A Guide for Educators
to

Critical Thinking Competency Standards

Standards, Principles, Performance Indicators, and Outcomes With a Critical Thinking Master Rubric

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The Foundation for Critical Thinking

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.

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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 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.[1]

[1] For two related articles on long-term staff development designed to foster a substantive concept of critical thinking, see the following links: http://www.criticalthinking.org/professionalDev/model-for-colleges.shtml http://www.criticalthinking.org/resources/articles/the-state-ct-today.shtml Though these articles focus specifically on staff development in higher education, the same basic approach would apply to K-12 schooling

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[2]

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.

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

[2] For an overview of the concept of critical thinking, see the Miniature Guide to Critical Thinking Concepts and Tools, by Richard Paul and Linda Elder, 2004. Dillon Beach: Foundation for Critical Thinking, www.criticalthinking.org.

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.[3]

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 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,[4] 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.

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[3] For instructional strategies designed to foster critical thinking see The Miniature Guide on How to Improve Student Learning: 30 Practical Ideas, by Richard Paul and Linda Elder, 2004. Dillon Beach: Foundation for Critical Thinking, www.criticalthinking.org. See also The Miniature Guide on Active and Cooperative Learning, by Wesley Hiler and Richard Paul, 2002, Dillon Beach: Foundation for Critical Thinking, www.criticalthinking.org.

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

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 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. They don't truly understand the concept of democracy because they have never worked the idea into their thinking, comparing it with other forms of government, considering the conditions within a society that would have to exist for a democracy to work, assessing practices in their own country to determined for themselves whether a true democracy exists, and, if not, how conditions would have to change for a democracy to be realized.

Through critical thinking, then, we are able to acquire knowledge, understanding, insights, and skills in any given body of content. To learn content we must think analytically and evaluatively within that content. Thus critical thinking provides tools for both internalizing content (taking ownership of content) and assessing the quality of that internalization. It enables us to construct the system (that underlies the content) in our minds, to internalize it, and to use it reasoning through actual problems and issues.

Critical Thinking and the Educated Person

Developing critical thinkers is central to the mission of all educational institutions. By ensuring that students learn to think critically and fairmindedly, we ensure that students not only master essential subject matter, but become effective citizens, capable of reasoning ethically and acting in the public good. To successfully teach critical thinking, it must be woven into curriculum content, structure, and sequence at all grade levels.

Education, properly so called, alters and reworks the mind of the student. Educated persons function differently from uneducated persons. They are able to enter and intellectually empathize with alternate ways of looking at things. They change their minds when evidence or reasoning require it. They are able to internalize important concepts within a discipline and interrelate those concepts with other important concepts both within and among disciplines. They are able to reason well enough to think their way through complex problems. If students are to become educated persons, teachers must place thinking at the heart of the curriculum; they must require students to actively work ideas into their thinking using their thinking.

Critical Thinking and Information Literacy

Information literacy is of growing concern to educators. It involves a constellation of skills linked both to education and to critical thinking. Without competence in information literacy, students cannot be educated persons—because they will not know what information to accept and what to reject. It is critical thinking that provides the tools for assessing information.

Put in perspective, information literacy is an aspect or dimension of critical thinking. It is dependent on critical thinking, but does not exhaust it. The reason is simple. Information is but one of eight basic structures of thought which function in relation to one other. To understand any body of content, any human communication, any book, film,

or media message, a person must understand not simply the raw "information" it contains, but also its purpose, the questions it raises, the concepts that structure the information, the assumptions underlying it, the conclusions drawn from it, the implications that follow from those conclusions, and the point of view that informs it.

Furthermore, it is not enough to possess information, one must be able to assess it for its clarity, accuracy, precision, relevance, depth, breadth, logic and significance.

Our minds are shaped not only by the information we seek, but by the information that "seeks" us. It is shaped, as well, by the information we reject. For example, to minimize internalizing bias and propaganda, students need accurate information as to how the mass media function in selecting, shaping, and giving a "spin" to information for mass consumption. The fundamental purpose of the mass media is not to educate the masses, but to make a profit. The media maximize their profit by telling people essentially what they want to hear, and by playing to the desires, prejudices, and allegiances of their audience. Mass media outlets maintain sensitivity to their audience, their advertisers, the government, as well as to the ratings of their competitors. They feed the mass passion for the novel, the sensational, and the scandalous. These phenomena are not a matter of conspiracy, but of economic interest.

Critical consumers of information from mass media sources know that within every given society or culture, the dominant viewpoints are given a privileged and commanding place. Consequently, critical consumers seek information from dissenting media sources and dissenting points of view. They do not assume that the dominant points of view are true, nor the dissenting false, nor the reverse. They are able to distinguish the plausible from the implausible, the credible from the incredible, the probable from the improbable. They do this by using intellectual standards not dependent on any given cultural or ideological standpoint.

Therefore, if we want students to develop information literacy, they cannot do so without developing skills of critical thought.

The Growing Importance of Critical Thinking

Critical thinking is becoming increasingly important due to four trends: accelerating change, intensifying complexity, escalating interdependence, and increasing danger. In a world charged with fear and insecurity, masses of people are unthinkingly following leaders who tendentiously divide the world into good versus evil, who use force and violence to enforce their views.

