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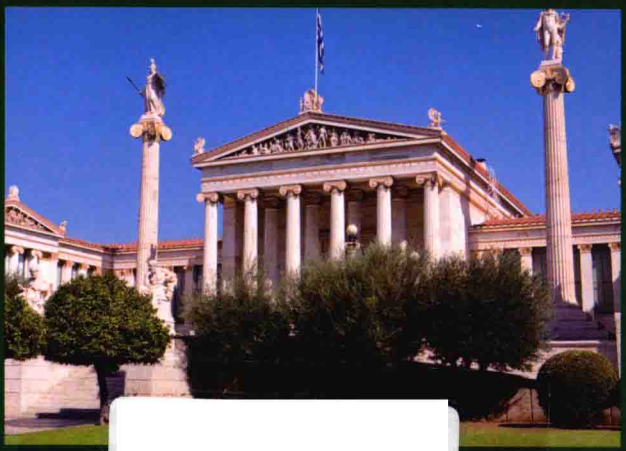
CRITICAL THINKING COMPETENCY STANDARDS



思辨能力评价标准

（美）Richard Paul （美）Linda Elder 著

外语教学与研究出版社
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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

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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

Letter to the Reader

Much lip service is given to the notion that students are learning to think critically. A cursory examination of critical thinking competency standards (enumerated and elaborated in this guide) should persuade any reasonable person familiar with schooling today that they are not. On the other hand, a reasonable person might also conclude that no teacher in any single subject could teach all of these standards. We agree.

The critical thinking competency standards articulated in this guide serve as a resource for teachers, curriculum designers, administrators and accrediting bodies. The use of these competencies across the curriculum will ensure that critical thinking is fostered in the teaching of any subject to all students at every grade level. We can expect large groups of students to achieve these competencies only when most teachers within a particular institution are fostering critical thinking standards in their subject(s) at their grade level. We cannot expect students to learn critical thinking at any substantive level through one or a few semesters of instruction.

Viewed as a process covering twelve to sixteen years and beyond, and contributed to by all instruction, both at the K-12 as well as the college and university level, all of the competencies we articulate, and more, can be achieved by students. We recommend therefore that those responsible for instruction identify which competencies will be fostered at what grade level in what subjects for what students. The most important competencies must be reinforced within most instruction. Some competencies might well be taught in a more restricted way.

We believe any well-educated student or citizen needs the abilities and dispositions fostered through these competencies. We also believe that any reasonable person who closely studies these competencies will agree.

To transform classrooms into communities of thinkers, we need to take a long-term view. We need to reflect widely and broadly. We need to be systematic, committed, and visionary. The task is challenging indeed. But it is a challenge we ignore at the risk of the well-being of our students and that of our society.

Linda Elder
Foundation for Critical Thinking

Richard Paul
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Critical Thinking Competency Standards: Guide for Educators

Education is not the filling of a pail. It is the lighting of a fire.
—William Butler Yeats, English Poet

Critical Thinking Competency Standards provides a framework for assessing students' critical thinking abilities. It enables administrators, teachers and faculty at all levels (from elementary through higher education) to determine the extent to which students are reasoning critically within any subject or discipline. These standards include outcome measures useful for teacher assessment, self-assessment, as well as accreditation documentation. These competencies not only provide a continuum of student expectations, but can be contextualized for any academic subject or domain and for any grade level. In short, these standards include indicators for identifying the extent to which students are using critical thinking as the primary tool for learning.

By internalizing the competencies, students will become more self-directed, self-disciplined, self-monitored thinkers. They will develop their ability to:

- raise vital questions and problems (formulating them clearly and precisely);
- gather and assess relevant information (using abstract ideas to interpret it effectively and fairly);
- come to well-reasoned conclusions and solutions (testing them against relevant criteria and standards);
- think open-mindedly within alternative systems of thought (recognizing and assessing, as need be, their assumptions, implications, and practical consequences); and
- communicate effectively with others in figuring out solutions to complex problems.

Students who internalize these competency standards will come to see that critical thinking entails effective communication and problem solving skills, as well as a commitment to overcoming one's native egocentric and sociocentric tendencies.

