

# The Miniature Guide to Critical Thinking: Concepts and Tools

LAF Leaders Meeting

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# LAF Leaders are critical thinkers

- Naturally much of our thinking is biased, distorted, partial, uninformed or downright prejudiced.
- As LAF Leaders, we must transcend this norm.
- There is a direct correlation between quality of life and quality of thought.
- Excellence in thought must be systematically cultivated.



# What is critical thinking?

- Self-directed
- Self-disciplined
- Self-monitored
- Self-corrective
- Systematic
- Definition: the art of analyzing and evaluating thinking with a view to improving it.

# What does critical thinking require?

- Rigorous standards of excellence
- Mindful command of use
- Effective communication
- Problem solving abilities
- Commitment to overcoming our native egocentrism and sociocentrism

Quite simply, critical thinking takes:

**voluntary will!**

# 8 Elements of Thought

1. Purpose
2. Question at Issue
3. Assumptions
4. Point of View
5. Information
6. Concepts
7. Interpretation and Inference
8. Implications and Consequences

# Purpose

- a.k.a. goals, objectives
- Checklist for Reasoning
  - Can you state the purpose clearly?
  - What is the objective of your reasoning?
  - Does your reasoning focus throughout on your goal?
  - Is your goal realistic?

# Question at Issue

- a.k.a. problem, issue
- Checklist for Reasoning
  - What question am I trying to answer?
  - Are there other ways to think about the question?
  - Can you divide the question into sub-questions?
  - Is this a question that has one right answer or can there be more than one reasonable answer?
  - Does this question require judgment rather than facts alone?

# Assumptions

- a.k.a presuppositions, axioms, taking for granted
- Checklist for Reasoning
  - What assumptions are you making? Are they justified?
  - How are your assumptions shaping your point of view?
  - Which of your assumptions might reasonably be questioned?

# Point of View

- a.k.a. frames of reference, perspectives, orientations
- Checklist for Reasoning
  - What is my point of view? What insights is it based on? What are its weaknesses?
  - What other points of view should be considered in reasoning through this problem? What are the strengths and weaknesses of these viewpoints? Are you fair-mindedly the insights behind these viewpoints?

# Information

- a.k.a. data, facts, reasons, observations, experiences, evidence
- Checklist for Reasoning
  - To what extent is your reasoning supported by relevant data?
  - Do the data suggest explanations that differ from those you have given?
  - How clear, accurate, and relevant are the data to the question at issue?
  - Have you gathered data sufficient to reaching a reasonable conclusion?

# Concepts

- a.k.a theories, definitions, laws, principles, models
- Checklist for Reasoning
  - What key concepts and theories are guiding your reasoning?
  - What alternative explanations might be possible, given these concepts and theories?
  - Are you clear and precise in using concepts and theories in your reasoning?
  - Are you distorting ideas to fit your agenda?

# Interpretation and Inference

- a.k.a conclusions, solutions
- Checklist for Reasoning
  - To what extent do the data support your conclusions?
  - Are your inferences consistent with each other?
  - Are there other reasonable inferences that should be considered?

# Implications and Consequences


- Checklist for Reasoning
  - What implications and consequences follow from your reasoning?
  - If we accept your line of reasoning, what implications or consequences are likely?

# 9 Universal Intellectual Standards

1. Clarity
2. Accuracy
3. Precision
4. Relevance
5. Depth
6. Breadth
7. Significance
8. Logicalness
9. Fairness

# Clarity

- The gateway standard
- Could you elaborate further on that point, or could you express that point in another way?
- Could you give me an example?
- Could you give me an illustration?
- i.e. What can be done about the education system in U.S.?

*Clarification Process*

What can educators do to ensure that students learn the skills and abilities which help them function successfully on the job and in their daily decision making?

# SEE-I Method

- To clarify concepts!
  1. State
    - What is it that I know?
    - i.e. Education is an organized, directed, hierarchical system of teaching and learning
  2. Elaborate
    - Expand on what I just stated.
    - i.e. Education is often a compulsory practice that occurs away from the home and in school.
  3. Exemplify
    - Give a real example
    - i.e. The University of Louisville is a place where education occurs.
  4. Illustrate
    - Draw a picture that is a graphic representation of the concept.
    - i.e. see board

# Accuracy

- Is that really true?
- How could we check that?
- How could we find out if that is true?
- i.e. Most dogs weigh more than 300 pounds.

# Precision

- Could you give me more details?
- Could you be more specific?
- i.e. Jack is overweight.
  - We don't know how overweight Jack is.

# Relevance

- How is that connected to the question?
- How does that bear on the issue?
- i.e. The following comment is made: “Being an electrical engineer is better than being a history major because it is actually useful.”
  - What does this have anything to do with academics as prayer?
    - I’ll give you a hint: NOTHING! Therefore, it is irrelevant.