We are daily faced with a glut of information. And much of that information has been cunningly packaged to serve vested interest groups, not the individual citizen nor the public good. Students need to take charge of their own minds, to recognize their own deepest values, to take action that contributes to their own and the good of others. To do this, they must learn how to learn and to become, in the process, lifelong learners.

Critical and Creative Thinking[5]

In understanding critical thinking, it is important to recognize the interrelationship of critical and creative thought. These two modes of thinking, though often misunderstood, are inseparable in everyday reasoning. Creativity masters a process of making or producing, criticality a process of assessing or judging. The mind when thinking well must simultaneously both produce and assess, both generate, and judge, the products it constructs. Sound thinking requires both imagination and intellectual discipline.

Intellectual discipline and rigor are not only quite at home with originality and productivity, but these so-called poles of thinking (i.e. critical and creative thought) are in fact inseparable aspects of excellence in thought. Whether we are dealing with the most mundane acts of the mind or those of the most imaginative artist or thinker, the creative and the critical are interwoven. It is the nature of the mind to create thoughts, though the quality of that creation varies enormously from person to person, as well as from thought to thought. Achievement of quality requires standards of quality—and hence, a full measure of criticality.

The logic of learning an academic discipline—from the point of view of critical and creative thought—is illuminating. Each academic discipline is a domain of thinking in which humans deploy specialized concepts (and thus make inferences that follow from, or are suggested by, those concepts). To learn the key concepts in a discipline, we must construct them in our minds by a series of mental acts. We must construct them as an ordered system of relationships. We must construct both foundations and the concepts derivative of those foundations. Each moment of that creation requires discernment and judgment. There is no way to implant, transfer, or inject the system in the mind of another person in pre-fabricated form. It cannot be put on a mental compact disk and downloaded into the mind without an intellectual struggle. Critical judgment is essential to all acts of construction; and all acts of construction are open to critical assessment. We create and assess; we assess what we create; we assess as we create. In other words, at one and the same time, we think critically and creatively.

Critical Thinking and the Mastery of Content

Academic "content" is best understood as a system of interconnected ideas defining a subject field. This system is used by professionals in a field to ask questions, gather data or information, make inferences about the data, trace implications, and transform the way we see and think about the dimension of the world that the subject represents. For example, the following ideas are part of a system that defines chemistry: matter, physical properties, chemical properties, atoms, compounds, molecules, the periodic table, law of conservation of mass, atomic and molecular weight, mass number, atomic number, isotopes, ions, etc… Each idea is explained in terms of other ideas.

[5] For a detailed explanation of the relationship between critical and creative thinking, see The Thinker's Guide to Critical and Creative Thinking, by Richard Paul and Linda Elder, 2004. Dillon Beach: Foundation for Critical Thinking, www.criticalthinking.org.

To understand one part of some content requires figuring out its relation to other parts of that content. For example, you understand what a scientific experiment is only when you understand what a scientific theory is. You understand what a scientific theory is only when you understand what a scientific hypothesis is. You understand what a scientific hypothesis is only when you understand what a scientific prediction is. You understand what a scientific prediction is only when you understand what it is to scientifically test a view. You understand what it is to scientifically test a view only when you understand what a scientific experiment is, etc. To learn any body of content, therefore, is to figure out (i.e., reason or think through) the connections between the parts of that content. There is no learning of the content without this thinking process.

Moreover, to learn content, students must learn to ask questions—both general and specific—that open up the discipline, that help them take command of it, that help them see the complexities in it, that unify it. They must learn a systematic way of questioning. All disciplines are ultimately defined by the questions asked by experts within the discipline and how answers to those questions are pursued. Thus all ideas within any subject are intimately connected with the kinds of questions asked in it. Students think mathematically only when they can formulate mathematical questions and then figure out correct answers to those questions. Students think historically only when they can formulate historical questions and then pursue accurate or reasonable answers to those questions. Students think biologically only when they can formulate biological questions and pursue correct or reasonable answers to those questions. We study chemistry to figure out how chemicals function (to answer questions about chemicals). We study sociology to figure out people (to answer questions about how and why people behave as they do in groups). Thus, to understand and think within any subject, students must become active and disciplined questioners within the subject.

To think within a discipline, students need to see that there is an ordered and predictable set of relationships for all subjects and disciplines. Every subject generates purposes, raises questions, uses information and concepts, makes inferences and assumptions, generates implications, and embodies a point of view. In other words, each subject is defined by:

- shared goals and objectives (which orient the focus of the discipline),
- shared questions and problems (whose solutions they pursue),
- shared information and data (which they use as an empirical basis),
- shared modes of interpreting or judging information,
- shared specialized concepts and ideas (which they use to organize data),
- shared key assumptions (that give them a set of common starting points), and
- a shared point of view (which enables them to pursue common goals within a common framework).

High performing students analyze (clearly and precisely) questions, problems, and issues in the subject discipline. They gather information (distinguishing the relevant from

the irrelevant), recognize key assumptions, clarify key concepts, use language accurately, identify (when appropriate) relevant competing points of view, notice important implications and consequences, and reason carefully from clearly stated premises to logical conclusions. In doing this, students must adopt the point of view of the discipline, recognizing and assessing, as need be, its assumptions, implications and practical consequences.

