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思想者指南系列丛书

CRITICAL THINKING CONCEPTS AND TOOLS

7TH EDITION

（第7版）

批判性思维概念与方法手册

（美）Richard Paul （美）Linda Elder 著

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序　言

思辨能力或者批判性思维由两个维度组成，在情感态度层面包括勤学好问、相信理性、尊重事实、谨慎判断、公正评价、敏于探究、持之以恒地追求真理等一系列思维品质或心理倾向；在认知层面包括对证据、概念、方法、标准、背景等要素进行阐述、分析、评价、推理与解释的一系列技能。

思辨能力的重要性应该是不言而喻的。两千多年前的中国古代典籍《礼记·中庸》曰："博学之，审问之，慎思之，明辨之，笃行之。"古希腊哲人苏格拉底说："未经审视的人生不值得一过。"可以说，文明的诞生正是人类自觉运用思辨能力，不断适应并改造自然环境的结果。如果说游牧时代、农业时代以及现代早期，人类思辨能力虽然并不完善，也远未普及，但通过科学技术以及人文知识的不断积累创新，推动人类文明阔步前进，已经显示出不可抑制的巨大能量，那么，进入信息时代、知识经济时代和全球化时代，思辨能力对于人类文明整体可持续发展以及对于每一个体的生存和发展，其重要性将史无前例地彰显。

我们已进入一个加速变化、普遍联系和日益复杂的时代。随着交通技术和信息技术日新月异的发展，不同国家和文化空前紧密地联系在一起。这在促进合作的同时，导致了更多的冲突；人类所掌握的技术力量与日俱增，在不断提高物质生活质量的同时，也极大地破坏了我们赖以生存的自然环境；工业化、城市化和信息化的不断延伸，全方位扩大了人的自由空间，同时却削弱了维系社会秩序和稳定的价值体系与行为准则。这一切变化对人类的思辨能力和应变能力都提出了前所未有的要求。正如本套丛书作者理查德·保罗（Richard Paul）和琳达·埃尔德（Linda Elder）所创办的思辨研究中

心的“使命”所指出的，“我们身处其中的这个世界要求我们不断重新学习，习惯性重新思考我们的决定，周期性重新评价我们的工作和生活方式。简言之，我们面临一个全新的世界，在这个新世界，大脑掌控自己并经常进行自我分析的能力将日益决定我们工作的质量、生活的质量乃至我们的生存本身。”

遗憾的是，面临时代巨变对人类思辨能力提出的新挑战，我们的教育和社会都尚未做好充分准备。从小学到大学，在很大程度上我们的教育依然围绕知识的搬运而展开，学校周而复始的考试不断强化学生对标准答案的追求而不是对问题复杂性和探索过程的关注，全社会也尚未形成鼓励独立思辨与开拓创新的氛围。

我们知道，人类大脑并不具备天然遗传的思辨能力。事实上，在自然状态下，人们往往倾向于以自我为中心或随波逐流，容易被偏见左右，固守陈见，急于判断，为利益或情感所左右。因此，思辨能力需要通过后天的学习和训练得以提高，思辨能力培养也因此应该成为教育的不懈使命。

哈佛大学以培养学生“乐于发现和思辨”为根本追求；剑桥大学也把“鼓励怀疑精神”奉为宗旨。美国学者彼得·法乔恩（Peter Facione）一言以蔽之：“教育，不折不扣，就是学会思考。”

和任何其他技能的学习一样，学会思考也是有规律可循的。首先，学习者应该了解思辨的基本特点和理论框架。根据理查德·保罗和琳达·埃尔德的研究，所有的推理都有一个目的，都试图澄清或解决问题，都基于假设，都从某一视角展开，都基于数据、信息和证据，都通过概念和观念进行表达，都通过推理或阐释得出结论并对数据赋予意义，都会产生影响或后果。分析一个推理或论述的质量或有效性，意味着按照思辨的标准进行检验，这个标准由10个维度构成：清晰性、准确性、精确性、相关性、深刻性、宽广性、逻辑性、完整性、重要性、公正性。一个拥有思辨能力的人具备八

大品质，包括：诚实、谦虚、相信理性、坚忍不拔、公正、勇气、同理心、独立思考。

其次，学习者应该掌握具体的思辨方法。如：如何阐释和理解文本信息与观点？如何解析文本结构？如何评价论述的有效性？如何把已有理论和方法运用于新的场景？如何收集和鉴别信息和证据？如何论证说理？如何识别逻辑谬误？如何提问？如何对自己的思维进行反思和矫正？等等等等。

最后，思辨能力的提高必须经过系统的训练。思辨能力的发展是一个从低级思维向高级思维发展的过程，必须运用思辨的标准一以贯之地训练思辨的各要素，在各门课程的学习中练习思辨，在实际工作中使用思辨，在日常生活中体验思辨，最终使良好的思维习惯成为第二本能。

