WHAT IS CRITICAL THINKING?
Many definitions of critical thinking have been offered over the last several hundred years, from Francis Bacon to John Dewey to Stephen Brookfield. Some can even be traced back to Plato. Despite variation, scholars “agree that skilled critical thinkers demand justification of claims, seek to disconfirm hypotheses, avoid hasty conclusions, and provide reasons and evidence for their own claims” (Bean, 2011). In other words, critical thinking is, essentially, a “quest” (Ruggiero, 2011).

WHY SHOULD STUDENTS LEARN TO THINK CRITICALLY?
Whether students are assessing the strength of a philosophical argument, writing a literature review for a psychology paper, wondering which parts of a political candidate’s campaign to believe, or trying to figure out why a friend made a puzzling remark, they are drawing upon critical thinking skills. Critical thinking occurs not just in classrooms, but in everyday life, too. If instructors can help their students learn how to critically think, students will be better equipped to thoughtfully engage themselves, others, and the world. Robert H. Ennis explains, “The most fundamental reason for teaching critical thinking is that good thinking skills are essential for making appropriate decisions about what to believe and do, whether for personal decisions, vocatonal decisions, or civic decisions, such as voting or serving in a jury” (criticalthinking.net). Brookfield puts it most poignantly when he claims that “the ability to think critically about one’s assumptions, beliefs, and actions is a survival necessity” (2012).

A well cultivated critical thinker:
- Raises vital questions and problems, formulating them clearly and precisely
- gathers and assesses relevant information, using abstract ideas to interpret it effectively
- comes to well-reasoned conclusions and solutions, testing them against relevant criteria and standards
- thinks open-mindedly within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications, and practical consequences;
- communicates effectively with others in figuring out solutions to complex problems
(Paul and Elder, 2009)

SOME COMMON FALLACIES
Some instructors worry that teaching critical thinking will take time away from the “content” of the course. In many ways this is true; it does take time for students to be able to practice and receive feedback as they learn difficult cognitive skills. But, as Raths et al. suggest (1967), “thinking cannot be divorced from content; in fact, thinking is a way of learning content.” Instructors might reconsider this classic divide; rather than trying to ‘cover’ content, instructors can have their students use critical thinking to engage the content.

Students sometimes focus on the “critical” part of “critical thinking” and thus assume that all critical thinking is negative. They may equate “critical” with “criticism.” This may make them less likely to want to critically think, especially if it involves criticizing the work of their peers or important parts of their own lives. Yet “critical” doesn’t necessarily mean harsh criticism. As Ruggiero (2011) says, “The essence of critical thinking is evaluation.” Instructors can help their students understand that critical thinking is a process of careful assessment and that the results can be either negative or positive.

Another reason why students may resist learning how to think critically is the belief that critical thinking always involves change. If they assume that critical

[Critical thinking] is defined here as an investigation whose purpose is to explore a situation, phenomenon, question, or problem to arrive at a hypothesis or conclusion about it that integrates all available information and that can therefore be convincingly justified. In critical thinking, all assumptions are open to question, divergent views are aggressively sought, and the inquiry is not biased in favor of a particular outcome. (Kurfiss, 1988)
thinking means having to give up their deeply held beliefs, then they may not be very interested in it. But Brookfield (2012) helps us to see that “one can think critically about something and come out of the experience with a greater understanding of, and commitment to, the assumptions one began with.” Critical thinking does mean putting one’s beliefs and assumptions to the test, but it may be helpful to reassure students that we can always end up reaffirming or more firmly believing what we did before.

HOW DO STUDENTS LEARN TO THINK CRITICALLY?
Instructors have noticed that there are certain activities that help students learn to think critically. Over the years, Brookfield (2011) has collected his own data, which suggests that students learn how to critically think best when:

- They work in social-learning/small-group environments
- They see the instructor modeling critical thinking
- They explore highly specific scenarios or experiences
- They face unexpected situations or “disorienting dilemmas”
- They participate in an incremental/developmental process

THREE EXAMPLES OF CRITICAL-THINKING ACTIVITIES

**Analyze cases, simulations, or scenarios**
*Example:* “A fictionalist chemist who is trying to understand the cause and effect relationship in a particular chemical reaction sets up an experiment to test what she feels is a plausible hypothesis. Students reading this scenario are then asked to identify the reasoning behind the chemist’s choice of her particular hypothesis, and also encouraged to propose an alternative hypothesis that the fictional chemist could have chosen.” (Brookfield, 2012, 86-89)

**Create dialogues or argumentative scripts**
*Example:* “Write a short dialogue (two to three pages) between a neo-elitist power theorist and a pluralist. First, take the role of the neo-elitist (be an intellectual son or daughter of Ganson) and explain to this poor, unenlightened pluralist the meaning and importance of the concepts of predecision politics and the mobilization of bias. Respond to this radical fluff in the role of a Yale pluralist.” (Bean, 2011, 158)

**Spot the error**
*Example:* “The teacher tells students that at some point in the discussion she will deliberately make a contribution that she knows to be false... It could be agreeing with a false statement made by a participant, a comment where something is asserted as fact with no basis in evidence, an attribution to the text that is unjustified, even something as simple as giving the wrong author’s name to a particular book. Toward the end of the class students are given 30 seconds to write (anonymously!) what they think the mistake was on a piece of paper. These are then passed to the front, shuffled, and handed to the teacher. The teacher reads a selection of these out and discloses what the error was.” (Brookfield, 2012, 187)

“Critical thinking” happens when we do four things:
1. Identify the assumptions that frame our thinking and determine our actions
2. Check the degree to which these assumptions are accurate and valid
3. Look at our ideas and decisions from several different perspectives
4. Take informed action(s) (Brookfield, 2012)

RESOURCES ON CRITICAL THINKING