

## **TOOLS OF CRITICAL AND CREATIVE THINKING**

The topic is intended to introduce the learner to relevant instruments used in critical and creative thinking in the analysis and evaluation of arguments and formulation of rational statements. It is envisaged that the learner will grasp these instruments and attain the knowledge on how to apply them in day to day decision making and problem solving situations. It covers Tools of Analysis (dimensions of thinking), Tools of Evaluation (Universal intellectual Standards) and Tools of Transformation (valuable intellectual Traits)

### **Tools of Analysis (Dimensions of thinking)**

Critical and creative thinking tools of analysis are also referred to as Dimensions of thinking. They entail those essential components that must be taken into consideration when confronted with issues that begs for an answer. The tools of analysis deals with the informational basis to which we can proceed in determining a solution based on inclusive and conclusive knowledge. These tools include: purpose, Issue/problem/question at hand, Assumptions, Points of view, Data & Information, Concepts & Ideas, Inferences, and Implications and consequences.

#### **1. Purpose**

All reasoning has a purpose. A critical thinker needs to state their purpose clearly and ensure that they do not confuse them with related purposes. They should also ensure that they regularly check to ensure that they are still on target. Their purposes should also be realistic and significant.

#### **2. Issue/Problem/Question at hand**

All reasoning attempts to figure something out. As such, the thinker must state the issue they are addressing. Its meaning and scope must be considered so that it is not confused with a similar problem or issue. Further, they should break down complex issues into smaller and simpler units so that they can understand them.

#### **3. Assumptions**

All reasoning is based on assumptions. This is the starting point of reasoning, what is accepted or taken for granted by the speaker/ writer usually not stated explicitly on the basis of which we can figure out something else. For example you say he is a democrat he will support freedom of the press-the assumption is that democrats support freedom of the press

Assumptions may be warranted or unwarranted. Warranted assumptions are based on premises that are factual, sensible and capable of being realized while unwarranted assumptions are based on premises that are not factual, and the assumptions cannot be realized by the thinker.

#### **4. Point of View**

Reasoning has a certain focus or orientation. This focus can change depending on the information available to the thinker. In order to understand one's thinking, thinkers must understand the perspective. For instance, is it political, scientific, philosophical, etc. A thinker should also consider alternative points of view concerning a phenomenon.

#### 5. Data/ Information

These refer to the facts on which we base our reasoning. In order to improve our reasoning, we need to assess the facts that we hold, the information and data which we use to justify our claims. The claims that we make must be dependent on the data/information that we have. The information should also be sufficient to support one's claims. Additionally, thinkers should evaluate data/information that supports their views as well as data/information that opposes their claims.

#### 6. Concepts & Ideas

A thinker needs to be able to identify key concepts in their thinking and clarify them. They should also consider using these concepts in the right manner such that there cannot be any confusion or implicit meaning in their application.

#### 7. Inferences

All reasoning has inferences by which we draw conclusions about the matter being addressed. Inferences should infer only what the evidence implies. A thinker should check the consistency of inferences and identify assumptions that may lead them to make certain inferences.

#### 8. Implications/ consequences

All reasoning must lead somewhere. A thinker should trace the consequences of their thoughts and identify positive and negative outcomes. They should carefully identify these implications and use them to determine their course of action.

### **Tools of Evaluation (Universal Intellectual Standards)**

These are tools necessary in the evaluation of the quality of our reasoning. These are standards which must be applied to thinking whenever one is interested in checking the quality of reasoning about a problem, issue, or situation. To think critically entails having command of these standards, being able to make sound decisions, being able to pose questions which probe our thinking- questions which hold us accountable for our thinking, questions which, through disciplined consistency becomes internalized as questions we need to ask ourselves.

#### 1. Clarity

In evaluating a person's claim, we need to understand what they are saying. The lack of clarity is usually due to laziness, carelessness, or lack of skills. Critical thinkers must strive to make sure

that their claims are not vague or ambiguous and as such, they cannot be confused or misunderstood

## 2. Precision

All reasoning must be straight to the point and explain exactly what the thinker intends to say. They must cut through confusion and uncertainties. They should identify the exact problem they are faced with, the alternatives available to solve the problem and the advantages and disadvantages of each alternative.