“思想者指南系列丛书”旨在为教师教授思辨方法、学生学习思辨技能和社会大众提高思辨能力提供最为简明和最为实用的操作指南。该套丛书直接从西方最具影响力的思辨能力研究和培训机构（The Foundation for Critical Thinking）原版引进，共21册，包括“基础篇”：《批判性思维术语手册》、《批判性思维概念与方法手册》、《大脑的奥秘》、《批判性思维与创造性思维》、《什么是批判性思维》、《什么是分析性思维》；“大众篇”：《识别逻辑谬误》、《思维的标准》、《如何提问》、《像苏格拉底一样提问》、《什么是伦理推理》、《什么是工科推理》、《什么是科学思维》；“教学篇”：《透视教育时尚》、《思辨能力评价标准》、《思辨阅读与写作测评》、《如何促进主动学习与合作学习》、《如何提升学生的学习能力》、《如何通过思辨学好一门学科》、《如何进行思辨性阅读》、《如何进行思辨性写作》。

由理查德·保罗和琳达·埃尔德两位思辨能力研究领域的全球顶级大师领衔研发的“思想者指南系列丛书”，享誉北美乃至全球，销售数百万册，被美国中小学、高等学校乃至公司和政府部门普遍用于

教学、培训和人才选拔。该套丛书具有如下特点：其一，语言简洁明快，具有一般英文水平的读者都能阅读；其二，内容生动易懂，运用大量的具体例子解释思辨的理论和方法；其三，针对性和操作性极强，教师可以从“教学篇”子系列中获取指导教学改革的思辨教学策略与方法，学生也可从“教学篇”子系列中找到提高不同学科学习能力的思辨技巧；一般社会人士可以通过“大众篇”子系列掌握思辨的通用技巧，提高在社会场景中分析问题和解决问题的能力；各类读者都可以通过“基础篇”子系列掌握思维的基本规律和思辨的基本理论。

总之，思辨能力的高下将决定一个人学业的优劣、事业的成败乃至一个民族的兴衰。在此意义上，我向全国中小学教师、高等学校教师和学生以及社会大众郑重推荐“思想者指南系列丛书”。相信该套丛书的普及阅读和学习运用，必将有利于促进教育改革，提高人才培养质量，提升大众思辨能力，为创新型国家建设和社会文明进步作出深远的贡献。

孙有中

2016年春于北京外国语大学

Why a Critical Thinking Mini-Guide?

This miniature guide focuses on the essence of critical thinking concepts and tools distilled into pocket size. For faculty it provides a shared concept of critical thinking. For students it is a critical thinking supplement to any textbook for any course. Faculty can use it to design instruction, assignments, and tests in any subject. Students can use it to improve their learning in any content area.

Its generic skills apply to all subjects. For example, critical thinkers are clear as to the purpose at hand and the question at issue. They question information, conclusions, and points of view. They strive to be clear, accurate, precise, and relevant. They seek to think beneath the surface, to be logical, and fair. They apply these skills to their reading and writing as well as to their speaking and listening. They apply them in history, science, math, philosophy, and the arts; in professional and personal life.

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. And if their instructors provide examples of the application of the subject to daily life, students begin to see that education is a tool for improving the quality of their lives.

If you are a student using this mini-guide, get in the habit of carrying it with you to every class. 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 educational program simultaneously.

Richard Paul
Center for Critical Thinking

Linda Elder
Foundation for Critical Thinking

Contents

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 thinking with a view to improving it.

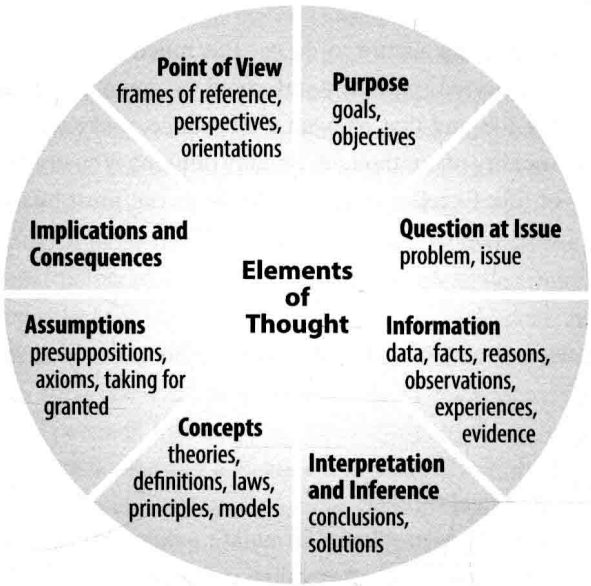
The Result:

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 open-mindedly within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications, and practical consequences; and
- communicates effectively with others in figuring out solutions to complex problems.

Critical thinking is, in short, 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 and a commitment to overcoming our native egocentrism and sociocentrism.

The Elements of Thought



Used with Sensitivity to Universal Intellectual Standards

Clarity → Accuracy → Depth → Breadth → Significance

Precision

Relevance

↓

Fairness

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 focus throughout on your goal?
- Is your goal realistic?

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

- What question are you 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 judgement 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 fair-mindedly 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?
- 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 reach a reasonable conclusion?

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

- 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?

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?

