

The Elements of Critical Thinking
(Helping Learners Assess Their Thinking)
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There are two essential dimensions of thinking that learners need to master in order to learn how to upgrade their thinking. They must be able to *identify* the "parts" of their thinking, and be able to *assess* their use of these parts of thinking, as follows:

- All reasoning has a purpose
- All reasoning is an attempt to figure something out, to settle some question, to solve some problem
- All reasoning is based on assumptions
- All reasoning is done from some point of view
- All reasoning is based on data, information, and evidence
- All reasoning is expressed through - and shaped by - concepts and ideas
- All reasoning contains inferences by which we draw conclusions and give meaning to data
- All reasoning leads somewhere, has implications, and consequences

Here are some guidelines that may be helpful to learners as they work toward developing their reasoning abilities:

1. All reasoning has a PURPOSE
 - Take time to state your purpose clearly.
 - Distinguish your purpose from related purposes.
 - Check periodically to be sure you are still on target.
 - Choose significant and realistic purposes.
2. All reasoning is an attempt to FIGURE SOMETHING OUT, TO SETTLE SOME QUESTION, TO SOLVE SOME PROBLEM
 - Take time to clearly and precisely state the question at issue.
 - Express the question in several ways to clarify its meaning and scope.
 - Break the question into sub questions.
 - Identify if the question has one right answer, is a matter of opinion, or requires reasoning from more than one point of view.
3. All reasoning is based on ASSUMPTIONS
 - Clearly identify your assumptions and determine whether they are justifiable.
 - Consider how your assumptions are shaping your point of view.

4. All reasoning is done from some POINT OF VIEW
 - Identify your point of view.
 - Seek other points of view and identify their strengths as well as weaknesses.
 - Strive to be fair-minded in evaluating all points of view.
5. All reasoning is based on DATA, INFORMATION and EVIDENCE
 - Restrict your claims to those supported by the data you have.
 - Search for information that opposes your position as well as information that supports it.
 - Make sure that all information used is clear, accurate, and relevant to the question at issue.
 - Make sure you have gathered sufficient information.
6. All reasoning is expressed through - and shaped by - CONCEPTS and IDEAS
 - Identify key concepts and explain them clearly.
 - Consider alternative concepts or alternative definitions to concepts.
 - Make sure you are using concepts with care and precision.
7. All reasoning contains INFERENCES or INTERPRETATIONS by which we draw CONCLUSIONS and give meaning to data
 - Infer only what the evidence implies.
 - Check inferences for their consistency with each other.
 - Identify assumptions that lead you to your inferences.
8. All reasoning leads somewhere or has IMPLICATIONS and CONSEQUENCES
 - Trace the implications and consequences that follow from your reasoning.
 - Search for negative as well as positive implications.
 - Consider all possible consequences.

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