Teaching for Critical Thinking in Your Courses

Most instructors will agree that, in every course that they teach, they expect that students will think critically about the content and processes in the course. This does not happen unless instructors are intentionally explicit about their expectations, design instruction to evoke critical thinking (CT), and provide meaningful opportunities for its practice. As well, a plan for assessment of CT is significant in promoting effort to engage in CT. The basic assumptions that underlie deliberate instructional design for CT are:

1. Learning to think critically is hard
2. As with any difficult concept or process, most students will benefit from guidance to learn to think critically.
3. Learning to think critically requires effortful practice.

What is Critical Thinking?

There is no universal definition of CT and, of course, there are differences in CT among disciplines and epistemologies. Ennis (2015) provides a general description of CT as "reasonable reflective thinking that is focused on what to believe or do. " This a good starting point in developing a more comprehensive description to guide students in the ways that they will engage in CT in your course and discipline.

Considerations in Teaching for Critical Thinking

a. The fundamental and most vital task of instructors who include CT in their course learning outcomes is to develop an explicit *definition*[1, 2] of CT that is congruent with your discipline and epistemology. This definition should include the cognitive skills and mental dispositions (how one thinks in coming to a decision/judgement) that are expected. Sharing this with students makes clear your expectations and ways of thinking in your discipline. Faccione (2015) provides a definition that could be used in many disciplinary areas and is more directive than that of Ennis (2015).
   - *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"*

   You are encouraged to review and assess this and other definitions and to choose or develop a definition that you accept and can explain clearly to students.

b. From your definition of CT explicit *criteria*[1] for assessment should be identifiable. For example, the Faccione definition includes *self-regulation* in coming to a judgement and, therefore, should be used as one criterion for assessment. To guide students' CT, you will define this criterion.
   - *Self-regulation*: To demonstrate this element, students monitor reflect and self-correct on the thoroughness of their thinking activities and on potential preferences or biases. Students acknowledge explicitly any biases and provide evidence that they have considered all plausible options towards a judgement.

   In addition, you will provide standards for your assessment of this criterion.
   - Standards for self regulation are based on the evidence that students provide in their work (written or orally) such as the following:
     No clear evidence (0) Weak or minimal evidence (1) Adequate evidence (2) Strong evidence (3).

c. Instructors design of progressively more complex *critical challenges* as opportunities for students to engage in CT.

- Through discussions, debates, written assignment, projects and the like, the instructor provides increasingly difficult or complex critical thinking stimuli (e.g., questions to initiate discussion, journal articles for review, questions to initiate short critical responses, laboratory problems.)
- Critical challenges must be relevant to the course outcomes, meaningful to students, and present choices among viable alternatives in coming to a judgement; in other words, these assignments are worth thinking about. For example, in an introductory anthropology course, students engage in the Nomad Game[1]. They are assigned to either the Agriculturalists or the Pastoralists. Each group is given information that includes some background, the problem, social factors, cultural factors, and the instructions. The challenge is to resolve a particular issue between the two groups and to document their progress towards a resolution.
  This critical challenge leads students to work with the content of the course in their deliberations and resolutions. Explicit assessment of critical thinking based on shared criteria and standards motivate students to work with their group to reach an outcome acceptable to both groups.

c. Provide *scaffolds* for CT activities can include the provision of verbal or written prompts, CT supports (e.g., formative peer assessment and peer discussion, staged essays and modeling of CT through a 'think aloud' process by the teacher). For example, one could prompt students, in the instructions, to consider and document the range of possible alternatives outcomes and/or consideration of personal biases. Over time and varied activities, the number of scaffolding elements is reduced, leading students to engage in CT independently.
d. Require students to make CT visible by documenting and justifying their CT activities in response to the critical challenges. In doing so, students, engage in ***metacognition***, a significant element in CT. Justifying one's CT processes is crucial to ensure that students are taking responsibility for the decisions made and conclusions reached (Ellerton, 2015) [2].
e. Unambiguous *feedback* on their work that is based on the CT criteria and standards will increase students' understanding of CT. This is a crucial part of the CT learning process.

[1]. Green Guide 6: Teaching for Critical Thinking (2006) provides various definitions and justifies coming to a particular definition for the guide, three different disciplinary examples of critical challenges and the criteria and standards for the responses to the critical challenges.
[2]. The Palgrave Handbook of Critical Thinking in Higher Education (2015) is a comprehensive scholarly resource for a variety of issues in teaching for critical thinking.