RICHARD PAUL AND LINDA ELDER

EIGHTH EDITION

THE MINIATURE GUIDE TO CRITICAL THINKING

Concepts and Tools

FOUNDATION FOR CRITICAL THINKING

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The Miniature Guide to

RITICAL
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EIGHTH EDITION

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Introduction

This small but powerful book contains core critical thinking concepts and principles distilled into compact size. These principles are universally applicable to human reasoning in every legitimate academic field, discipline, and profession. They give rise to the skills, abilities, and characteristics of those who think critically; they illuminate innate barriers to criticality.

Throughout human history, the concept of critical thinking has been treated, on the whole, superficially. Within academic disciplines, critical reasoning is still largely misunderstood or ignored. Yet the only way to understand any subject is to reason through problems and issues within that subject using one's own reasoning. When you develop skill in reasoning your way through questions within an academic discipline and begin formulating questions of your own, you are learning to think like a scholar.

Critical thinkers routinely clarify their purposes and the questions at issue in a given situation or context. They question information, conclusions, and points of view. They strive to be clear, accurate, precise, and relevant. They do not distort information or use false information in arguing for their position. They act in good faith in relation to others and in representing others' views. They look beneath the surface; they are logical and reasonable. They apply critical reasoning skills to their reading and writing, as well as to their speaking and listening. They apply these skills in history, science, math, philosophy, the arts, and professional and personal life.

Developing as a critical thinker entails explicitly focusing on the naturally occurring processes in your reasoning and learning to intervene in your poor-quality reasoning. It means developing a keen interest in how your mind moves cognitively from one idea to another, in what causes these particular moves to occur rather than others, and in how to intervene in the process when flaws are uncovered in any of your thinking. Put another way, critical thinkers have an abiding interest in the problematic aspects of their own thinking, and they seek out these problem areas, target them, and change something about their thinking in order to reason more rationally, logically, and justifiably. Embracing critical thinking means learning to take command of the thoughts that control you, thereby experiencing a happier, more satisfied inner sense of self.

This newest edition of *The Miniature Guide to Critical Thinking Concepts and Tools* contains all the original work from our previous version and continues to unpack and contextualize the theoretical work found in the original guide—focusing fundamentally on the elements of reasoning, universal intellectual standards, and intellectual virtues or character traits. This book offers additional critical thinking theory and strategies for improving reasoning within the various parts of human life and human study, which will help readers better internalize the basic tools of critical thinking and apply them within subjects and fields. More material has been included in this book on the barriers to critical thinking to help the reader come to terms with the power of these barriers to impede critical thought. We place these impediments under the broad categories of egocentric and sociocentric thought, which account for such common phenomena as closemindedness, self-deception, rationalization, intellectual arrogance, hypocrisy, greed, selfishness, herd mentality, prejudice, and many other pathological ways in which people think, feel, and act. Finally, we end with an elaboration on our conception of critical societies and what would be widely or universally valued in human life, were critical thinking ever to become a far-reaching reality.

This book opens up many avenues for improving personal and professional decisions through critical thinking. For students, it is a critical thinking supplement to any textbook for any course, as it lays foundations for reasoning through all subjects, disciplines, and professions. For faculty, it provides a shared concept of critical thinking. Faculty can use this book to design instruction, assignments, and assessment methods in any subject. When this guide is used as a supplement to the textbook in multiple courses, students begin to perceive the usefulness of critical thinking in every domain of learning. If their instructors provide examples of the application of the subject to daily life, students begin to properly perceive education as a tool for improving the quality of their lives.

If you are a student using this guide, consult it frequently in analyzing and synthesizing what you are learning. Aim for deep internalization of the principles you find in it—until using them becomes second nature. If successful, this guide will serve faculty, students, and the public simultaneously.

Why Critical Thinking?

The Problem:

Everyone thinks; it is our nature to do so. But much of our thinking, left to itself, is biased, distorted, partial, uninformed, or downright prejudiced. Yet the quality of our life and that of what we produce, make, or build depends precisely on the quality of our thought. Shoddy thinking is costly, both in money and in quality of life. Excellence in thought, however, must be systematically cultivated.

A Definition:

