

Critical Thinking

July 15, 2008

Definition

Critical thinking includes both intellectual skills and dispositions.

Intellectual Skills (from Bloom)

Critical thinking is the disciplined mental activity involving

- (a) **analyzing** and appraising arguments, propositions, or data, and then
- (b) making **evaluations** that guide the development of beliefs and plans for taking action.

During **analysis**, students separate material or concepts into component parts so that its organizational structure may be understood, distinguishing between facts and inferences. Student performances associated with **analysis**:

<i>break down</i>	<i>differentiate</i>	<i>infer</i>
<i>compare</i>	<i>discriminate</i>	<i>outline</i>
<i>contrast</i>	<i>distinguish</i>	<i>select</i>
<i>diagram</i>	<i>identify</i>	<i>separate</i>
<i>deconstruct</i>	<i>illustrate</i>	<i>interpret</i>
<i>arrange</i>	<i>classify</i>	<i>choose</i>

During **evaluation**, students make judgments about the value of ideas or materials. Student performances related to **evaluation**:

<i>judge</i>	<i>critique</i>	<i>support</i>
<i>conclude</i>	<i>defend</i>	<i>validate</i>
<i>criticize</i>	<i>discriminate</i>	<i>decide</i>
<i>justify</i>	<i>provide rationale</i>	<i>rate</i>
<i>select</i>	<i>rank</i>	

Dispositions (from Paul and Elder)

In addition to the intellectual skills of analysis and evaluation, critical thinking is also associated with particular dispositions or habits of mind.

- *Intellectual Humility*: having 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; sensitivity to bias, prejudice and limitations of one's viewpoint.
- *Intellectual Courage*: having a consciousness of the need to face and fairly address ideas, beliefs or viewpoints toward which we have strong negative emotions and to which we have not given a serious hearing.
- *Intellectual Empathy*: Having a consciousness of the need to imaginatively put oneself in the place of others in order to genuinely understand them, which requires the consciousness of our egocentric tendency to identify truth with our immediate perceptions of long-standing thought or belief.
- *Intellectual Integrity*: recognition of the need to be true to one's own thinking; to be consistent in the intellectual standards one applies; to hold one's self to the same rigorous standards of evidence and proof to which one holds one's antagonists; to practice what one advocates for others; and to honestly admit discrepancies and inconsistencies in one's own thought and action.
- *Intellectual Perseverance*: having a consciousness of the need to use intellectual insights and truths in spite of difficulties, obstacles, and frustrations; firm adherence to rational

principles despite the irrational opposition of others; a sense of the need to struggle with confusion and unsettled questions over an extended period of time to achieve deeper understanding or insight.

- *Faith in Reason*: confidence that, in the long run, one's own higher interests and those of humankind at large will be best served by giving the freest play to reason, despite the deep-seated obstacles in the native character of the human mind and in society as we know it.
- *Fair-Mindedness*: having a consciousness of the need to treat all viewpoints alike, without reference to one's own feelings or vested interests, or the feelings or vested interests of one's friends, community or nation; implies adherence to intellectual standards without reference to one's own advantage or the advantage of one's group.

Rationale

Intellectual and practical skills were identified as one of the areas of strategic interest and were defined by President Byrd as including three elements the first of which is the ability to think critically (http://www.simpson.edu/plan/committees/action/IPS_finalreport.pdf).

Criteria for Approving Proposals

The critical thinking subcommittee recommended three types of courses to be used to teach critical thinking: first year courses, disciplinary courses, and capstone courses. They recommended *against* having courses stamped as critical thinking courses because they wanted to avoid distinguishing between “thinking” versus “non-thinking” courses.

First Year Courses

Focus: Awareness and close examination of both the intellectual skills and dispositions associated with critical thinking

Goals:

- Promote metacognition
- Clearly present expectation that students will transition from “receiver of ideas and opinions” at secondary level to “autonomous critical thinker” at postsecondary level
- Establish an artifact that can be used to assess growth in critical thinking

Implementation:

- Through carefully selected scenarios or problems, students will explore in depth the definition, process, and variables affecting “critical thinking.” They will create a significant artifact that represents their ability to think critically based on the scenario or problem.
- Could be a significant element of an existing course (LAS) or self-contained course.
- The “shared common experience” of first year students would not be based on particular content, but on a process, i.e., beginning the process of growing as a critical thinker over the next four years.

Disciplinary Courses

Focus: Developing Critical Thinking within the context of all curricular disciplines

Goals:

- Using their First Year experience as a shared base of experience, students will examine and engage in critical thinking (as defined above) within a variety of disciplinary contexts

- Students will examine the negative side of critical thinking: how it can go wrong, abuse of the techniques by “false” critical thinking, when “skillful judgment” becomes “quibbling,” etc.
- Informal and formal logic
- The role of theory in making judgments
- The relationship between critical thinking and problem solving. When is it time to stop thinking critically and begin problem solving?

Implementation:

“Criteria for the assessment of thinking in all domains are based on such general standards as: clarity, precision, accuracy, relevance, significance, fairness, logic, depth, and breadth, evidentiary support, probability, predictive or explanatory power. It is possible to teach all subjects in such a way as to encourage the use of these intellectual standards in both professional and personal life.” (*National Council for Excellence in Critical Thinking Instruction*)

All courses will integrate activities designed to promote student growth in critical thinking within the context of the course, as identified in syllabus. Individual departments may, however, target specific courses within their program/major that particularly lend themselves to significant activities or assignments that focus on developing critical thinking skills and dispositions. We want avoid the tendency to distinguish courses as “thinking” vs. “non-thinking” courses.

Capstone experience in critical thinking:

Goals:

- Essentially repeat the first year experience in critical thinking, but now at a higher level within a student selected domain
- Create an artifact that can be used to assess individual growth and development
- Overall assessment of the critical thinking learning objective of college

Implementation:

- Critical thinking (and perhaps problem solving) becomes the theme of Senior Colloquium
- Faculty select theme/content of each section, offering a variety of themes/contexts/scenarios from which students can select
- Interdisciplinary to the greatest extent possible
- Take the model from first year and essentially repeat, but with higher expectations for student performance
- Class meetings focus more on facilitating the process than on lecture and content
- Public presentations of student projects: A day dedicated to Simpson Critical Thinking Conference; concurrent presentations of student projects throughout day all over campus; attendance similar to Forum participation, might count as a Forum participation; required attendance for juniors and first years
- Students self-assess and reflect on their personal growth as a critical thinker by comparing their first year vs. last year project; one component of presentation is share some aspect of self-evaluation with audience
- Detailed rubrics for project evaluation shared by all faculty facilitating a Senior Colloquium section; if there is interest among the faculty, there are “paper-and-pencil” assessments of critical thinking skills (analysis and evaluation) available through *International Center for the Assessment of Higher Order Thinking*

Source Information on Similar Requirements at other Good Schools

The key sources used by the critical thinking subcommittee include the following:

- Foundation for Critical Thinking (Sonoma State University, CA):
<http://www.criticalthinking.org>
- The National Council for Excellence in Critical Thinking:
<http://www.criticalthinking.org/about/nationalCouncil.cfm>
- International Center for the Assessment of Higher Order Thinking:
<http://www.criticalthinking.org/about/nationalCouncil2.cfm>

Teaching Resources

Assessment Resources

Examples of Classes

First year experience courses
Senior colloquia

Staffing and Costs

Implementation Challenges
