

A Few Key Slides

Critical Thinking, Intellectual Rigor &
Individual Responsibility

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(not intended as a presentation)

What's your story?

- How have you come to think critically?
- What do you do when you read critically?
- How do you assess whether something is true or false?
- What courses or people helped you become more critically minded?

KEY POINT

Mine our personal intellectual narratives as a resource to guide student thinking.
It's our strongest, most practical resource for designing learning experiences.

Background Logic

To any course, issue, investigation, reading, relationship, etc. We each bring background:

Experiences
Perspectives
Feelings
Associations
Attitudes
Agendas

Assumptions
Judgments
Impressions
Knowledge
Habits of Mind

The Critical Mind...

seeks to make explicit
what is implicit
so that it can be
mindfully examined
as a guide to belief and action.

Why do we need critical thinking?

Critical thinking isn't natural.

- Walking vs. Ballet
- Just rational enough

2 Tendencies

1. We rationalize irrational thinking and behavior
 - a) We make poor/unethical thinking look good
 - b) Seek evidence that supports our existing belief and ignore contradicting evidence.
 - c) Rate evidence as good or bad depending on whether or not it supports or conflicts with our belief. (egocentric standards)
2. We stick to our beliefs despite overwhelming evidence to the contrary.

Why Critical Thinking?

The Big Picture

The Problem:

Humans are reasoning beings, but the quality of our reasoning is often flawed. Our thinking can be sound, accurate, clear, empathetic, but it can also be unfounded, inaccurate, unclear, and prejudiced.

Why Critical Thinking?

The Big Picture

Critical thinking is the process of consciously, systematically, and fairly examining thinking within context and holding it accountable to clear, unbiased, transparent, and consistent criteria. In this way we make an explicit attempt to expose and examine our assumptions, inferences, beliefs, and actions so that we can correct shoddy thinking and reproduce exemplary thinking. So, excellence in thinking must be cultivated.

Strategy for Seeking Clarity

- STATE in your own words what someone else has said or written or the key concept, problem or question at issue.
- ELABORATE on your statement. In other words...
- EXEMPLIFY: give an example of the concept from your life and from the content.
- ILLUSTRATE: create an analogy, metaphor, simile, graph, chart, cartoon, etc.

NOTE: A very good explanation of this process with activities in Nosich, G. (2012). Learning to Think Things Through...(4th Ed.) Pearson Ed.

One Approach to Cultivating the Intellect

Focus on the explication and systematic use of an Intellectual Language



Intellectual Language

Criteria

- Clarity, Relevance
- Validity, Reliability
- Accuracy, Significance
- Completeness

Analytical Language

- Goals, Purposes
- Assumptions
- Concepts , Theories
- Evidence, Information
- Claims, Hypotheses
- Inferences, Implications
- Perspectives

Virtues/ Attitudes

- Humility, Integrity
- Empathy, Open-mindedness
- Flexibility, Curiosity
- Autonomy, Courage

So What Do We Do?

We ask students to engage in a language of thinking:

- Explore and clarify – **goals, objectives, purposes**
- Identify and clearly articulate – **problems, issues**
- Clearly formulate relevant – **questions, hypotheses**
- Explicate and interpret – **concepts, ideas, theories**
- Expose and assess – **assumptions**
- Examine alternative – **perspectives, orientations, points of view**
- Draw sound – **conclusions, inferences, judgments, solutions**
- Follow out the – **implications**
- Understand and examine – **consequences**


KEY POINT

Cultivating and strategically using a thinking language in the classroom transforms abstract words into tools.

Philosophy Example 2

Possible Traditional Assignment

“As a group, discuss your reaction to Plato’s *Crito*.”