In short, students who think critically routinely analyze reasoning (identifying its elements), and then assess reasoning (using universal intellectual standards.)

Critical thinking is presupposed in understanding and thinking within every discipline. It is presupposed in the ability to read, write, speak, and listen effectively. And it is a broad set of competencies and traits that sustain and define lifelong learning. Critical thinking enables us to give meaning to events and patterns of events, as well as to assess the reasoning of others.

In short, the only way to learn any discipline is to learn to think critically within that discipline. Critical thinking is necessary to all effective learning environments, and to all levels of education. It enables students to master systems, become more self-insightful, analyze and assess ideas more effectively, and achieve more control over their learning, their values, and their lives.

Adapting the Standards for Particular Subjects

Most of the standards we detail in this guide can be adapted for particular subjects simply by inserting the name of the subject (in the form of an adjective) into the standards. Thus, in place of:

Critical Thinking Principle

Thinking can only be as sound as the information upon which it is based. You get:

Historical Critical Thinking Principle

Historical thinking can only be as sound as the historical information upon which it is based. Or:

Biological Critical Thinking Principle

Biological thinking can only be as sound as the biological information upon which it is based.

Simply work the subject name (historical, biological, chemical, ecological, etc…) into the formulation you want to adapt. Then change the performance indicators and outcomes accordingly.

The Structure and Components of the Competencies

In this section, we correlate each critical thinking competency to specific concepts in critical thinking. We then outline the structural components within each competency, and finally detail a rubric for scoring student outcomes. For an outline of the critical thinking theory underlying the competencies, see the appendix. We also want to point out that many, if not most, of the competencies in critical thinking overlap so that when teachers foster one competency, they cannot avoid fostering others as well. This is true because the concepts in critically thinking are interrelated and function in a dynamic relationship to one another.

Relating the Competencies to Critical Thinking Concepts

Critical thinking competencies come it two forms:

1. general competencies applicable to all thinking within all domains, subjects, disciplines and professions.
2. competencies specific to particular domains, subjects, disciplines and professions.

Sections one through four of the competencies, as detailed below, focus on general critical thinking competencies. Section five deals with critical thinking skills essential to studying and learning. Section six provides examples of competencies unique to a particular domain of thought.

Section One: The competencies focusing on the elements of reasoning (see diagrams 1-2 in the appendix), and the universal intellectual standards as they relate to the elements (see diagram 4 in the appendix).

Standard One: Purposes, Goals, and Objectives
Standard Two: Questions, Problems, and Issues
Standard Three: Information, Data, Evidence, and Experience
Standard Four: Inferences and Interpretations
Standard Five: Assumptions & Presuppositions
Standard Six: Concepts, Theories, Principles, Definitions, Laws, & Axioms
Standard Seven: Implications and Consequences
Standard Eight: Points of View and Frames of Reference

Section Two: The competency focusing on the universal intellectual standards (see diagram 3 in the appendix).

Standard Nine: Assessing Thinking

Section Three: The competencies focusing on the intellectual traits, virtues or dispositions (see diagram 3 in the appendix):

Standard Ten: Fairmindedness
Standard Eleven: Intellectual Humility
Standard Twelve: Intellectual Courage
Standard Thirteen: Intellectual Empathy
Standard Fourteen: Intellectual Integrity

Standard Fifteen: Intellectual Perseverance
Standard Sixteen: Confidence in Reason
Standard Seventeen: Intellectual Autonomy

Section Four: The competencies dealing with the barriers to the development of reasoning (see a brief discussion of egocentric and sociocentric thinking in the appendix):

Standard Eighteen: Insight into Egocentric thought
Standard Nineteen: Insight into Sociocentric thought

Section Five: Competencies focusing on the critical thinking skills essential to learning.

Standard Twenty: Skills in the Art of Studying and Learning
Standard Twenty-One: Skills in the Art of Asking Essential Questions
Standard Twenty-Two: Skills in the Art of Close Reading
Standard Twenty-Three: Skills in the Art of Substantive Writing

Section Six: Competencies focusing on specific domains of thought (note that additional competencies can be developed by teachers, faculty, and departments, competencies that focus on domain or subject-specific topics. The following competencies represent examples from two domains of thought: ethical reasoning, and identifying media bias).

Standard Twenty-Four: Ethical Reasoning Abilities
Standard Twenty-Five: Skills in Detecting Media Bias and Propaganda in National and World News.

Outlining the Components in Each Competency

For each competency set, there are standards, guiding principles, performance indicators, and outcomes, to be defined as follows:

1. The standard outlines the overarching critical thinking disposition that is being targeted in that particular competency set.
2. The principles provide the underlying assumptions that gives rise to the standard.
3. The performance indicators outline the critical thinking abilities that together form the critical thinking disposition.
4. The outcomes are the measurable student actions or behaviors that can be directly assessed by teachers. Using these outcomes, teachers can determine the extent to which students have mastered a specific part of any competency. Only when students perform acceptably in all of the outcomes within a competency is the standard fully achieved.

