

Thinking Maps

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From *Critical Thinking: An Introduction*

Thinking map 1 — chapters 2-4, p. 56:

'Thinking Map' SKILFUL ANALYSIS AND EVALUATION OF ARGUMENTS

Analysis

- 1 What are/is the main **Conclusion(s)** (may be stated or unstated; may be recommendations, explanations, and so on, conclusion indicator words and 'therefore' test may help.)?
- 2 What are the **Reasons** (data, evidence) and their **Structure**?
- 3 What is **Assumed** (that is, implicit or taken for granted, perhaps in the **Context**)?
- 4 Clarify the **Meaning** (by the terms, claims or arguments) which need it.

Evaluation

- 5 Are the reasons **Acceptable** (including explicit reasons and unstated assumptions – this may involve evaluating factual claims, definitions and value judgements and judging the **Credibility** of a source)?
- 6 (a) Does the reasoning **Support** its conclusion(s) (is the support strong, for example 'beyond reasonable doubt', or weak?)
(b) Are there **Other Relevant Considerations/Arguments** which strengthen or weaken the case? (You may already know these or may have to construct them.)
- 7 What is your **Overall Evaluation** (in the light of 1 through 6)?

Thinking map 2 — chapter 5, p. 77:

'Thinking Map' CLARIFYING IDEAS SKILFULLY

- 1 What is the **problem**? (Is it vagueness, ambiguity, a need for examples or what?)
- 2 Who is the **audience**? (What background knowledge and beliefs can they be assumed to have?)
- 3 Given the audience, what will provide sufficient clarification for present purposes?
- 4 Possible **sources** of clarification:
 - (a) a **dictionary definition** (reporting normal usage),
 - (b) a definition/explanation from an **authority** in the field (reporting specialised usage),
 - (c) deciding on a meaning; **stipulating** a meaning.
- 5 Ways of clarifying terms and ideas:
 - (a) giving a **'synonymous'** expression – or paraphrase,
 - (b) giving **necessary and sufficient conditions** (or an 'if and only if' definition),
 - (c) giving **clear examples** (and non-examples),
 - (d) drawing **contrasts** (including *per genus et differentiam*),
 - (e) explaining the **history** of an expression.
- 6 How much detail is needed by this audience in this situation?

Thinking map 3 — chapter 6, p. 87:

'Thinking Map' JUDGING ACCEPTABILITY SKILFULLY

- 1 How **certain** is it claimed to be?
- 2 Does the **context** of the claim influence its acceptability?
- 3 Does it require **expertise/research** to decide?
- 4 Is it **widely known** or believed?
- 5 How well does it **fit** with our other beliefs?
- 6 Is it from a **credible source**?

Thinking map 4 — chapter 7, p. 105

'Thinking Map' JUDGING CREDIBILITY SKILFULLY

- 1 Questions about the **person/source**:
 - (a) Do they have the relevant expertise (experience, knowledge, and perhaps formal qualifications)?
 - (b) Do they have the ability to observe accurately (eyesight, hearing, proximity to event, absence of distractions, appropriate instruments, skill in using instruments)?
 - (c) Does their reputation suggest they are reliable?
 - (d) Does the source have a vested interest or bias?
- 2 Questions about the **circumstances/context** in which the claim is made.
- 3 Questions about the **justification** the source offers or can offer in support of the claim:
 - (a) Did the source 'witness X' or was he 'told about X'?
 - (b) Is it based on 'primary' and 'secondary' sources?
 - (c) Is it based on 'direct' or on 'circumstantial' evidence?
 - (d) Is it based on direct reference to credibility considerations?
- 4 Questions about the **nature of the claim** which influence its credibility:
 - (a) Is it very unlikely, given other things we know; or is it very plausible and easy to believe.
 - (b) Is it a basic observation statement or an inferred judgement?
- 5 Is there **corroboration** from other sources?

Thinking map 5 — chapter 8-9, p. 137

'Thinking Map' JUDGING INFERENCES SKILFULLY

- 3 Does the reasoning include some important **assumptions**?
- 6 (a) Does the reasoning **Support** its conclusion(s)?
(b) Are there **Other Relevant Considerations/Arguments** which strengthen or weaken the case?
- 7 What is your **Overall Judgement**?
Are the reasons acceptable and are the inferences deductively valid?
Is the case proved beyond reasonable doubt?
Is the case shown more likely than not on the balance of probabilities?
Is the argument reasonable?

Thinking map 6 — chapter 10, p. 142

'Thinking Map' SKILFUL CAUSAL EXPLANATION

- 1 What are the **possibilities** in this case?
- 2 What evidence could you find that **would** count for or against the likelihood of these possibilities (if you could find it)?
- 3 What **evidence** do you have already, or can you gather, that is relevant to determining what causes what?
- 4 Which possibility is rendered **most likely** by the evidence? (What explanation fits best with everything else we know and believe?)

Thinking map 7 — chapter 11, p. 163

'Thinking Map' HANDLING DECISIONS/RECOMMENDATIONS SKILFULLY

- 1 What makes this decision **Necessary**? [Objectives?]
- 2 What is **Recommended** and on what **Grounds**?
- 3 What are the **Options/Alternatives**? (Realistic or unusual?)
- 4 What are the **Possible Consequences** of the various options – and **How Likely** are they? (On the basis of what evidence and how reliable is it?)
- 5 How **Important** are these consequences – for all those affected?
- 6 When I **Compare** the alternatives in the light of their consequences, which is best? Is the recommended course best?
- 7 How can I carry out this decision? (Contingency plans?)