All students (beyond the elementary level) are expected to demonstrate all of the critical thinking competencies included in this battery of demonstrable

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skills, but not at the same level of proficiency, or in the same subjects or at the same speed. These competencies signal important habits of thought that manifest themselves in every dimension and modality of learning: for example, in student reading, writing, speaking, and listening, as well as in professional and personal activities. It is up to the teacher or institution to contextualize and sequence the competencies, for different disciplines, and at differing levels.

The Structure of This Guide

Before detailing the competencies, we begin with a brief overview of critical thinking. We focus specifically on the seminal role that critical thinking should, and eventually must play in education, if we are ever to foster the skills of mind necessary for functioning effectively in an increasingly complex world.

After a brief discussion of critical thinking and its relationship to education, we outline and detail the competencies, relate them to seminal critical thinking concepts, and then provide rubrics for scoring. In the appendix we provide a brief overview of the theory underlying the competencies.

It is important to note that, only when teachers understand the foundations of critical thinking can they effectively teach for it. This fact should become clearer as you work through the competencies.

Throughout the guide (including the appendix), we recommend readings, readings that lay the groundwork for understanding and fostering the competencies. Before attempting to foster any particular competency, or set of competencies, we recommend that teachers spend time internalizing the related critical thinking concepts we reference for each competency.

The simple truth is that teachers are able to foster critical thinking only to the extent that they themselves think critically. This may be the single most significant barrier to student achievement of critical thinking competencies. For teachers to aid students in becoming deep thinkers, they must themselves think deeply. For teachers to aid students in developing intellectual humility, they must themselves have developed intellectual humility. For teachers to foster a reasonable, rational multi-logical worldview, they must themselves have developed such a worldview. In short, teaching for critical thinking presupposes a clear conception of critical thinking in the mind of the teacher.

Unfortunately, we cannot assume that teachers have a clear concept of critical thinking. Indeed, research indicates that the opposite is true. Available

evidence suggests that critical thinking is rarely fostered in a systematic way in academic programs at any level. The institutions most effectively able to use critical thinking competencies are those guided by leaders who themselves understand critical thinking, and who support an effective long-term staff development program in critical thinking.

Understanding the Intimate Relationship Between Critical Thinking, Learning, and Education

Let us begin by focusing some attention on the intimate relationships between critical thinking, learning and education. Only when teachers understand these relationships will they see the importance of placing critical thinking at the heart of instruction.

The Concept of Critical Thinking[1]

The concept of critical thinking can be expressed in a variety of definitions, depending on one's purpose (though, as with every concept, its essence is always the same). The definition most useful in assessing critical thinking abilities is as follows:

> Critical thinking is the process of analyzing and assessing thinking with a view to improving it. Critical thinking presupposes knowledge of the most basic structures in thinking (the elements of thought) and the most basic intellectual standards for thinking (universal intellectual standards). The key to the creative side of critical thinking (the actual improving of thought) is in restructuring thinking as a result of analyzing and effectively assessing it.

As teachers foster critical thinking skills, it is important that they do so with the ultimate purpose of fostering traits of mind. Intellectual traits or dispositions distinguish a skilled but sophistic thinker from a skilled fair-minded thinker. Fairminded critical thinkers are intellectually humble and intellectually empathic. They have confidence in reason and intellectual integrity. They display intellectual courage and intellectual autonomy.

It is possible to develop some critical thinking skills within one or more content areas without developing critical thinking skills in general. The best teaching approach fosters both, so that students learn to reason well across a wide range of subjects and domains.

[1] For an overview of the concept of critical thinking, see *Critical Thinking Concepts and Tools (7th edition)* in this set.

The "What" and the "How" of Education

The "what" of education is the content we want students to acquire, everything we want students to learn. The "how" of education is the process, everything we do to help students acquire the content in a deep and meaningful way.

Most teachers assume that if they expose students to the "what," students will automatically use the proper "how." This common, yet false, assumption is, and has been for many years, a plague on education. By focusing on "content coverage," rather than on learning how to learn, schooling has failed to teach students how to take command of their learning, how to bring ideas into the mind using the mind, how to interrelate ideas within and among disciplines. Most teachers devise instructional methods based on the following assumptions:

1. Lecture content can be absorbed with minimal intellectual engagement on the part of students.
2. Students can learn important content without much intellectual work.
3. Memorization is the key to learning, so that students need to store up lots of information (that they can use later when they need it).