In implementing these standards, readers should understand that learning outcomes will require differing levels of critical thinking skills. For example, the level of critical thinking required to internalize basic concepts in a discipline (at the level of initial understanding) differs from the level of critical thinking required to apply basic concepts in a discipline in a quasi-professional manner. The critical thinking criteria of clarity and accuracy are all that is required at the level of initial understanding. When applied to the discipline or profession itself, depth, breadth, and significance may well be required as well.

These competencies should serve as benchmarks for developing discipline-based, subject-specific methods for measuring student learning within any context.

It is important to note that, when assessing critical thinking abilities and dispositions, teachers can only assess actual products of thinking. They can assess, for example, what students say, what they write, the feedback they give to others, and so forth. They can never know how and when students would apply critical thinking in any particular real life situation. This is especially true when egocentric or sociocentric forces are working within the mind, in essence blocking one's ability to reason well. Nevertheless, systematic emphasis of these competencies can serve to foster the development of critical reasoning abilities.

As a reminder, before teachers begin to assess the critical thinking abilities of their students, they need first begin to acquire these abilities themselves. Otherwise they will be in no position to assess the thinking of their students. What is worse, they will likely incorrectly assess student work. It is vitally important, therefore, that teachers commit to learning critical thinking, and that a long-term staff development program in critical thinking be launched, before these competencies are expected of students.

A Master Rubric

A rubric is a scoring guide used to assess student performance on outcomes within a particular standard. Rubrics contain a scale (for example, 1-5) along with a description of the features or characteristics of work at each point on the scale.

For each critical thinking competency, the rubrics can be used in two ways:

1. To score student achievement (or lack of achievement) for each outcome.
2. To provide an overall score for each performance indicator (based on scoring for each outcome).

Within each competency, then, student performance is first scored for each outcome. For an overall assessment of student performance within each competency, the average score for each outcome is calculated. This allows for flexibility in excluding certain outcomes in certain conditions. For example, in a first level course or at the elementary level, the simpler outcomes may be the only outcomes taught within that competency. Therefore, in scoring, only those outcomes fostered in the course will be included in the scoring process. However, it is important to recognize that any particular competency cannot be reached in full unless and until all outcomes within the competency are fostered in the teaching and learning process.

The rubrics are as follows:

1. **Outcome Rubrics:** The student displays achievement within each outcome as evidenced with the following frequency and depth:
   - Virtually never (0) points
   - Rarely (1–2 points)
   - Sometimes, but with limited understanding (3–5 points)
   - Often, (but inconsistently and sometimes superficially)
   - Typically and characteristically, and with depth of understanding (9–10 points)

2. **Master Rubrics:** Overall, the student has evidenced understanding and internalization of the critical thinking competency (as detailed in the performance indicator) with the following frequency:
   - Virtually never (0 points)
   - Rarely (1–2 points)
   - Sometimes, but with limited understanding (3–5 points)
   - Often, (but inconsistently and sometimes superficially)
   - Typically and characteristically, and with depth of understanding (9–10 points)

The overall score is an average score of all outcomes (either of the complete list of outcomes, or only those outcomes fostered in the teaching process). In determining the master score, then, one of two procedures can be used:

1. Calculating the average score of only those outcomes included in the instructional process.
2. Calculating the average score of all outcomes listed for each competency, regardless of whether an outcome has been fostered in the learning process. In this case, a score of "0" is given for the excluded outcomes, and then the average of all outcomes in the competency is calculated. This score would be the most accurate of the two possibilities.

Standard One: Purposes, Goals, and Objectives[6]

Students who think critically recognize that all thinking has a purpose, objective, goal or function.

Critical Thinking Principle

If you are clear about your purpose, about what you are trying to accomplish or achieve, you are far more likely to achieve it than when you are not. Moreover, the pursuit of any specific purpose is justified only when the purpose is fair to all relevant persons, animals, and/or groups.

Performance indicators and dispositions

Students who think critically seek to understand not only what they are learning but why. They formulate purposes, goals, and objectives that are clear, reasonable, and fair. They also identify purposes that are unclear, inconsistent, unrealistic, and unfair.

Outcomes include

1. Students explain in their own words (clearly and precisely) the purpose and significance of what is happening in class—of classroom activities, tests, and assignments.

[6] For a deeper understanding of the elements of reasoning and the intellectual standards, which are the focus of the first nine standards, see: Critical Thinking: Tools for Taking Charge of Your Learning and Your Life by Richard Paul and Linda Elder, 2001, Upper Saddle River, New Jersey: Prentice Hall, chapters 4-5. Also see A Miniature Guide to the Foundations of Analytic Thinking by Linda Elder and Richard Paul, 2003, Dillon Beach, CA: Foundation for Critical Thinking, www.criticalthinking.org

2. Students explain in their own words (clearly and precisely) the purpose of the subject or discipline being studied.
3. Students explain in their own words (clearly and precisely) the purpose of reasoning through a problem or issue (within a discipline or subject, or across disciplines).
4. Students explain in their own words (clearly and precisely) the purpose of reasoning through problems in their own life.
5. Students notice when they or other students are straying from the purpose at hand, and redirect the thinking back toward the purpose.
6. When asked to select a goal or purpose (for example, to choose a problem to solve), students demonstrate the ability to adopt realistic ends.
7. Students choose reasonable secondary (instrumental) goals that make sense in working toward the accomplishment of a more ultimate goal.
8. Students regularly adjust their thinking to fit their ultimate purposes.
9. Students choose purposes and goals that are fair-minded, considering the relevant needs and rights of others (and assess the purposes of others for fairness).