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

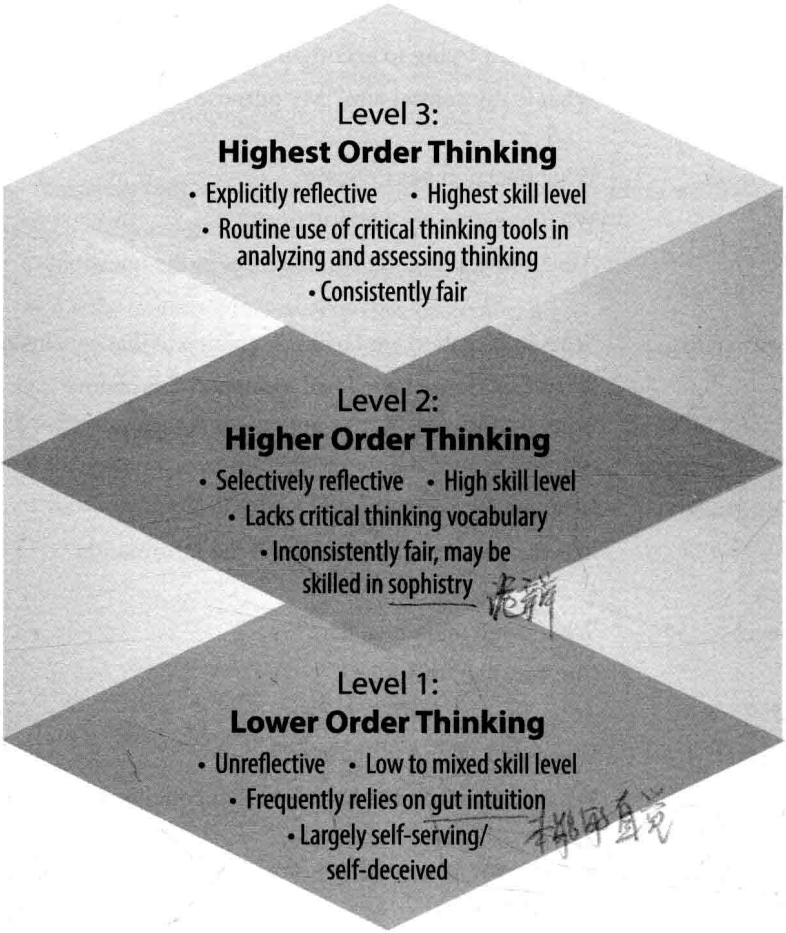
- What implications and consequences follow from your reasoning?
- If we accept your line of reasoning, what implications or consequences are likely?

Questions Using the Elements of Thought

(in a paper, an activity, a reading assignment...)

Purposes:	What am I trying to accomplish? What is my central aim? My purpose?
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 the question?
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 that conclusion?
Implications/ Consequences:	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?

Three Levels of Thought



Lower order thinking is often distinguished from higher order thinking. But higher order thinking can be inconsistent in quality. It can be fair or unfair. To think at the highest level of quality, we need not only intellectual skills, but intellectual traits as well.

Universal Intellectual Standards:

And questions that can be used to apply them

Universal intellectual standards are standards which should be applied to thinking to ensure its quality. To be learned they must be taught explicitly. The ultimate goal, then, is for these standards to become infused in the thinking of students, forming part of their inner voice, guiding them to reason better.

Clarity:

Could you elaborate further on that point? Could you express that point in another way? Could you give me an illustration? Could you give me an example?

Clarity is a gateway standard. If a statement is unclear, we cannot determine whether it is accurate or relevant. In fact, we cannot tell anything about it because we don't yet know what it is saying. For example, the question "What can be done about the education system in America?" is unclear. In order to adequately address the question, we would need to have a clearer understanding of what the person asking the question is considering the "problem" to be. A clearer question might be "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?"

Accuracy:

Is that really true? How could we check that? How could we find out if that is true?

A statement can be clear but not accurate, as in "Most dogs weigh more than 300 pounds."

Precision:

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

A statement can be both clear and accurate, but not precise, as in "Jack is overweight." (We don't know how overweight Jack is, one pound or 500 pounds.)

Relevance:

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

A statement can be clear, accurate, and precise, but not relevant to the

question at issue. For example, students often think that the amount of effort they put into a course should be used in raising their grade in a course. Often, however, "effort" does not measure the quality of student learning, and when that is so, effort is irrelevant to their appropriate grade.

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?

A statement can be clear, accurate, precise, and relevant, but superficial (that is, lack depth). For example, the statement "Just Say No," which was used for a number of years to discourage children and teens from using drugs, is clear, accurate, precise, and relevant. Nevertheless, those who use this approach treat a highly complex issue, the pervasive problem of drug use among young people, superficially. It fails to deal with the complexities of the 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...?

A line of reasoning may be clear, accurate, precise, relevant, and deep, but lack breadth (as in an argument from either the conservative or liberal standpoints which gets deeply into an issue, but only recognizes the insights of one side of the question).

Logic:

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.

When we think, we bring a variety of thoughts together into some order. When the combination of thoughts is mutually supporting and makes sense in combination, the thinking is "logical." When the combination is not mutually supporting, is contradictory in some sense, or does not "make sense," the combination is "not logical."