

CRITICAL THINKING

CONCEPTS AND TOOLS

-DR. RICHARD PAUL & DR. LINDA ELDER

DEFINITION/RESULTS:

Questions Using the Elements of Thought (p. 6)

Purpose: *What am I trying to accomplish? What is my central aim? My purpose? [Goals? Objectives?]*

Questions: *What question am I raising? What question am I addressing? Am I considering the complexities in the question?*

Information: *What information am I using in coming to that conclusion? What experience have I had to support this claim? What information do I need to settle this question?*

Inferences/

Conclusions: *How did I reach this conclusion? Is there another way to interpret this information?*

Concepts: *What is the main idea here? Can I explain this idea?*

Assumptions: *What am I taking for granted? What assumption has led me to that conclusion?*



BUILDING A STRUCTURE OF THINKING

Implications: *If someone accepted my position, what would be the implications? What am I implying?*

Points of View: *From what point of view am I*

looking at this issue? Is there another point of view I should consider?

Quick Review:

Purpose: *goals, objectives;*

Questions at Issue: *problem, issue; complexities;*

Information: *data, facts, reason, observations, experiences, evidence;*

Inferences/

Conclusions: *solutions, [interpretations];*

Concepts: *themes, definitions, laws, principles, models*

Assumptions: *presuppositions, axioms, taking for granted;*

Implications: *consequences; effects; repercussions;*

Points of View: *frames of reference; perspectives.*

◆ “The art of analyzing and evaluating thinking with a view to improving it . . . Critical thinking is, in short, self-directed, self-disciplined, self-monitored, and self-corrective thinking.”

◆ “A well cultivated thinker . . .

- ◆ raises vital questions and problems;
- ◆ gathers and assesses relevant information;
- ◆ comes to well-reasoned conclusions and solutions;
- ◆ thinks open-mindedly within alternative systems of thought;
- ◆ communicates effectively with others in figuring out solutions to complex problems” (p. 2).

“It entails effective communication and problem solving abilities and a commitment to overcoming our native egocentrism and sociocentrism” (p. 2).

Universal Intellectual Standards (pp. 8-9)

Clarity: *Could you elaborate [illustrate] further? Could you give me an example?*

Accuracy: *How could we check on that? Find out if that is true? Verify or test that?*

Precision: *Could you give me more details? Could you be more specific?*

Relevance: *How is that connected to the question? How does that bear on the issue?*

Depth: *How does your answer address the complexities in the question? How are you taking into account the problems in the question? Are you dealing with the most significant factors?*

Breadth: *Do we need to consider another point of view? Is there another way to look at this question? What would this look like from a conservative standpoint? What would this look like from the point of view of . . . ?*

Logic: *Does this really make sense? Does that follow from what you said?*

Fairness: *Are we considering all relevant viewpoints in good faith? Are we distorting some information to maintain our biased perspective? Are we more concerned about our vested interests than the common good?*

Source: Paul, R., & Elder, L. (2019). The miniature guide to critical thinking. Dillon Beach, CA: Foundation for Critical Thinking Press. Online: www.criticalthinking.org

HIGHER ORDER THINKING (P. 7)

LEVEL 3

EXPLICITLY REFLECTIVE; ROUTINE USE OF CRITICAL THINKING TOOLS, CONSISTENTLY FAIR

LEVEL 2

SELECTIVELY REFLECTIVE; LACKS CRITICAL THINKING VOCABULARY

LEVEL 1

UNREFLECTIVE; RELIES ON GUT INTUITION; SELF-SERVING, SELF-DECEIVED

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ESSENTIAL INTELLECTUAL TRAITS

Template for Analyzing the Logic of an Article (p. 11)

Purpose: *The main purpose of this article is . . . (State as accurately as possible the author's purpose for writing the article.)*

Questions: *The key question that the author is addressing is . . . (Figure out the key question in the mind of the author when s/he wrote the article.)*

Information: *The most important information in this article is . . . (Figure out the facts, experiences, data the author is using to support her/his conclusions.)*

Inferences/

Conclusions: *The main inferences/conclusions in this article are . . . (Identify the key conclusions the author comes to and presents in this article.)*

Concepts: *The key concept (s) we need to understand in this article is (are) . . . By these concepts the author*



BUILDING A STRUCTURE OF THINKING

means . . . (Figure out the most important ideas you would have to understand in order to understand the author's line of reasoning.)

Assumptions: *The main assumption (s) underlying the author's thinking is (are) . . . (Figure out what the author is taking for granted [that might be questioned].)*

Implications: *If we take this line of reasoning seriously, the implications are . . . (What consequences are likely to follow if we take the author's line of reasoning seriously?)*

f we fail to take this line of reasoning seriously, the implications are . . . (What consequences are likely to follow if we ignore the author's line of reasoning seriously?)

Points of View: *The main point (s) of few presented in this article is (are) . . . (What is the author looking at, and how is s/he seeing it?)*

- ◆ Intellectual Humility vs. Intellectual Arrogance
- ◆ Intellectual Courage vs. Intellectual Cowardice
- ◆ Intellectual Empathy vs. Intellectual Narrow-Mindedness
- ◆ Intellectual Autonomy vs. Intellectual Conformity
- ◆ Intellectual Integrity vs. Intellectual Hypocrisy
- ◆ Intellectual Perseverance vs. Intellectual Laziness
- ◆ Confidence in Reason vs. Distrust of Reason and Evidence
- ◆ Fairmindedness vs. Intellectual Unfairness (pp. 14-15)

Critical Thinking

“It entails effective communication and problem solving abilities and a commitment to overcoming our native egocentrism and sociocentrism” (p. 2).

Criteria for Evaluating Reasoning (p. 12)

Purpose: *What is the purpose of the reasoner? Is the purpose clearly stated . . . ? Is it justifiable?*

Questions: *Is the question at issue well-stated? Is it clear and unbiased? Are the question and purpose directly relevant to each other?*

Information: *Does the author cite relevant [accurate] evidence, experiences, and/or information essential to the issue?*

Concepts: *Does the writer*

clarify key concepts when necessary? Are the concepts used justifiably?

Assumptions: *Does the writer show a sensitivity to what he or she is taking for granted or assuming?*

Inferences: *Does the writer develop a line of reasoning explaining well how s/he is arriving at her or his main conclusions?*

Point of View: *Does the writer show a sensitivity to alternative relevant points of*

view or lines of reasoning? Does s/he consider and respond to objections framed from other relevant points of view?

Implications: *Does the writer show a sensitivity to the implications and consequences of the position s/he is taking?*

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QUESTIONS: TYPES

TYPE 3
BETTER AND WORSE ANSWERS: Requires evidence, reasoning, and judgment.

TYPE 2
A SUBJECTIVE OPINION: A subjective perception.

TYPE 1
A CORRECT ANSWER: Requires evidence and reasoning within a system.