

Teaching Critical Thinking: It's Critical! 2006

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Desired outcomes

- We will better understand what critical thinking is
- We will have concrete strategies to increase our students' critical thinking skills
- We will know what motivates students to think critically
- We will use critical thinking skills to improve our success in teaching our students to think critically

Reflection Questions

- What *is* critical thinking?
- Why is critical thinking important in the course(s) you teach?
- Why is that important?
- Why is *that* important?
- Why is ***that*** important?



Working definition:

“Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.” --

Michael Scriven and Richard Paul

Another perspective

"Critical thinking is not just a matter of applying the rules of logic (much less scientific method). It is a matter of thinking and feeling empathetically with others, of engaging one's imagination, of having access to a wealth of facts about the possible effects of alternative actions, of discerning patterns of meaning in experience, of looking at the world from different perspectives." --Warren Nord

Let's DO some critical thinking!

Forced Analogies

Prerequisites for critical thinking

- Substantial knowledge of facts, concepts, ideas
- Belief in one's ability to think critically
- Safe environment in which to express thoughts
- Rewards for thinking critically
- Others?

Three kinds of instructor-influenced classroom interactions consistently and positively related to gains in critical thinking:

- the extent to which faculty members encouraged, praised, or used student ideas;
- the amount and cognitive level of student participation in class;
- the amount of interaction among the students in a course."

Terenzini, Springer, Pascarella, and Nora
(1995)

Teach Students to Think by Having Them Put on Their Thinking Caps

Parallel Thinking

- **White Cap:**
Information
Available and
Needed
- **Red Cap:** Intuition
and Feelings
- **Gray Cap:**
Cautions, Critical
Thinking
- **Yellow Cap:**
Benefits
- **Green Cap:**
Alternatives and
Creative Ideas
- **Blue Cap:**
Managing
Thinking, Thinking
about Thinking

Modified from Ed De Bono's Six Thinking Hats

White Cap: Information Available and Needed

- What information is available?
- What information would we like to have?
- What information do we need?
- How are we going to get the missing information?

Caution: Can get stuck here; can be overused

Red Cap: Intuition and Feelings

- What is my gut reaction?
- What are my feelings right now?
- What does my intuition tell me?

“Controlled release of steam”

Gray Cap: Cautions, Critical Thinking

- What can be the possible problems?
- What could some of the difficulties be?
- What are the risks?
- What are the points of caution?

*Must give logical reasons for concern;
can be overused*

Think of food; it is essential but can be overdone

Yellow Cap: Benefits

- What are the benefits?
- What are the positives?
- What are the values?

Can be used to introduce a different perspective

Can be an assessment tool when used with gray hat

Green Cap: Alternatives and Creative Ideas

- Are there other ways to do this?
- What else could we do here?
- What are the possibilities?
- What will overcome our difficulties?

Search for new ideas; modify and remove faults in existing ideas; no cautions

Blue Cap: Managing Thinking, Thinking about Thinking

- What is our agenda?
- What type of thinking is appropriate at this stage?
- What type of thinking for our next step?
- How can we summarize the discussion so far?

*Metacognition; Are we learning the material?
Assessment*

Critical Thinking Problem

What is the proper US response to the terrorist threat to air travel safety?

Teach students to think critically by:

- Using reflection activities in and out of class
- Using the Thinking Hats method
- Converting the course to a Communication across the Curriculum course
- Making the course a Service-Learning course
- Making all examinations cumulative
- Others?

Next Step...

What strategy will I implement to teach critical thinking in my class?

References

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- Terenzini, P.T., Springer, L., Pascarella, E.T., & Amaury, N. 1995. "Influences Affecting the Development of Students' Critical Thinking Skills." *Research in Higher Education* 36: 23-39.