Philosophy Example 2 cont'd

An assignment that fosters critical thought may ask instead:

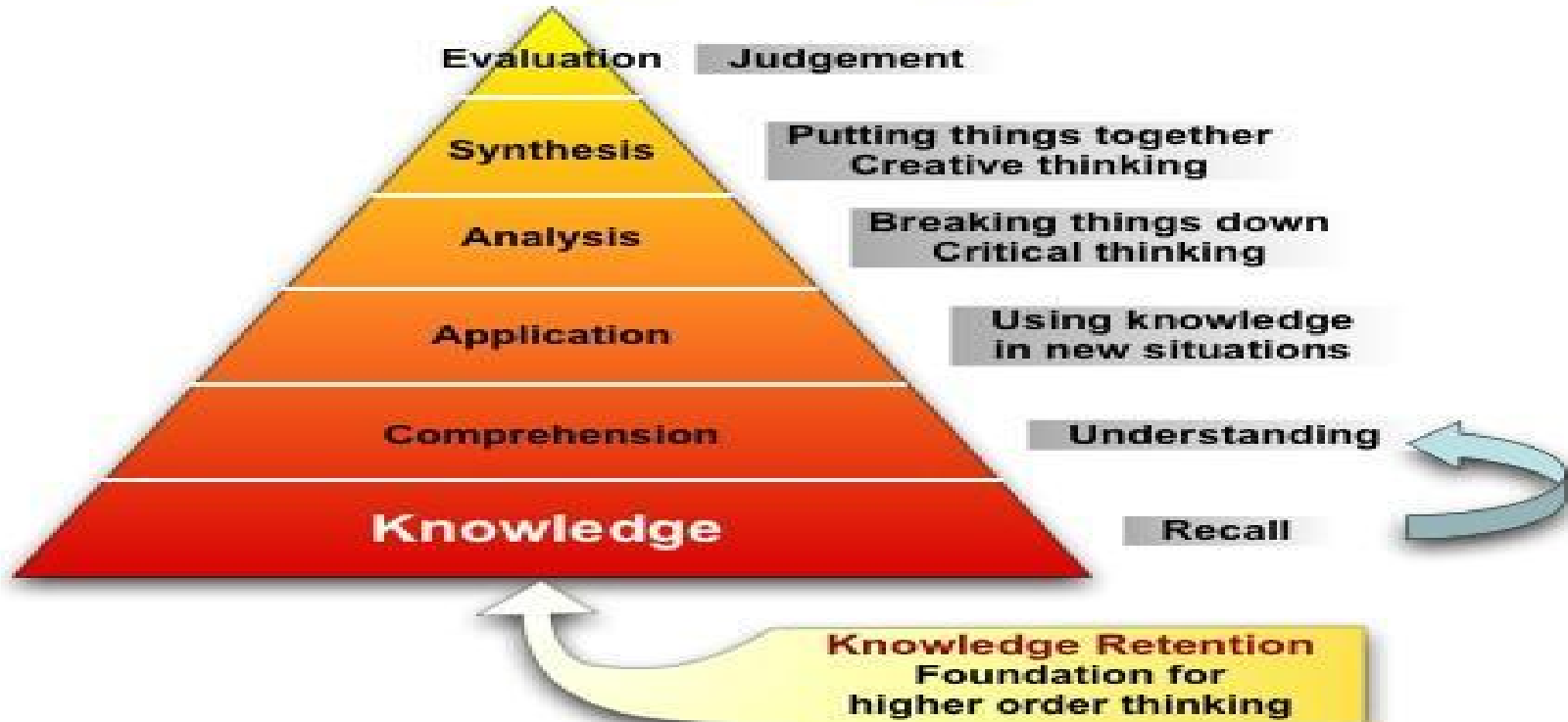
- “In a group of three, propose a list of significant questions you would like to have the teacher address or the class discuss regarding Plato’s *Crito*. Your initial list (which you will hand in to the instructor) should include a dozen or so questions.... (next slide)

Then reach consensus on what you consider your three best questions. Your recorder will write these questions on the board and will explain to the class why your group considers them pertinent, interesting, and significant questions raised by *Crito*. Time: 15 minutes.”