Standard Two: Questions, Problems, and Issues

Students who think critically recognize that all thinking is an attempt to figure something out, to settle some question, or solve some problem.

Critical Thinking Principle

To settle a question, you must know what it is asking and how to go about answering it. In other words, for every question one might ask, there are conditions that must be met before the question can be settled.

Performance indicators and dispositions

Students who think critically seek a clear understanding of the main question they are trying to answer, problem they are trying to solve, or issue they are trying to resolve. They formulate questions clearly and precisely. They recognize when they are dealing with a complex question and they think deeply within its complexities before attempting to answer such a question. They recognize when a question requires them to consider multiple relevant viewpoints and they consider those viewpoints in good faith before attempting to answer the question. Students who think critically also routinely analyze and assess the use of questions in others' thinking (using the same guidelines).

Outcomes include

1. Students express in their own words (clearly and precisely) the question at issue (in a lesson, chapter, assignment, etc.).
2. Students re-express a question in a variety of ways (with clarity and precision).
3. Students divide complex questions into sub-questions (accurately delineating the complexities in the issue).

5. Students seek to expand their insights by studying points of view that differ from their own—and that differ from the view most dominant in their culture—with the sense that there is value and truth in the viewpoints of other cultures and peoples.
6. Students think critically about their own point of view and avoid the notion that their viewpoint is in all respects true, correct, or insightful.

Standard Nine: Assessing Thinking

Students who think critically recognize that all thinking has potential intellectual strengths and weaknesses.

Critical Thinking Principle

To reason well it is important to monitor your thinking to ensure that it is meeting basic intellectual criteria, namely: clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness.

Performance indicators and dispositions

Students who think critically routinely seek to determine the strengths and weaknesses of their thinking and the thinking of others. They have a deep understanding of the intellectual standards, and of how these standards differ from their opposites (clarity vs. vagueness, accuracy vs. inaccuracy, precision vs. imprecision, relevance vs. irrelevance, depth vs. superficiality, breadth vs. narrowness, valid vs. invalid logic, significance vs. triviality, and fairness vs. unfairness). They understand the importance of assessing thinking using these standards, and they know when a particular standard should be used to assess thinking in context. They recognize that using these standards requires practice on a daily basis, that humans do not naturally think with clarity and precision, depth and breadth, logic and significance, accuracy and precision. They have a keen understanding that the mind is not naturally fair, so they make a concerted effort to consider, in good faith, all relevant viewpoints as they reason through questions and issues.

Outcomes include

1. Students demonstrate initial understanding of the intellectual standards by accurately stating, elaborating, and exemplifying each standard.
2. Students clarify their thinking by adequately stating, elaborating, exemplifying, and illustrating it in multiple contexts.
3. Students check their thinking for accuracy by verifying the information upon which their thinking is based and then assessing that information for accuracy.
4. Students are precise in their thinking by giving necessary details.
5. Students check their thinking for relevance by making sure that all the considerations they use in their thinking bear upon the question at issue. They also check to ensure that they have not overlooked, or for some other reason failed to consider, relevant information.

6. Students check their thinking for depth by making sure they are dealing adequately with the complexities in the question at issue.
7. Students check their thinking for breadth by making sure they are considering a variety of points of view.
8. Students check their thinking for significance by making sure they are dealing with all of the important matters involved in the question at issue.
9. Students check their thinking for logic by making sure they are not contradicting themselves (or available evidence) and that they are making justifiable inferences when reasoning through an issue.
10. Students check their thinking for fairness by making sure that they are expressing all relevant points of view that bear on the issue in the most insightful form. Students minimize favoring their own point of view when faced with multiple conflicting reasonable viewpoints.
11. Students not only regularly assess their own thinking using the intellectual standards (as detailed above), but do the same when assessing the thinking of others.
12. Students utilize relevant intellectual standards when assessing reasoning within subjects, disciplines, and professions.

Standard Ten: Fairmindedness[7]

Students who think critically strive to be fair-minded.

Critical Thinking Principle

Fair-mindedness requires that we treat all viewpoints alike, without reference to our own feelings or vested interests, or the feelings or vested interests of our friends, community, nation, or species. It implies adherence to intellectual standards without reference to our own advantage or the advantage of our group.

Performance indicators and dispositions

Students who think critically seek to treat all viewpoints with equality, without reference to one's own feelings or selfish interests, or the feelings or selfish interests of one's friends, community or nation. Critical thinkers adhere to intellectual standards (such as accuracy and sound logic) uninfluenced by one's own advantage or the advantage of one's group.

Outcomes include

1. Students demonstrate understanding of fairmindedness by stating, elaborating and exemplifying the concept of fairmindedness.
2. Students avoid using their skills to gain advantage over others, score points on them, or make them look bad.

