CRITICAL THINKING: THE END AND MEANS OF LIBERAL EDUCATION

Critical thinking can be defined most simply as the way smart people think. The college experience needs to develop this kind of smart thinking across the different contexts and situations of our students' adult life. College teaching must be judged by how effectively it fosters mature, intelligent, committed, and tolerant thinking in our students. It's the end toward which we work.

A definition. What makes people smart? Among other things, critical thinkers can observe, make inferences, generate and synthesize information, create and alter conceptual schemata, rationalize their beliefs, consider alternative ideas and opinions, recognize their own humanity and the humanity of others, and commit themselves to action in the world. Thinking critically engages all the components of mature being in the world: not only thinking, but also communicating, valuing, and acting.

People are smart in context. Critical thinking is always thinking about something in particular. People who are "smart" in their area of expertise (say, air conditioner repair) turn out to be "dumb" in other contexts (e.g., international politics). Our teaching may cover only one local region of human knowledge. Really smart people know their way around many such localities.

People get smart in stages. The most comprehensive models of critical thinking are developmental. They recognize that critical thinking is not an abstract formula but a process of intellectual and ethical development. Liberal education means facilitating a process of personal change in students, including their attitudes toward truth, authority, and themselves.

Because getting smart is hard, risky work, students need support. Becoming educated requires a change in how one thinks, and changing oneself is difficult work. Just ask anyone who's been through therapy. A student may be facing college algebra, humanities, and environmental science all in the same semester, all demanding different kinds of thinking.

Students confronted with this level of challenge need lots of support from teachers. Support can come in many ways: a mini-lesson on revising an essay, a personal testimony on your college experience, a little attention to their test anxieties. Sometimes students most need to know that you went through the same doubts and frustrations, and you came through it okay.

Critical thinking or content? Apparently teachers face a dilemma: do they teach critical thinking or their content area? The dilemma is false. Students' mastery of the content depends on their development as thinkers, and vice versa. Because the one-way presentation of "facts" in a lecture does little to challenge students' thinking, they may learn less content from lectures than from more interactive approaches.

Students learn to be smart in a discipline by *practicing* what smart people do in that discipline: by observing, organizing information, forming and evaluating ideas, justifying their own points of view and understanding others', seeing the relation of ideas and values. Although a lecture in humanities or physics may seem to cover the requisite content, lecturing alone gives students no practice in being a humanist or physicist.

Teaching for competency. One way out of the content versus critical thinking dilemma is to teach for student competency. Begin with an articulated set of core competencies like Valencia's (modeled in part after programs at Alverno College in Milwaukee and King College in Pennsylvania). Then define specific course outcomes in terms of what students should be able to do with what they're learning in this course. Content knowledge becomes the means to demonstrating the outcomes and assessment focuses on students' active mastery of the discipline, not the recall of discrete facts.

Teaching for mastery can also underscore the usefulness of a broad-based liberal arts education. A course in humanities or sociology or algebra becomes

a piece of the student's intellectual development and a step toward the practical and flexible intelligence that constitutes "being smart."

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For further reading:

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Kloss, R. "A Nudge is Best: Helping Students Through the Perry Scheme of Intellectual Development. *College Teaching* 42.4: 151-58.

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Perry, William G. "Cognitive and Ethical Growth: The Making of Meaning." In A. W. Chickering, ed. *The Modern American College*. San Francisco: Jossey-Bass, 1981, 76-116.

Perry, William G. *Forms of Intellectual and Ethical Development in the College Years: A Scheme*. New York: Holt, Rinehart, and Winston, 1970.