

# Critical Thinking: Intellectual Standards Essential to Reasoning Well Within Every Domain of Human Thought, Part Two

By Richard Paul and Linda Elder

In our last critical thinking column we introduced the idea of intellectual standards and pointed out that all natural languages are repositories for such standards, which, when appropriately applied, serve as guides for assessing human reasoning. We argued that intellectual standards are necessary for cultivating the intellect and living a rational life, are presupposed in many concepts in modern natural languages, and are presupposed in every subject and discipline. In this column, the second in the series, we introduce and explicate some of the intellectual standards essential to reasoning well through the problems and issues implicit in everyday human life.

## Some Essential Intellectual Standards

We postulate that there are at least nine intellectual standards important to skilled reasoning in everyday life. These are clarity, precision, accuracy, relevance, depth, breadth, logicalness, significance, and fairness. It is unintelligible to claim that any instance of reasoning is both sound and yet in violation of these standards. To see this, suppose someone were to claim that her or his reasoning is sound regarding “x,” though, at the same time, admittedly unclear, inaccurate, imprecise, irrelevant, narrow, superficial, illogical, trivial, and unfair with respect to “x.” Beginning with these nine intellectual standards will help set the stage for conceptualizing intellectual standards (more broadly) and for appreciating the essential role of intellectual standards in human reasoning.

### Essential Intellectual Standards: An Explication

**Clarity:** Understandable, the meaning can be grasped; to free from confusion or ambiguity, to remove obscurities.

Clarity is a “gateway” standard. If a statement is unclear, one cannot determine whether it is accurate or relevant. In fact, it is impossible to tell anything about a statement without knowing what it is saying. For example, here is an unclear question: “What can be done about the education system in America?” To adequately address the question, a clearer understanding of how the person asking the question is conceptualizing the “problem” is needed. A clearer question might be “What can educators do to ensure that students learn the skills and abilities which help them understand the world in which they live and function as ethical persons in that world?”

Thinking is always more or less clear. It is helpful to assume that one does not fully understand a thought except to the extent that he or she can elaborate, illustrate, and exemplify it. Questions that focus on clarity in thinking include:

- Could you elaborate on that point? or Do I need to elaborate on that point?
- Could you express that point in another way? Can I express that point differently?
- Could you give me an illustration? or Should I give an illustration?
- Could you give me an example? or Should I provide an example?
- Let me state in my own words what I think you just said. Am I clear about your meaning?

- I hear you saying “\_\_\_\_.” Am I hearing you correctly, or have I misunderstood you?

**Accuracy:** free from errors, mistakes or distortions; true, correct.

A statement can be clear but not accurate, as in “Most dogs weigh more than 300 pounds.” Thinking is always more or less accurate. It is useful to assume that a statement’s accuracy has not been fully assessed except to the extent that one has checked to determine whether it represents things as they really are. Questions that focus on accuracy in thinking include:

- How could I check that to see if it is true?
- How could I verify these alleged facts?
- Can I trust the accuracy of these data given the source from which they come?

**Precision:** exact to the necessary level of detail, specific.

A statement can be both clear and accurate, but not precise, as in “Jack is overweight.” (One doesn’t know how overweight Jack is, one pound or 500 pounds.) Thinking is always more or less precise. It is likely that one does not fully understand a statement except to the extent that he or she can specify it in detail. Questions that focus on precision in thinking include:

- Could you give me more details about that?
- Could you be more specific?
- Could you specify your allegations more fully?

**Relevance:** bearing upon or relating to the matter at hand; implies a close logical relationship with, and importance to, the matter under consideration.

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 this is so, effort is irrelevant to their appropriate grade.

Thinking is always capable of straying from the task, question, problem, or issue under consideration. It is useful to assume individuals have not fully assessed thinking except to the extent that they have considered all issues, concepts, and information relevant to it. Questions that focus on relevance in thinking include:

- I don’t see how what you said bears on the question. Could you show me how it is relevant?
- Could you explain the connection between your question and the question we are addressing?
- How does this fact bear upon the issue?
- How does this idea relate to this other idea?
- How does your question relate to the issue at hand?

**Depth:** containing complexities and multiple interrelationships, implies thoroughness in thinking through the many variables in the situation, context, idea, or question.

A statement can be clear, accurate, precise, and relevant, but superficial (i.e., 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 take this injunction to solve the social problem of unhealthy drug use fail to appreciate the true complexities in the problem. Their thinking is superficial at best.

Thinking can either function at the surface of things or probe beneath that surface to deeper matters and issues. A line of thinking is not fully assessed except to the extent that one has fully considered all the important complexities inherent in it. Questions that focus on depth in thinking include:

- Is this question simple or complex? Is it easy or difficult to answer well and truly?
- What makes this a complex question?
- How am I dealing with the complexities inherent in the question?