[7] For a deeper understanding of the intellectual traits, which are the focus of standards 10-18, see: Critical Thinking: Tools for Taking Charge of Your Learning and Your Life by Richard Paul and Linda Elder, 2001, Upper Saddle River, New Jersey: Prentice Hall, chapter 1.

3. Students do not favor the viewpoints of those who support them, but equally consider the viewpoints of those who agree and those who oppose them (using the quality of reasoning in determining what to accept or reject).
4. Students question their own purposes, evidence, conclusions, assumptions, concepts, and point of view with the same vigor that they question those of others.
5. Students strive to treat every viewpoint relevant to a situation in an unbiased, unprejudiced way.
6. Students actively work to diminish the powerful egocentric force in the mind that, by nature, seeks to favor one's own viewpoint, and the viewpoints of one's group, while distorting and misrepresenting viewpoints with which it disagrees.
7. Students demonstrate understanding of the importance of fairmindedness in thinking within specific disciplines and professions.

Standard Eleven: Intellectual Humility

Students who think critically routinely strive to distinguish what they know from what they don't know.

Critical Thinking Principle

The mind is not predisposed toward intellectual humility. Rather its natural state, at any given moment, is to believe itself to be in possession of the truth, to think that it knows more than it does. The human mind is naturally self-validating, self-protecting. It does not naturally seek to uncover its misunderstandings, distortions, and ignorance. To develop intellectual humility, one must learn to actively distinguish what one knows from what one does not know.

Performance indicators and dispositions

Intellectual humility is the development of knowledge of one's ignorance. It involves a consciousness of the limits of one's knowledge, including a sensitivity to circumstances in which one's native egocentrism is likely to function self-deceptively. This entails being aware of one's biases, one's prejudices, the limitations of one's viewpoint, and the extent of one's lack of knowledge. Intellectual humility depends on recognizing that one should not claim more than one actually knows. It does not imply spinelessness or submissiveness. It implies the lack of intellectual pretentiousness, boastfulness, or conceit, combined with insight into the logical foundations, or lack of such foundations, of one's beliefs.

Outcomes include

1. Students demonstrate understanding of intellectual humility by stating, elaborating and exemplifying the concept in numerous ways.
2. Students discover their own false beliefs, misconceptions, prejudices, illusions, and myths.
3. Students suspend judgment about matters of which they are ignorant.

4. Students accurately distinguish what they understand about a subject from what they do not.
5. Students accurately articulate the extent of their ignorance.
6. Students avoid claiming to know what they have no defensible reason for claiming.
7. Students admit mistakes and change their views (when faced with good reasons to do so).
8. Students demonstrate understanding of the fact that they have been socially conditioned into the belief system and worldview of their culture and nation (and naturally see their culture and nation as "correct" in its views). Students actively seek and carefully study the viewpoints of other cultures in order to gain new knowledge and insights.
9. Students demonstrate understanding of the importance of intellectual humility in thinking within any discipline and profession.

Standard Twelve: Intellectual Courage:

Students who think critically are willing to challenge popular beliefs.

Critical Thinking Principle

The mind does not naturally develop intellectual courage—the willingness to examine beliefs one holds dear. And it is not naturally comfortable standing up for beliefs that, though reasonable, are unpopular. Instead its intrinsic inclination is to protect its beliefs and conform to group standards. The mind avoids, and even fears, discovering its false beliefs. And it is, by nature, afraid of ridicule or exclusion from a social group.

Performance indicators and dispositions

Intellectual courage is the consciousness of the need to face and fairly address ideas, beliefs, or viewpoints toward which one has strong negative emotions and to which one has not given serious hearing. Intellectual courage also entails the willingness to face the disapproval of the group in expressing an unpopular idea or challenging a popular one. Humans are in many ways natural conformists. They live in social groups and unreflectively accept the dominant beliefs of the groups that exercise control over them. Intellectual courage is connected to the recognition that ideas considered dangerous or absurd within a society are sometimes rationally justified (in whole or in part). Conclusions and beliefs inculcated in people are sometimes false or misleading. Since it is natural to seek group approval, courage is required when approval may be withdrawn for non-conformity.

Outcomes include

1. Students demonstrate understanding of intellectual courage by stating, elaborating and exemplifying what it means.
2. Students examine critically any and all of their beliefs, especially those they hold dear.
3. Students fairly evaluate popular and unpopular ideas and beliefs, and determine their reasonability without reference to their popularity.

4. Students demonstrate understanding of the fact that social groups penalize non-conformity.
5. Students express reasonable dissenting views, thereby showing that they do not fear rejection by others.
6. Students question popular beliefs (when those beliefs do not seem rationally justified).
7. Students defend unpopular beliefs (when those beliefs seem rationally justified).
8. Students demonstrate understanding of the importance of intellectual courage in thinking within specific disciplines and professions.

Standard Thirteen: Intellectual Empathy

Students who think critically develop the capacity to sympathetically enter into points of view that differ from their own and articulate those views in an intelligent and insightful way.

Critical Thinking Principle

Intellectual empathy is an awareness of the need to imaginatively put oneself in the place of others so as to genuinely understand them. The mind does not naturally develop intellectual empathy. Rather it is predisposed toward its opposite—thinking within its own narrow viewpoint. Intellectual empathy requires practice in thinking within the viewpoints of others, especially those with whom we disagree.