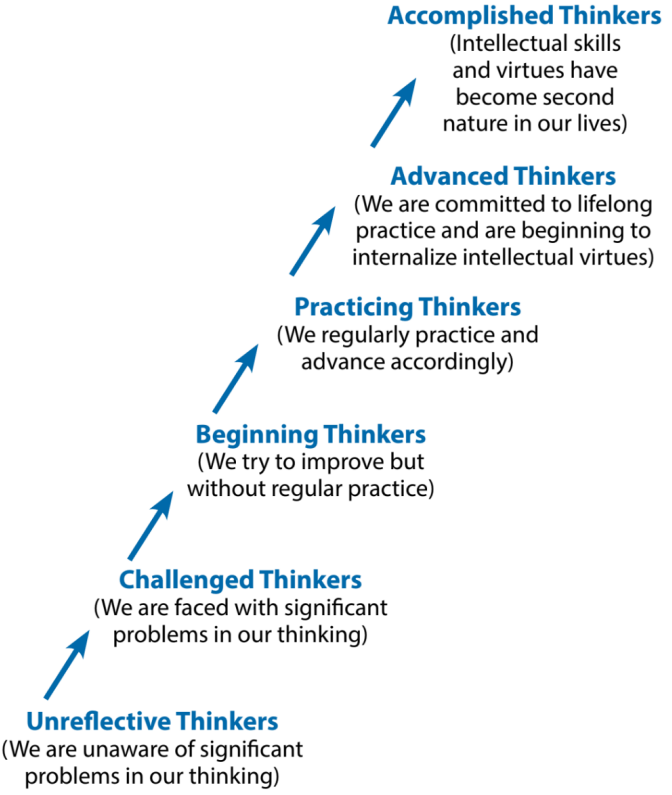
Critical thinking is the art of analyzing and evaluating thought processes with a view to improving them. Critical thinking is self-directed, self-disciplined, self-monitored, and self-corrective thinking. It requires rigorous standards of excellence and mindful command of their use. It entails effective communication and problem solving abilities, as well as a commitment to overcoming our native egocentrism and sociocentrism. It advances the character and ethical sensitivities of the dedicated person through the explicit cultivation of intellectual virtues.

The Result:

A well-cultivated critical thinker:

- 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 openmindedly 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; and
- is scrupulously careful not to misrepresent or distort information in developing an argument or position, and sees through false information and fake news.

Stages of Critical Thinking Development



A Substantive Approach to Critical Thinking

A useful concept of critical thinking includes the disciplined analysis and assessment of reasoning as one cultivates intellectual virtues. This process entails concern for two primary barriers to criticality—egocentric and sociocentric thinking—which are prevalent and widespread in human thought and life.

The Elements of Thought

Eight Elements Define All Reasoning

Eight basic structures are present in all thinking: Whenever we think, we think for a purpose within a point of view based on assumptions that lead to implications and consequences. We use concepts, ideas, and theories to interpret data, facts, and experiences in order to answer questions, solve problems, and resolve issues.

Thinking, then:

- **generates purposes**
- **raises questions**
- **uses information**
- **utilizes concepts**
- **makes inferences**
- **makes assumptions**
- **generates implications**
- **embodies a point of view**

Critical thinkers use the elements of reasoning with sensitivity to universal intellectual criteria, or standards, such as clarity, precision, accuracy, relevance, significance, depth, breadth, logicalness, sufficiency, and fairness.

Questions Using the Elements of Thought

Remember that the elements of reasoning are embedded in all reasoning, both your own and that of others. Use these questions to open up and deconstruct reasoning when writing a paper or reading something for class or of significance to you personally.

Purpose:	**What am I trying to accomplish?** **What is my central aim? My purpose?**
Questions:	**What question am I raising?** **What questions should we be addressing?** **Am I considering the complexities in the question?**
Information:	**What information am I using in coming to this conclusion?** **What information do I need to settle the question?** **How do I know the information is true?**
Inferences/ Conclusions:	**How did I reach this conclusion?** **Is there another way to interpret the 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 this conclusion?**
Implications/ Consequences:	**If someone accepted my position, what would be some of the important implications? In other words, what might follow?** **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?**

A Checklist for Reasoning

1) All reasoning has a PURPOSE.

- Can you state your purpose clearly?
- What is the objective of your reasoning?
- Does your reasoning stay focused throughout on your goal?
- Is your purpose fair in context, considering all relevant persons or other species?
- Is your goal realistic?

2) All reasoning is an attempt to figure something out, to settle some QUESTION, or to solve some PROBLEM.

- What main question are you trying to answer?
- Are there other ways to think about the question?
- Can you divide the question into sub-questions?
- What questions would you need to ask and answer before you could answer the main question?
- 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?

3) All reasoning is based on ASSUMPTIONS.

- 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?

4) All reasoning is done from some POINT OF VIEW.

- What is your 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 fairmindedly considering the insights behind these viewpoints?

5) All reasoning is based on DATA, INFORMATION, and EVIDENCE.

- To what extent is your reasoning supported by relevant data?
- How can you make sure your reasoning is based on information that is accurate or true?
- How do you know you are not distorting information to fit your selfish or vested interests?
- 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 sufficient data to reach a reasonable conclusion?

6) All reasoning is expressed through, and shaped by, CONCEPTS and THEORIES.

- What key ideas and theories are guiding your reasoning?
- What alternative explanations might be possible, given these concepts and theories?
- Do you deliberately take command of the ideas that guide your reasoning and control the quality of your life?
- Are you distorting ideas to fit your agenda?

7) All reasoning contains INFERENCES or INTERPRETATIONS by which we draw CONCLUSIONS and give meaning to data.

- 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?
- Are you able to consider alternative possibilities when coming to conclusions, or do you lock yourself into one way of interpreting situations?

8) All reasoning leads somewhere and has IMPLICATIONS and CONSEQUENCES.

- What implications and consequences follow from your reasoning?
- If we accept your line of reasoning, what implications or consequences are likely?
- If you decide to do X, what might immediately follow from your decision? What might follow from acting upon that decision in the long run as the implications and consequences spiral out?

The Figuring Mind