**Breadth:** encompassing multiple viewpoints, comprehensive in view, wide-ranging and broadminded in perspective.

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 details the complexities in an issue, but only recognizes insights from one perspective).

Thinking can be more or less broad-minded (or narrow-minded), and breadth of thinking requires the thinker to reason insightfully within more than one point of view or frame of reference. One has not fully assessed a line of thinking except to the extent that individual has determined how much breadth of thinking is required to understand it (and how much has in fact been exercised). Questions that focus on breadth in thinking include:

- What points of view are relevant to this issue?
- What relevant points of view have I ignored thus far?

- Am I failing to consider this issue from an opposing perspective because I am not open to changing my view?
- Have I entered the opposing views in good faith or only enough to find flaws in them?
- I have looked at the question from an economic viewpoint. What is my ethical responsibility?
- I have considered a liberal position on the issue. What would conservatives say?

**Logic:** the parts make sense together, no contradictions; in keeping with the principles of sound judgment and reasonability.

When one thinks, a person brings 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, it is contradictory or does not make sense, the combination is not logical.

Thinking can be more or less logical. It can be consistent and integrated. It can make sense together or be contradictory or conflicting. Questions that focus on logic include:

- Does all this fit together logically?
- Does this really make sense?
- Does that follow from what you said?
- Does what you say follow from the evidence?
- Before you implied this and now you are saying that, I don't see how both can be true. What exactly is your position?

**Significance:** having importance, being of consequence; having considerable or substantial meaning.

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## Money, Sex, Work, and Crime...

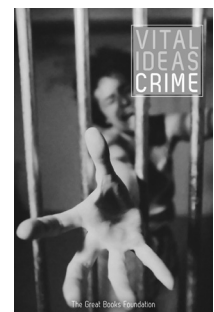
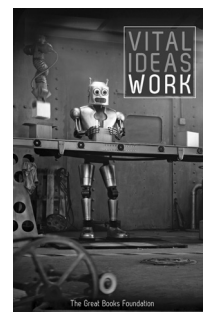
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When reasoning through an issue, one should concentrate on the most important information (relevant to the issue) and take into account the most important ideas or concepts. It is easy to forget that, though many ideas may be relevant to an issue, they may not be equally important. Similarly, a thinker may fail to ask the most important questions and instead become mired in superficial questions, questions of little weight. In college, for example, few students focus on important questions such as, “What does it mean to be an educated person? What do I need to do to become educated?” Instead, students tend to ask questions such as, “What do I need to do to get an ‘A’ in this course? How many pages does this paper have to be? What do I have to do to satisfy this professor?”

Thinking can be more or less significant. It can focus on what is most substantive, what is of the highest consequence, what has the most important implications; or it can focus on the trivial and superficial. Questions that focus on significance include:

- What is the most significant information needed to address this issue?
- How is that fact important in context?
- Which of these questions is the most significant?
- Which of these ideas or concepts is the most important?

**Fairness:** free from bias, dishonesty, favoritism, selfish-interest, deception or injustice.

Humans naturally think from a personal perspective, from a point of view that tends to privilege their position. Fairness implies the treating of all relevant viewpoints alike without reference to one’s own feelings or interests. Because everyone tends to be biased in favor of their own viewpoint, it is important

to keep the intellectual standard of fairness at the forefront of thinking. This is especially important when the situation may call on us to examine things that are difficult to see or give something up we would rather hold onto.

Thinking can be more or less fair. Whenever more than one point of view is relevant to the situation or in the context, the thinker is obligated to consider those relevant viewpoints in good faith. To determine the relevant points of view, look to the question at issue. Questions that focus on fairness include:

- Does a particular group have some vested interest in this issue that causes them to distort other relevant viewpoints?
- Am I sympathetically representing the viewpoints of others?
- Is the problem addressed in a fair manner, or is personal vested interest interfering with considering the problem from alternative viewpoints?
- Are concepts being used justifiably (by this or that group)? Or is some group using concepts unfairly in order to manipulate (and thereby maintain power, control, etc.)?
- Are these laws justifiable and ethical, or do they violate someone’s rights?

### Closing

In this column we have explicated nine essential intellectual standards. In the next column, the third in this series, we briefly analyze the concept of *intellectual standards* as an intellectual construct. We will also elaborate the important understanding that, though standards are prevalent in everyday life, such standards are not always “intellectual” in nature.

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### Concluding Remarks

Improving student success in postsecondary basic mathematics is a focus for instructors and administrators alike for reasons ranging from better comprehension in class to better retention on campus. Simplified presentation of material in developmental mathematics classes, though surely requiring more study, shows early promise in satisfying both groups.

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