consequences of alternative
25. Develop and use mental models
26. Recognize bias in hindsight analysis
27. Reason from starting point with which one disagrees
28. Recognize fallibility of own
Assessment Skills

1. Know value and cost of information, how and when to seek it
2. Know when new information supports/refutes conclusion
3. Consider new evidence as it becomes available
4. Weigh multiple factors when necessary
5. Perform means-ends analysis to check status
6. Support general assertions with details
7. Frame decision in alternative ways
8. Assess an assertion’s truthfulness based on accuracy of relevant facts
9. Assess an assertion’s truthfulness based on its degree of precision
10. Assess an assertion’s truthfulness based on presence of unbiased evidence
11. Assess an assertion’s truthfulness based on having credible sources
12. Assess an assertion’s truthfulness based on its logical consistency
13. Assess an observation’s credibility based on short time between observation and report
14. Assess an observation’s credibility based on first-hand report by observer
15. Assess an observation’s credibility based on minimal interference
16. Assess an observation’s credibility based on reporter’s belief that observation was accurate
17. Assess an observation’s credibility based on corroboration by other sources
18. Assess credibility of information source based on author’s reputation for accuracy
19. Assess credibility of information source based on being in author’s field of expertise
20. Assess credibility of information source based on absence of conflict of interest
21. Assess credibility of information source based on known risk to author’s reputation
22. Assess credibility of information source based on data-gathering and processing methods
23. Assess credibility of information source based on agreement with other sources
24. Assess strength of conclusion based on reasonableness of assumptions
25. Assess strength of conclusion based on consistency with known facts
26. Assess strength of conclusion based on alternatives are inconsistent with known facts
27. Assess strength of conclusion based on its ability to explain the evidence
28. Assess strength of argument based on clarity of meaning
29. Assess strength of argument based on identity of stated and unstated conclusions
30. Assess strength of argument based on identity of premises supporting conclusions
31. Assess strength of argument based on identity of unstated assumptions
32. Assess strength of argument based on reliability and reasonableness of inferences

Meta-Cognitive Skills

1. Look beyond first obvious explanation to consider alternative interpretations
2. Identify the need to think hard
3. Develop perspective to explore the implications of beliefs, arguments, or theories
4. Ask questions and be willing to ponder (e.g., use scientific method)
5. Generate summaries
6. Generate alternative explanations
7. Generate multiple ideas
8. Adopt multiple perspectives
9. Consider multiple sides of an issue
10. Stay relevant to the main point
11. Take total situation into account
12. Monitor events for consistency with expectations
13. Monitor own understanding of problem
14. Compare analogous situations