## 3. Accuracy

It refers to the truth of the matter being discussed. A critical thinker must base their claims on premises that bear factual information in them. False information is more likely to lead the thinker into poor conclusions and unwise decisions. Therefore, critical thinkers must ensure that their decisions and claims are backed by accurate information.

## 4. Relevance

A statement can be clear, accurate, and precise but have no bearing on the issue at hand. This means that this statement is not relevant to the matter. A critical thinker ensures that information that they present in a discussion is connected to the matter being discussed.

## 5. Depth

Depth refers to the amount of data a thinker presents to explain a certain phenomenon. If their arguments are superficial or provide weak information to back their claims, then they lack in depth. If, however, the arguments have sufficient information to back them, then the arguments will be said to have depth. Arguments that fail to deal with the complexities of a matter are lacking in depth.

## 6. Breadth

An argument that has breadth in it is one that considers different points of view on a matter. Critical thinkers should be able to analyze an argument from various perspectives and make choices based on these considerations.

## 7. Logical correctness

A logically correct argument should have its conclusion logically drawn from the premises. If an argument has premises that do not inform the conclusion, then that argument is not logically correct.

## **Tools of Transformation (Intellectual virtues/traits)**

These tools or traits are the virtues that characterize a critical thinker. They are observed in thinkers who embrace critical and creative thinking.

### 1. Intellectual Humility

It refers to having the knowledge of the limits of one's knowledge, including sensitivity to circumstances in which one's native egocentrism is likely to function self-deceptively; sensitivity to bias, prejudice and limitations of one's viewpoint. Intellectual humility depends on recognizing that one should not claim more than one actually knows. It does not imply spinelessness or submissiveness. It implies the lack of intellectual pretentiousness, boastfulness, or conceit, combined with insight into the logical foundations, or lack of such foundations, of one's beliefs.

### 2. Intellectual Courage

Having the knowledge of the need to face and fairly address ideas, beliefs or viewpoints toward which we have strong negative emotions and to which we have not given a serious hearing. This courage is connected with the recognition that ideas considered dangerous or absurd are sometimes rationally justified (in whole or in part) and that conclusions and beliefs inculcated in us are sometimes false or misleading. To determine for ourselves which is which, we must not passively and uncritically "accept" what we have "learned." Intellectual courage comes into play here, because inevitably we will come to see some truth in some ideas considered dangerous and absurd, and distortion or falsity in some ideas strongly held in our social group. We need courage to be true to our own thinking in such circumstances. The penalties for non-conformity can be severe.

### 3. Intellectual Empathy

Having the knowledge of the need to imaginatively put oneself in the place of others in order to genuinely understand them, this requires the consciousness of our egocentric tendency to identify truth with our immediate perceptions of long-standing thought or belief. This trait correlates with the ability to reconstruct accurately the viewpoints and reasoning of others and to reason from premises, assumptions, and ideas other than our own. This trait also correlates with the willingness to remember occasions when we were wrong in the past despite an intense conviction that we were right, and with the ability to imagine our being similarly deceived in a case-at-hand.

### 4. Intellectual Integrity

Recognition of the need to be true to one's own thinking; to be consistent in the intellectual standards one applies; to hold one's self to the same rigorous standards of evidence and proof to which one holds one's antagonists; to practice what one advocates for others; and to honestly admit discrepancies and inconsistencies in one's own thought and action.

### 5. Intellectual Perseverance

Having the knowledge of the need to use intellectual insights and truths in spite of difficulties, obstacles, and frustrations; firm adherence to rational principles despite the irrational opposition of others; a sense of the need to struggle with confusion and unsettled questions over an extended period of time to achieve deeper understanding or insight.

#### 6. Faith In Reason

Confidence that, in the long run, one's own higher interests and those of humankind at large will be best served by giving the freest play to reason, by encouraging people to come to their own conclusions by developing their own rational faculties; faith that, with proper encouragement and cultivation, people can learn to think for themselves, to form rational viewpoints, draw reasonable conclusions, think coherently and logically, persuade each other by reason and become reasonable persons, despite the deep-seated obstacles in the native character of the human mind and in society as we know it.

#### 7. Fair-mindedness

Having the knowledge of the need to treat all viewpoints alike, without reference to one's own feelings or vested interests, or the feelings or vested interests of one's friends, community or nation; implies adherence to intellectual standards without reference to one's own advantage or the advantage of one's group.