

# Teaching for Critical Thinking

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It is the mark of an educated mind  
to be able to entertain a thought  
without accepting it.  
Aristotle

## Today's roadmap

- ❖ **What is Critical Thinking?**
  - Your views
  - The “Experts” views
- ❖ **Critical Thinking Skills**
- ❖ **Modeling Critical Thinking**
- ❖ **Barriers to getting students to think critically**
- ❖ **Steps for teaching CT**
- ❖ **Good Exercises**
- ❖ **Evidence of Critical Teaching**

**Warm-up question:**

**What is your definition of Critical Thinking?**

## **Thinking about Critical Thinking. It ...**

- ★ **Is a process**
- ★ **Is not automatic**
- ★ **Is teachable**
- ★ **Is HARD!**
- ★ **Requires practice and feedback**
- ★ **Is broadly applicable**
- ★ **Facilitates decision making even in the face of incomplete information**
- ★ **Is necessary for an educated citizenry and democracy**
  
- ✧ **Critical Thinking is sometimes known as reflective skepticism**
- ✧ **Critical thinking is not just a rational, mechanical activity. It involves intuition, sensing, and sometimes emotion.**
- ✧ **Critical Thinking helps people both make decisions and improve their decision making**

**“Critical Thinking is purposeful, self regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based.<sup>1</sup>”**

**1988-90 American Philosophical Association Delphi Report**

## **Fundamental Critical Thinking Skills**

- ★ **Inclusion of a variety of perspectives**
- ★ **Interpretation**
- ★ **Analysis**
- ★ **Evaluation**
- ★ **Inference**
- ★ **Explanation**
- ★ **Reflection and self-regulation**

## **Students' own barriers to Critical Thinking**

- ★ They don't know how – and we sometimes aren't good at teaching them how
- ★ It's scary to challenge themselves, and their assumptions
- ★ It's hard work, particularly at first
- ★ It's tough for them to evaluate their own performance
- ★ Students may not be used to working cooperatively
- ★ They want A DEFINITE ANSWER – and CT usually deals with situations in which the evidence does not prescribe a single answer

## **Faculty barriers to promoting Critical Thinking**

- ★ We may not model this for them
- ★ We don't explain what we mean by critical thinking in our own discipline
- ★ We don't teach them how to do this
- ★ We don't give them a chance to practice the skill without penalty for failure
- ★ We don't give them problems that truly require critical thinking
- ★ We often have a certain outcome in mind, and expect them to come to our conclusion
- ★ We may squelch their attempts to apply critical thinking to other areas, like school policies

## **To Model Critical Thinking for your Students and encourage them to be Critical Thinkers:**

- ★ Be Clear – use approaches, actions and words that are easily understood
- ★ Be Consistent – employ consistent behavior appropriate for situation
- ★ Be Open – be honest, respectful, willing to account for actions
- ★ Be Communicative – explain clearly motivation and actions
- ★ Specific – use actions and approaches that others can adapt to their own situations
- ★ Be Accessible – don't be threatening or intimidating, treat others as equals, take questions seriously

## **Characteristics of a Critical Teacher**

- ★ Competence – in communication, in facilitating productive interactions, and in helping students grasp multiple perspectives
- ★ Courage – to withstand resistance to challenging assumptions, from both students and peers
- ★ Risk Taking – willingness to explore the unknown, and to fail or be wrong
- ★ Humility – understanding that you never know all there is, that there are always new approaches, and new ideas, and new perspectives
- ★ Awareness of external influences – understanding that background, culture, ... shape one's view

## Factors that influence Critical Thinking in your students

Terenzini, Springer, Pascarella, and Nora (1995) cite three kinds of instructor-influenced classroom interactions were consistently and positively related to gains in critical thinking:

- 1) the extent to which the faculty member encouraged, praised, or used student ideas
- 2) the amount and cognitive level of student participation in class
- 3) and the amount of interaction among the students in a course

### Steps to take in your classroom to foster Critical Thinking:

- ❖ **Affirm students' self-worth** – without self-confidence, people will not try new and risky things
- ❖ **Listen Attentively** – teachers need to hear what is and isn't happening, and the clues as to why not
- ❖ **Provide lots of support** – encouragement, feedback, and structure are needed especially at early stages
- ❖ **Reflect students ideas and actions** – sometimes people have trouble seeing themselves clearly; the teacher can be the mirror for students
- ❖ **Ask open-ended questions that do not assume one “right” answer**
- ❖ **Motivate students to think critically** - but don't intimidate or belittle them
- ❖ **Regularly evaluate progress** – feedback helps evaluate progress and identify successes and problems
- ❖ **Allow sufficient wait time** – You want to encourage critical thinking, not snap judgment
- ❖ **Don't just ask for answers, require explanation of students' reasoning**
- ❖ **Help students work cooperatively** – this provides peer support, and multiple perspectives, and helps students be more willing to take a risk
- ❖ **Help students understand how they learn and practice Critical Thinking**
- ❖ **Model Critical Thinking and make your own thought processes transparent**
- ❖ **Teach students to give useful feedback, by modeling this, and giving them rubrics**
- ❖ **Create activities where it is OK to be wrong (don't grade everything, and allow students to revise as they learn)**
- ❖ **Make students aware of the various component parts of CT**
- ❖ **Model each of the components separately**
- ❖ **Have students practice the components** – particularly important are articulating assumptions, envisioning other perspectives, assessing claims, and presenting arguments
- ❖ **Finally, have students do a number of full CT exercises, and see how various components fit together and reinforce each other**

## **Useful Exercises to promote Critical Thinking**

- ★ **Provide students with a statement or policy from the school and ask them to list assumptions that shaped the statement or policy**
- ★ **Have students, in groups, take a position counter to what they believe and defend it – have the class give feedback on quality of evidence, of analysis, and clarity of presentation**
- ★ **Take an article or editorial out of the popular press and have students evaluate it for the quality of critical thinking it displays**

## **Evidence that your classroom fosters Critical Thinking**

- ★ **Learners are active and in a regular dialogue with teacher or each other**
- ★ **Students build their knowledge in ways that help them retain and understand it, not just memorize someone else's approaches to the material**
- ★ **Truth is discovered, not delivered**
- ★ **Instructor "leads from behind"**
- ★ **Student questions are answered with explanations, not simply "yes" or "no"**
- ★ **Instructor's questions require explanations**
- ★ **Students practice individual components of desired skills, with feedback**
- ★ **Pertinent discussions on related issues occur**
- ★ **Communication is in multiple forms: oral, in writing, symbolic, ...**
- ★ **Peers exchange ideas - debate is common**
- ★ **All input is respected and taken seriously –there is a free and open exchange of ideas**
- ★ **Students are taught to, and regularly do provide high-level feedback for each other**
- ★ **Students ask "what if", not just "what"**
- ★ **Both students and instructor are learning**
- ★ **Learner and instructor satisfaction increases**
- ★ **Instructors often face questions for which they have no answers**

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