Performance indicators and dispositions

Students who think critically regularly demonstrate intellectual empathy. They routinely reconstruct (accurately) the viewpoints and reasoning of others. They routinely reason from premises, assumptions, and ideas other than their own. They are predisposed to remember occasions when they were wrong in the past despite an intense conviction of being right (and they are therefore guided by the fact that they may be wrong in the present situation).

These students continue to grow and develop, modifying their thinking by seriously considering widely different viewpoints over time.

Outcomes include

1. Students demonstrate understanding of intellectual empathy by stating, elaborating and exemplifying what it means in numerous ways.
2. Students frequently say, "I may be wrong here. I have often been wrong in the past," or words to this effect.
3. Students imaginatively put themselves in the place of others (striving to accurately articulate others' viewpoints).
4. Students regularly role-play the defense of beliefs other than their own (in an intelligent and insightful manner).
5. Students demonstrate understanding of the importance of intellectual empathy in thinking within specific disciplines and professions.

Standard Fourteen: Intellectual Integrity

Students hold themselves to the same standards they expect others to meet.

Critical Thinking Principle

Intellectual integrity is manifested in the commitment to hold oneself to the same standards of evidence and proof one expects others to meet (especially one's antagonists). Humans do not naturally have intellectual integrity. Instead, they tend to hold others to higher standards than the standards they impose on themselves.

Performance indicators and dispositions

Students who think critically gain insight into themselves by identifying their own most basic inconsistencies of thought, word, and deed. They can identify, and honestly admit, discrepancies and inconsistencies in their own thoughts and actions. They recognize that the mind is naturally prone to hold others to higher standards than the standards it imposes on itself. These students are therefore on the lookout for intellectual hypocrisy in their own thoughts and actions. They have a strong desire to live with integrity, and continually seek to do so.

Outcomes include

1. Students demonstrate understanding of intellectual integrity by stating, elaborating and exemplifying what it means in numerous ways.
2. Students articulate appropriate standards of evidence and proof—both for their own thinking and the thinking of others.
3. Students identify inconsistencies and contradictions in their thinking (and do not hide from them).
4. Students identify inconsistencies between what they say they believe, and what their behavior implies (that they believe).
5. Students identify and accurately assess national and social inconsistencies and contradictions.
6. Students demonstrate understanding of the role of intellectual integrity in thinking within specific disciplines and professions.

Standard Fifteen: Intellectual Perseverance

Students who think critically learn to work through complexities and frustration without giving up.

Critical Thinking Principle

Intellectual perseverance is the disposition to work one's way through intellectual complexities despite frustrations inherent in an intellectual task. Critical thinkers recognize that intellectual perseverance is not natural to the mind, and that, to develop, they must be willing to work through confusions, difficulties, and frustrations when dealing with problems and issues.

not fear rejection from any group (including their family, their religion, their country). To determine what to believe, they examine information for themselves and reject unjustified authorities, while recognizing the contributions of reasonable authorities. They do not just think for themselves, but do so using intellectual standards.

Outcomes include

1. Students demonstrate understanding of intellectual autonomy by stating, elaborating and exemplifying what it means in numerous ways.
2. Students avoid passively or mindlessly accepting the beliefs of others.
3. Students thoughtfully form principles of thought and action.
4. Students accurately and logically evaluate the traditions and practices that others often accept unquestioningly.
5. Students incorporate knowledge and insight into their thinking, independent of the social status of the source (of that knowledge or insight).
6. Students respond positively to the reasonable suggestions of others.
7. Students monitor their thinking and amend their own mistakes.
8. Students form values for themselves, and choose values based on their intrinsic worth.
9. Students reach independent, well-reasoned conclusions.
10. Students are willing to dissent from the majority view when the evidence requires it of them.

Standard Eighteen: Insight into Egocentricity[8]

Students who think critically work to overcome their native egocentricity.

Critical Thinking Principle

The human mind is, by nature, egocentric. The mind does not naturally possess or develop rational tendencies. Its default mode of thought is centered in its egocentric, self-centered tendencies. There are two primary functions of egocentricity. One is to see the world in self-serving terms, to constantly seek gratification, to pursue selfish desires, even at the expense of the rights and needs of others. The second is the desire to maintain its beliefs. This is the basis for rigidity of thought.

Egocentricity functions at the unconscious or subconscious level of thought. Therefore, though humans are naturally and primarily egocentric, they seldom have insight into their egocentricity. The egocentric mind experiences its ideas as reasonable and rational (no matter how self-serving or narrow-minded those ideas are).

Humans develop as rational persons only to the extent that they take explicit command of, and thus minimize, their egocentricity.

[8] To better understand the concept of egocentric, or irrational thought, see the Miniature Guide to the Human Mind by Linda Elder and Richard Paul, 2002, Dillon Beach: Foundation for Critical Thinking, www.criticalthinking.org

Performance indicators and dispositions

Students who think critically actively seek out (and deal with) egocentric tendencies in their thought. They recognize the power and potential harm of egocentric thought in themselves and others. Because they understand it, they are sensitive to when they, or others, may be functioning at the egocentric level. They recognize that egocentric tendencies are typically subconscious or unconscious. They work to uncover irrational or otherwise unjustifiable beliefs obscured in the mind. They "study" their egocentricity in action, trying to better understand its deceptiveness, so that they can get control of it. They are vigilant in seeking to disclose egocentricity in operation.

