

## What is Critical Thinking?

- 1. Gathering Evidence:** The scholar gathers information from, or generates it by, objective observations, lived experiences, thoughtful reflections, rational reasoning, effective communications, and extensive reading.
- 2. Processing Evidence:** The scholar undertakes an intellectually-disciplined process of carefully analysing, conceptualising, applying, synthesising, or evaluating the information gathered.
- 3. Reflecting on Evidence and Methods:** The scholar practices self-reflexive examination by assessing their scholarly practice and by analysing structures or elements of thought more broadly, e.g. their research motivations, their problem-solving techniques, their pre-existing assumptions, the validity of their hypotheses, the empirical grounding of the research, their reasoning, the implications and consequences of their research, their frames of reference, and the potential objections from alternative viewpoints.
- 4. Using Evidence:** Once the scholar has correctly gathered, processed, and reflected on the information, it can be used as a guide to belief, action, and intellectual and public discourse.

### Critical Thinking is Not:

- Mere opinion, i.e. it requires various kinds of evidence to support ideas.
- Mere description or summary, i.e. it requires analysis.
- The mere acquisition and retention of information alone, i.e. it involves a particular way in which information is sought and treated.
- The mere possession of a set of skills, i.e. it involves the continual use/development of those skills, as well as reflection on them.
- The mere use of those skills as an exercise, i.e. it must have tangible consequences or significance in the world.

- Adapted from Michael Scriven and Richard Paul, *8<sup>th</sup> Annual International Conference on Critical Thinking and Education Reform*, Summer 1987.

### Processing Evidence: How to Conduct Critical Analysis

- 1. What** is happening? Summarise the evidence, or, identify the problem. This requires an ability to detect patterns, as well as precision in narrowing the topic.
- 2. How** is it happening? Explain the evidence, or, outline the details of the problem. This requires accuracy of descriptive detail, as well as an ability to explain your logic and your interpretations clearly. This also requires discipline-specific knowledge and expertise, e.g. literary techniques, relevant case law, specific lab experiments, notable case studies, prominent theories, etc.
- 3. Why** is it happening? Analyse the evidence, or, solve the problem. This requires strong reasoning skills, an ability to rationalize your ideas, as well as rhetorical skills in order to convince your reader of your claims.
- 4. So What** that this is happening? Outline the broader significance of the evidence, argument, or problem. This requires explaining why the reader should care about what you are saying.

## What do you need to ask yourself?

### Clarity

- Could you elaborate?
- Could you illustrate what you mean?
- Could you give me an example?

### Accuracy

- How could we check on that?
- How could we find out if that is true?
- How could we verify or test that?

### Precision

- Could you be more specific?
- Could you give me more details?
- Could you be more exact?

### Relevance

- How does that relate to the problem?
- How does that bear on the question?
- How does that help us with the issue?

### Logic

- Does all of this make sense together?
- Does your first paragraph fit in with your last one?
- Does what you say follow from the evidence?

### Significance

- Is this the most important problem to consider?
- Is this the central idea to focus on?
- Which of these facts are most important?

### Depth

- What are some of the complexities of this question?
- What are some of the difficulties we need to deal with?

### Breadth

- Do we need to look at this from another perspective?
- Do we need to consider another point of view?
- Do we need to look at this in other ways?

### Fairness

- Is my thinking justifiable in context?
- Am I taking into account the thinking of others?
- Am I using my concepts in keeping with educated usage, or am I distorting them to get what I want?

## What does a good critical thinker do?

- Raises vital questions and problems, formulating them clearly and precisely.
- Gathers and assesses relevant information, using abstract ideas to interpret it effectively.
- Comes to well-reasoned conclusions and solutions, testing them against relevant criteria and standards.
- Thinks open-mindedly within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications, and practical consequences.
- Communicates effectively with others in figuring out solutions to complex problems.

- Richard Paul and Linda Elder, *The Miniature Guide to Critical Thinking Concepts and Tools*, 2010.

### Critical Thinking in Action: Example

#### WHAT:

Having previously identified the topic (well-being), the authors identify what the research revealed (a correlation between materialism and well-being).



Finally, when examining the value context in which individuals live, two significant moderation effects are noteworthy. At the proximal environmental level of one's study or work environment, the correlation between materialism and well-being was less (although still) negative in samples composed of many individuals studying or working in business and law environments.

Such findings are consistent with the environmental congruence hypothesis and suggest that there may be some protective factor inherent in being in environments of individuals who are pursuing similar aims in life. At the level of cultural values, findings were opposite, as stronger negative well-being effects emerged for citizens living in countries that emphasize pleasure and an exciting life, aims quite consistent with materialism (see Grouzet et al., 2005). At the cultural level, then, it appears that while a strong concern with acquisition and possessions is consistently associated with low levels of well-being across various cultures, this effect is amplified when people live in cultural settings that are more hedonistically oriented.

#### HOW:

The authors explain how this correlation has emerged, how it connects to existing theories, and how it manifests culturally in relation to well-being.



#### WHY + SO WHAT:

The authors explain why frequent exposure to cultural ideologies is significant (why it matters) in relation to well-being. The authors also support the claim by contextualising it more broadly within existing research.



Such a finding is again consistent with the idea that frequent exposure to consumer culture's ideologies and institutions may work to undermine the well-being of those who internalize that ideology and frequently interact with those institutions (Dittmar, 2007, 2008; Dittmar et al., 2013; Kasser et al., 2007; Richins, 1991). That said, it is important to note once again that the results showed that people who live in cultures that are less focused on pleasure also experience lower levels of well-being when they strongly concern themselves with materialistic values; as such, there are likely additional, more basic psychological (i.e., noncultural) reasons for this consistently negative correlation.

- Helga Dittmar, Rod Bond, Megan Hurst, and Tim Kasser. "The Relationship Between Materialism and Personal Well-Being: A Meta-Analysis" *Journal of Personality and Social Psychology*, vol. 107. no. 5, pp. 879-924.