# Depth

- How does your answer address the complexities in the question?
- How are you taking into account the problems in the question?
- i.e. The statement “just say no” was used for many years to dissuade teens from using drugs.
  - The problem is that it does not deal with the complexities of this issue.

# 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...?
- i.e. Many times our views are clear, accurate, precise, relevant, and deep, but lack breadth because they only recognize the insights of one side.

# Significance

- Is this the most important problem to consider?
- Is this the central idea to focus on?
- Which of these facts are most important?
- i.e. Janet tells a story of her experience related to a LAF topic. Should I ask her personal details that I am interested to know, or should I ask another question to the group? Which question would be more important for the benefit of the whole?

# Logicalness

- Does this really make sense?
- Does that follow from what you said?
- How does that follow?
- Before you implied this and now you are saying that, I don't see how both can be true.
- i.e. You tell me you do not drink soft drinks because you will instantly die upon a drop touching your tongue. Then, at Damon's for dinner one evening, you drink a nice cold Mountain Dew...and you do not die. Is what you told me before logical?

# 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?
- i.e. Are we putting ourselves and what we believe above the group and the diversity it represents?

# Barnes Method of Critical Thinking

- Apply each standard to each element of thought
- Result: we move from 8 unrefined questions through a filter (intellectual standards) to 8 highly refined questions.

## Three Levels of Thought

<b>Level 3: Highest Order</b>	Explicitly reflective	Highest skill level	Routine use of critical thinking tools in analyzing and assessing thinking	Consistently fair
<b>Level 2: Higher Order</b>	Selectively reflective	High skill level	Lacks critical thinking vocabulary	Inconsistently fair, may be skilled in sophistry
<b>Level 1: Lower Order</b>	Unreflective	Low to mixed skill level	Frequently relies on gut intuition	Largely self-serving/self-deceived

# Intellectual Traits or Virtues

- Results of being a high-order thinker
  1. Intellectual humility
  2. Intellectual courage
  3. Intellectual empathy
  4. Intellectual autonomy
  5. Intellectual integrity
  6. Intellectual perseverance
  7. Confidence in reason
  8. Fair-mindedness

### 3 Kinds of Questions

<b>One System</b>	Requires evidence and reasoning within a system	A correct answer	Knowledge	Is it a question with one answer?
<b>No System</b>	Calls for stating a subjective preference	A subjective opinion	Cannot be assessed	Is it a question that calls for a subjective choice?
<b>Multi-System</b>	Requires evidence and reasoning within multiple systems	Better or worse answers	Judgment	Is it a question that requires consideration of competing points of view?

# Discovery

- Dis- + -cover
  - We are not creating or inventing something.
  - We are finding what already has existence in the cosmos by going deeper.
- Discovery is a very common outcome at LAF meetings.

# Egocentrism

- Egocentrism results from the unfortunate fact that humans do not naturally consider the rights and needs of others.
- As humans, we live with the unrealistic but confident sense that we have fundamentally figured out the way things actually are, and that we have done this objectively.
- We naturally believe in our intuitive perceptions—however inaccurate they may be in reality.

# Sociocentrism

- Sociocentrism is the uncritical tendency to place one's culture, nation, religion above all others.
- It is, furthermore, the tendency to blindly conform to group restrictions (many of which are arbitrary or coercive).

# Results of Egocentrism and Sociocentrism

- It's true because I believe it. (innate egocentrism)
- It's true because we believe it. (innate sociocentrism)
- It's true because I want to believe it. (innate wish fulfillment)
- It's true because I have always believed it. (innate self-validation)
- It's true because it is in my selfish interest to believe it. (innate selfishness)
  
- People sharing in LAF sometimes make statements from these frames.
- Do not correct them out of respect for their views.
- Do not tolerate this frame as a basis for harming the view of another.
- LAF Leaders must avoid making these statements as often as possible!

# Critical LAF Leaders

- When we consider our beliefs, we should be:
  - Slow to believe
  - Hold things as possible or probable without certainty and without pain
  - Wait for evidence
  - Weigh evidence
  - Humans have the capacity to be rational and fair.
    - This capacity must be developed.
- This yields us having strong faiths and clearer understanding of the way of the world.

# Works Cited

Paul, Dr. Richard and Dr. Linda Elder. A Miniature Guide to Critical Thinking: Concepts and Tools. 6<sup>th</sup> ed. Foundation for Critical Thinking, 2009.

This PowerPoint was formulated by Alex L. Riedinger on Tuesday, February 23, 2010, and combines his original material as well as material from Paul and Elder's "Miniature Guide to Critical Thinking" and PHIL 222 course lectures from Prof. Brian Barnes.