Outcomes include

1. Students demonstrate understanding of the concept of egocentricity, with its many complexities. They are able to state, elaborate, and exemplify the concept.
2. Students demonstrate understanding of the concept of rationality and can describe in detail how it differs from egocentricity.
3. Students manifest the recognition that egocentric thinking needs to be "corrected" by more reasonable thinking (that respects the rights and needs of others).
4. Students routinely identify their natural human tendency to focus on their own needs and desires at the expense of those of others.
5. Students identify egocentric emotions that affect their thinking (emotions such as defensiveness, insecurity, anger, or arrogance). They are able to sympathize when others' egocentric emotions are affecting their thinking.
6. Students accurately identify egocentric thought in others.
7. Students communicate in a rational, rather than egocentric way.
8. Students respond constructively to people caught up in an egocentric mindset.

Standard Nineteen: Insight into Sociocentricity

Students who think critically learn to overcome their sociocentric tendencies.

Critical Thinking Principle

Sociocentric thought, is a direct extension of egocentric thought in that it fundamentally results from two primary tendencies of egocentric thought:

1. Seeking to get what it (or its group) wants without regard to the rights and needs of others; and
2. Rationalizing the beliefs and behavior of the group (irrespective of whether those beliefs and behaviors are irrational).

Critical thinkers recognize that it is natural for humans to think sociocentrically, to be "herd" animals, largely influenced by and functioning within groups. And because most people are largely egocentric, or centered in themselves, they end up forming groups that are largely centered in themselves. Because of egocentrism and sociocentrism, most people assume the correctness of their own beliefs and those of their groups.

9. Students consistently use universal intellectual standards in their writing, routinely checking their writing for clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness.

Standard Twenty-Four: Ethical Reasoning Abilities[13]

Students who think critically learn to identify ethical issues and reason well through ethical questions.

Critical Thinking Principle

Critical thinkers recognize that one cannot be an ethical person unless one learns to reason well through ethical questions, issues, and situations.

The proper role of ethical reasoning is to highlight acts of two kinds: those that enhance the well-being of others—that warrant our praise—and those that harm or diminish the well-being of others—and thus warrant our criticism. Developing one's ethical reasoning abilities is crucial because there is in human nature a strong tendency toward egotism, prejudice, self-justification, and self-deception. These tendencies are exacerbated by powerful cultural influences that shape our lives. These tendencies can be actively combated only through the systematic cultivation of fair-mindedness, honesty, integrity, self-knowledge, and deep concern for the welfare of others.

The ultimate basis for ethical reasoning is clear: human behavior has consequences for the welfare of others. We are capable of acting toward others in such a way as to increase or decrease the quality of their lives. We are capable of helping or harming. And we are theoretically capable of understanding when we are doing the one and when the other.

Ethics reminds us that there are some actions that are unethical in-and-of-themselves, including:

SLAVERY: owning people, whether individually or in groups.

GENOCIDE: Systematically killing with the attempt to eliminate a whole nation or ethnic group

TORTURE: inflicting pain (even severe pain) to force information, get revenge or serve some other irrational end.

SEXISM: Treating people unequally (and harmfully) in virtue of their gender.

RACISM: Treating people unequally (and harmfully) in virtue of their race or ethnicity.

MURDER: The pre-meditated killing of people for revenge, pleasure, or to gain advantage for oneself.

ASSAULT: Attacking an innocent person with intent to cause grievous bodily harm.

RAPE: Forcing an unwilling person to have intercourse.

FRAUD: Intentionally deceiving someone so that they give up property or some right.

DECEIT: Representing something as true which one knows to be false in order to gain a selfish end.

[13] For a deeper understanding the ethical reasoning see The Miniature Guide to the Foundations of Ethical Reasoning by Richard Paul and Linda Elder, 2003, Dillon Beach: Foundation for Critical Thinking, www.criticalthinking.org.

The Foundation for Critical Thinking

The Foundation for Critical Thinking seeks to promote essential change in education and society through the cultivation of fair-minded critical thinking, thinking predisposed toward intellectual empathy, humility, perseverance, integrity, and responsibility. A rich intellectual environment is possible only with critical thinking at the foundation of education. Why? Because only when students learn to think through the content they are learning in a deep and substantive way can they apply what they are learning in their lives. Moreover, in a world of accelerating change, intensifying complexity, and increasing interdependence, critical thinking is now a requirement for economic and social survival. Contact us to learn about our publications, videos, workshops, conferences, and professional development programs.

About the Authors

Dr. Linda Elder is an educational psychologist who has taught both psychology and critical thinking at the college level. She is the President of the Foundation for Critical Thinking and the Executive Director of the Center for Critical Thinking. Dr. Elder has a special interest in the relation of thought and emotion, the cognitive and the affective, and has developed an original theory of the states of critical thinking development. She has authored and co-authored a series of articles on critical thinking including a column on critical thinking for the *Journal of Developmental Education*. She has co-authored four books on critical thinking. She is a dynamic presenter.

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