Critical Thinking Is the "How" for Obtaining Every Educational "What"

As we have already mentioned, a significant barrier to the development of student thinking is the fact that few teachers understand the concept or importance of intellect engagement in learning. Having been taught by instructors who primarily lectured, many teachers teach as if ideas and thoughts could be poured into the mind without the mind having to do intellectual work to acquire them.

To enable students to become effective learners, teachers must learn what intellectual work looks like, how the mind functions when it is intellectually engaged, what it means to take ideas seriously, to take ownership of ideas.[2]

To do this, teachers must understand the essential role of thinking in the acquisition of knowledge. Pestalozzi puts it this way:

> Thinking leads man to knowledge. He may see and hear and read and learn whatever he pleases, and as much as he pleases; he will never know

[2] For instructional strategies designed to foster critical thinking see *How to Improve Student Learning: 30 Practical Ideas* in this set. See also *Active and Cooperative Learning* in this set.

anything of it, except that which he has thought over, that which by thinking he has made the property of his own mind.

John Henry Newman,[3] more than 150 years ago, described this process as follows:

> [The process] consists, not merely in the passive reception into the mind of a number of ideas hitherto unknown to it, but in the mind's energetic and simultaneous action upon and towards and among those new ideas, which are rushing in upon it. It is the action of a formative power, reducing to order and meaning the matter of our acquirements; it is a making the objects of our knowledge subjectively our own, or, to use a familiar word, it is a digestion of what we receive, into the substance of our previous state of thought; and without this no enlargement is said to follow. There is no enlargement, unless there be a comparison of ideas one with another, as they come before the mind, and a systematizing of them. We feel our minds to be growing and expanding then, when we not only learn, but refer what we learn to what we know already. It is not the mere addition to our knowledge that is the illumination; but the locomotion, the movement onwards, of that mental centre, to which both what we know, and what we are learning, the accumulating mass of our acquirements, gravitates.

Critical thinking is the set of intellectual skills, abilities and dispositions characterized by Newman in this passage. It leads to content mastery and deep learning. It develops appreciation for reason and evidence. It encourages students to discover and process information, and to do so with discipline. It teaches students to think their way to conclusions, defend positions on complex issues, consider a wide variety of viewpoints, analyze concepts, theories, and explanations, clarify issues and conclusions, solve problems, transfer ideas to new contexts, examine assumptions, assess alleged facts, explore implications and consequences, and increasingly come to terms with the contradictions and inconsistencies in their own thought and experience. This is the thinking, and alone the thinking, that masters content.

Thought and content are inseparable, not antagonists but partners. There is no such thing as thinking about nothing. When we think about nothing we are not thinking. Thinking requires content, substance, something to think

[3] Newman, J. (1852) The Idea of a University

through. On the other hand, content is parasitic upon thinking. It is discovered and created by thought, analyzed and synthesized by thought, organized and transformed by thought, accepted or rejected by thought.

To teach content separate from thinking is to ensure that students never learn to think within the discipline (that defines and creates the content). It is to substitute the mere illusion of knowledge for genuine knowledge. It is to deny students the opportunity to become self-directed, motivated, lifelong learners.

Critical Thinking and Learning

The key insight into the connection of learning to critical thinking is this:

> The only capacity we can use to learn is human thinking. If we think well while learning, we learn well. If we think poorly while learning, we learn poorly.

To learn a body of content, say, an academic discipline, is equivalent to learning to think within the discipline. Hence to learn biology, one has to learn to think biologically. To learn sociology, one has to learn to think sociologically.

If we want to develop rubrics for learning in general, they should be expressed in terms of the thinking one must do to succeed in the learning. Students need to think critically to learn at every level. Sometimes the critical thinking required is elementary and foundational. For example, in studying a subject there are foundational concepts that define the core of the discipline. To begin to take ownership one needs to give voice to those basic concepts—e.g. to state what the concept means in one's own words; to elaborate what the concept means, again in one's own words; and then to give examples of the concept from real-life situations.

Without critical thinking guiding the process of learning, rote memorization becomes the primary recourse, with students forgetting at about the same rate they are learning and rarely, if ever, internalizing powerful ideas. For example, most students never take genuine ownership of the concept of democracy. They memorize phrases like, "a democracy is government of the people, by the people, for the people." But they don't come to understand what such a definition means. And when they don't know what a definition means, they cannot elaborate or exemplify its meaning.

Moreover, most students are unable to distinguish between democracy and other forms of government incompatible with democracy, like, say, plutocracy.

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