

Teaching for Critical Thinking

In all fields and at every educational level, teachers, trainers, instructors, and professors can teach in a way that results in measurable and meaningful gains in students' critical thinking skills and habits of mind. Regardless of the subject, content, or the age of the learner, programs that explicitly identify, target, and assess critical thinking skills and habits of mind have been shown to be demonstrably more successful than those that only talk about critical thinking.¹



There is no need to trade away class time intended to be devoted to the subject matter of the course. *Teaching for critical thinking is about how we teach, not what we teach.*

Teaching for thinking is not the same as teaching *about* thinking. Teaching for thinking means structuring our classes and courses so that learners must engage and apply their critical thinking constantly – to whatever subject content we are presenting.

***Teaching for thinking* means that students:**

- Exercise their critical thinking skills of interpretation, analysis, inference, evaluation, explanation, and reflective self-monitoring independently or in collaboration with others.
- Engage their critical thinking habits of mind, of truth-seeking, open mindedness, and inquisitiveness, as applied to issues where they may already hold strong beliefs.
- Expand the application of their thinking skills and dispositions to novel contexts, themes, problems, and ideas.
- Consider complex themes and problems that have multiple perspectives and imperfect solutions.
- Perform purposeful, reflective judgments about authentic scenarios and real-life situations.
- Receive formative feedback to augment and validate their self-monitoring, self-correction, and self-confidence.



¹ Abrami, P. C., Bernard, R., Borokhovski, E., Waddington, D., Wade, C. A., & Persson, T. (2015). Strategies for teaching students to think critically: A meta-analysis. *Review of Educational Research*, 85, 275–314. Page 275. And Abrami, P. C., Bernard, R. M., Borokhovski, E., Wade, A., Surkes, M., Tamim, R., & Zhang, D. A. (2008). Instructional interventions affecting critical thinking skills and dispositions: A stage one meta-analysis. *Review of Educational Research*, 78, 1102–1134. Abrami, P. C., Bernard, R., Borokhovski, E., Waddington, D., Wade, C. A., & Persson, T. (2015). Strategies for teaching students to think critically: A meta-analysis. *Review of Educational Research*, 85, 275–314.

Techniques for Promoting Critical Thinking Through Active Learning

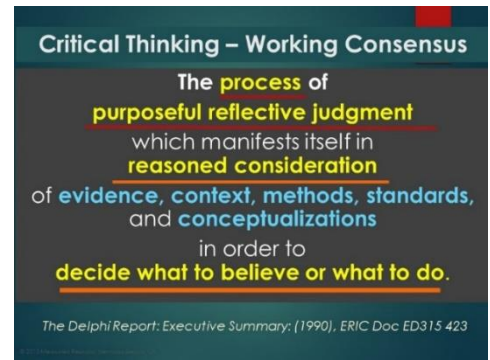
Much like the common characteristics of an active learning classroom that were outlined previously, there are key strategies for the instructor and behaviors from the students that promote the development of strong critical thinking. To teach for critical thinking, instructors should employ the strategies outlined in this section and encourage the following behaviors from students.

Effective instructional techniques for promoting strong critical thinking:

- Pose thoughtful or insightful questions and intentionally allow 10–15 seconds of silence to elapse before calling on students to respond. Cognitive science research has shown that a pause of this length is necessary for the human brain to sufficiently process a question and formulate a reasonable response.
- Work from example to theory. Discuss the examples in the text first, and then draw out the concepts they teach. This technique exercises students' inductive reasoning skills and promotes active engagement and inquisitiveness.
- Use critical thinking vocabulary when posing questions to students to reinforce conceptual understanding and promote recognition of reasoning. Use the names of the skills and the habits of mind that are found in the textbook. For example, use phrases such as: "What is your reason for that claim?" "Let's interpret this statement," "What inferences can we reasonably draw from these facts?" and "Let's be systematic in our analysis."
- Acknowledge when students use critical thinking to promote their self-awareness and recognition of reasoning (don't forget to use the critical thinking vocabulary). For example, use phrases such as: "The claim you are making," "The inquisitiveness of this group was evident when," "I agree with your interpretation of," and "In your analysis of."
- Avoid dropping the thinking level with imprecise expressions such as: "What is your view of this?" and even "What did you think of this?"
- If you want students to analyze their emotional responses, ask "If you feel emotional about this, what are you feeling and why do you feel that way?"