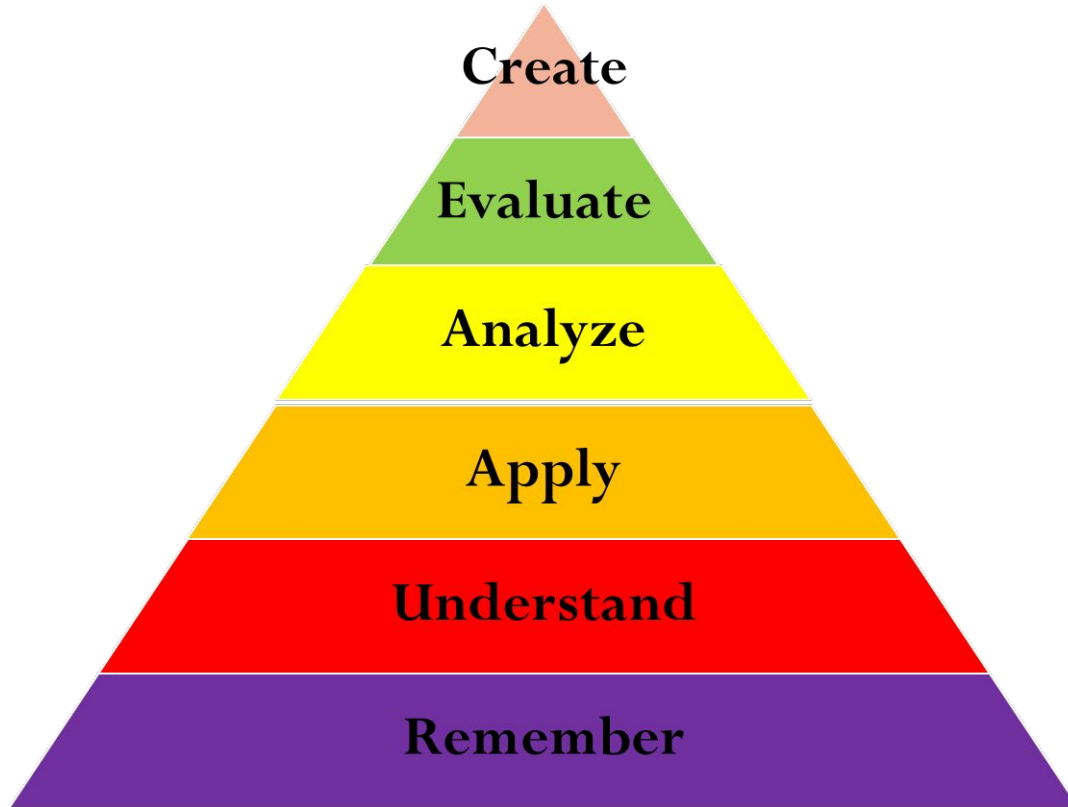
Source: Bean, J. Engaging Ideas... p. 152