- Engage students in dynamic learning activities that promote independent thinking or exposure to the thinking of others. Suggested activities include maintaining a reflective journal; conversing with a partner, small groups, or the whole class; investigations, inquires, and informed conversations; debates; simulations; role playing; fishbowl activities; panel discussions; brainstorming exercises; case studies; course blogs or wikis; individual or group argument mapping; social networking features such as asynchronous bulletin boards that are often found in course management systems; maintaining a paper or electronic portfolio, and so on.
- Provide numerous and frequent opportunities to practice critical thinking skills and receive formative feedback from the instructor and peers. Interactions that result in constructive feedback can be incorporated by the student and reinforce self-regulation.
- Require students to provide reasons or explanations for all their claims, interpretations, analyses, evaluations, and decisions. Ask why and expect a good, well-reasoned answer. Don't let students get by with shut-down clichés such as, "That's just how I feel," "I was brought up to think that...," "My parents always said that...," and "It's common sense."
- Model strong critical thinking for your students. Your students watch you to see if you believe in the value of critical thinking, so what you say and what you do might be more powerful in motivating them to build their critical thinking skills than anything they read or hear in a lecture. If you show that you practice the positive critical thinking habits of mind and that you engage in problems and decisions by applying critical thinking skills, that message comes through to them. If you do not, you reflect a negative message.



Effective learning techniques for students who want to build critical thinking skills:

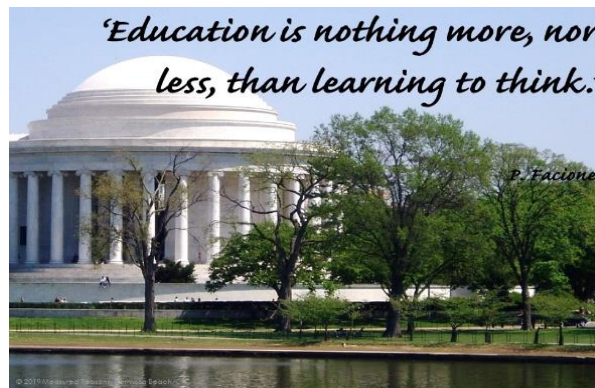
- Practice asking "why" questions that seek reasons, analyses, clarifications, and explanations.
- Practice active listening and note taking. Use the "Divide the Page" technique where you split the notebook page in half with a vertical line. On the left side, take notes from the material that is discussed in class. On the right side, write down questions, analyses, inferences, and connections to other concepts that come to mind during class time.
- Attend each class session and complete each assignment with 100 percent effort.
- Use critical thinking vocabulary when talking with friends, classmates, faculty members, family members, and so on.

- Maintain a reflective journal to document and evaluate one's thinking processes and decision making. Use "Reflective Log" exercises to help trigger thoughtful journal entries.
- Log examples of strong and poor critical thinking that come from daily conversations, television programs, films, print media, the Internet, and so on, and evaluate the reasoning displayed.

We cannot solve our problems with the same thinking we used when we created them.

Albert Einstein

- Seek to identify the assumptions that you make and that others might be making in a decision-making situation.
- Ask others to give the reasons for their claims or decisions and evaluate what they say.
- Be meta-cognitive (think about your own thinking) and practice self-monitoring and self-correction often.
- Model and display strong critical thinking habits of mind and skills inside and outside of the classroom.



For critical thinking self-development materials, visit www.insightbasecamp.com

For critical thinking assessment instruments, visit www.insightassessment.com

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