Original Bloom's Taxonomy

Bloom's Taxonomy for Thinking



Revised Bloom's Taxonomy



Bloom's Re-conceptualized

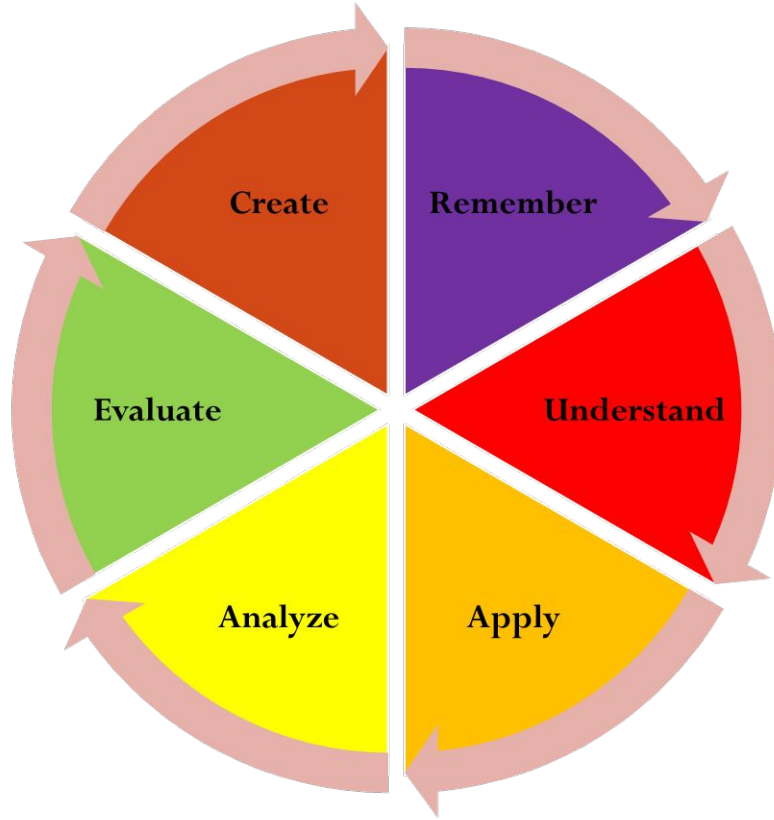


Illustration Based on St. Edward's University, Center for Teaching Excellence, 2001

Poincare

“Science is built of facts the way a house is built of bricks, but an accumulation of facts is no more science than a pile of bricks is a house!”

CRITICAL THINKING

Is **NOT** something we add to
what we do.

It's **HOW** we do everything we do

A few definitions

critical thinking

Critical Thinking
is a *self-directed* process
by which we take
deliberate steps
to think at the
highest level of quality.

www.criticalthinking.org general powerpoint

Robert Ennis Definition

“Critical thinking is reasonable, reflective thinking that is focused on deciding what to believe or do.”

Matthew Lipman Definition

“Critical thinking is skillful, responsible thinking that is conducive to good judgment because it is sensitive to context, relies on criteria, and is self-correcting.”

Richard Paul's Playful Definition

“Critical thinking is thinking about your thinking, while you're thinking, in order to make your thinking better.”

Instructional Strategies

Thinking Routines

Critical Reading (first steps)

To read critically students must:

- Clarify their purpose for reading the text
- Read the text more than once
- Read the text from multiple points of view

Make this explicit for students
and have them account for it!

Clarifying begins with ---SEEI

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Role Play

- Partners
- Purpose: Address two differing interpretations to an issue or problem.
- ‘A’ takes a pro side.
- ‘B’ argues con side.
- Switch when prompted.
 - Usually after 2-3 minutes.
- Develops intellectual depth and empathy.

The instructor's job is...

The student's job is...

- **Purpose:** To identify & challenge assumptions about teaching and learning.

Pre-Assessment

On the first day of class, have students write a one-page paper where they complete the above sentence prompts.

Post-Assessment

At the end of the semester, have students complete the paper again.

Engaged Lecture: 10/3

- Lecture for no more than 10 minutes.
- Have students process for at least 3 minutes.

Formulating Questions

- Periodically stop class and have students write down a question they have as they think through the content.
 - If they do not have a question, write: “I am not thinking well enough to have a question.”
- Periodically stop class and have students write down the question at issue (under discussion).

Challenge Inert Knowledge

- Take any fact in the course content.
- Have students think of the fact as a hypothesis.
- Challenge students to explain the background logic that informs the fact.

**What is the intellectual product
(insight, skill, disposition) I want to
result from this?**

What else does a well cultivated thinker do?

Aut inveniam, aut faciam

“I shall either find a way,
or make one.”



Selected Sources

- ✓ Foundation for Critical Thinking; www.criticalthinking.org ; 707-878-9100
- ✓ Bean, J.C. (1996). *Engaging Ideas: A Professor's Guide to Integrating Writing, Critical Thinking, and Active Learning in the Classroom.*
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- ✓ Van Gelder, T. (2003). "Teaching Critical Thinking: Lessons from cognitive science." *College Teaching*. 45(1).
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