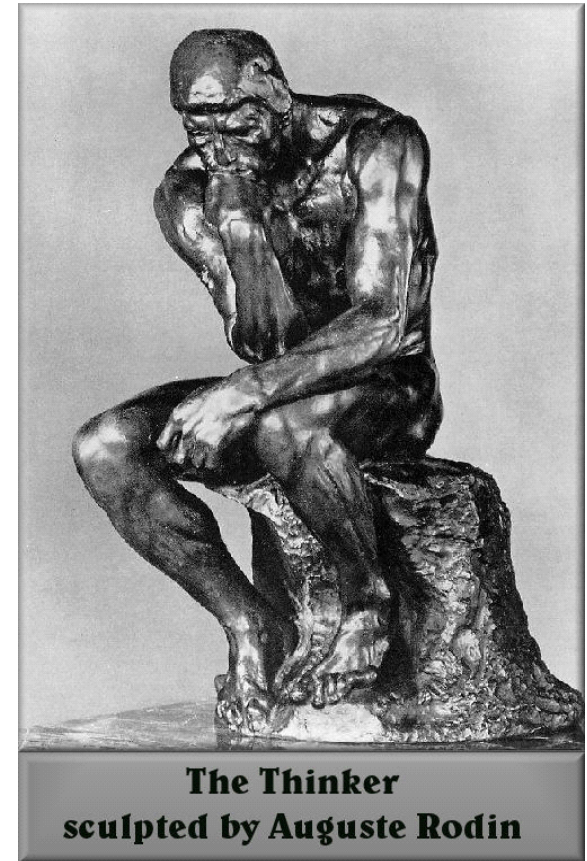


What is Critical Thinking?

- ✎ Sitting on top of your shoulders is one of the finest computers on the earth.
- ✎ But, like any other muscle in your body, it needs to be exercised to work its best.
- ✎ That exercise is called

THINKING.



11/14/12

I think, therefore I am.
Rene Descartes

-

What is critical thinking?

- ❧ Commonly called “problem solving”
- ❧ Not being content with the first solution to a problem, but thinking more deeply about it.
- ❧ **Knowing, understanding, analyzing, synthesizing, applying** and **evaluating** the idea or problem
- ❧ Looking for what is implied in a question rather than what is stated
- ❧ Applying the rules of logic to problem solving
- ❧ Not letting reason be clouded by emotion – unless that is part of the dissertation itself

Four Aspects of Critical Thinking

∞ Abstract Thinking:

thinking past what your senses tell you

∞ Creative Thinking:

thinking “out of the box,” innovating

∞ Systematic Thinking:

organizing your thoughts into logical steps

∞ Communicative Thinking:

being precise in giving your ideas to others.

Critical Thinking: What is involved?

- ❧ **Question**: what is being asked?
- ❧ **Purpose**: why do I want the answer?
- ❧ **Point of View**: where do I stand to look at the question?
- ❧ **Information**: what data do I have?
- ❧ **Concepts**: what ideas are involved?
- ❧ **Assumptions**: what am I taking for granted?
- ❧ **Inferences**: what conclusions am I drawing?
- ❧ **Consequences**: what are the implications of my question?

A Thinker's Lexicon

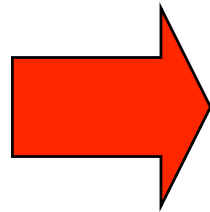
Inference	A judgment based on evidence
Plausible	Logical and believable, credible
Validity	Truthful, well-founded
Claim	To assert as a fact whether it is or not
Fact	A truth that cannot be disputed
Opinion	A personal view or belief
Argument	A set of claims to support an assertion
Assumption	An inference that is believed to be true

Inductive and Deductive Reasoning

- Inductive Reasoning

Specific Reasoning

Example: My history class requires a lot of reading



Broad Principles

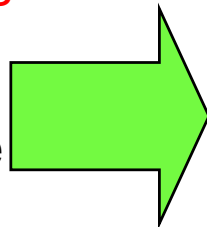
All college courses have a lot of reading

- Deductive Reasoning

Broad

Generalizations

Example: All college courses are hard



Specific

Conclusions

My art history course will be hard

The IDEAL Method

- Identify the problem.
- Define the problem.
- Explore alternative approaches.
- Act on the best strategies.
- Look back to evaluate the effects.

Ask Questions

- ❧ One quality of a good critical thinker is the ability to ask on-target questions.
- ❧ If you don't take risks, you won't get the maximum benefit in developing your mind.

There's No Such Thing as a Stupid Question (Usually)

- 👉 There are *unwelcome* questions.
- 👉 Don't ask questions that detract from the momentum of the argument.
- 👉 Don't ask questions that focus more on self-concerns than on the needs of the argument.
- 👉 Don't ask questions that demonstrate you failed to pay attention to what you have already written.



Offer Criticism

- ❧ You will most likely be asked to judge or evaluate issues in college.
- ❧ First decide whether you like what you are being asked to judge.
- ❧ Consider both positive and negative attributes.
- ❧ Use examples to support your judgment.
- ❧ Don't be intimidated by this kind of assignment; your instructors want you to develop your critical thinking skills.

Make the Right Inferences

- ❧ You are constantly making inferences.
- ❧ *Inferences* are interpretations that you derive from processing cues in a situation.
- ❧ A *plausible* inference is a judgment that is logical, and possibly accurate.
- ❧ Sometimes inferences become *assumptions* — something we believe to be true and act on as though it were.
- ❧ Inferences can be tricky. It is easy to be wrong and you may operate on faulty assumptions until you are informed otherwise.

Four Common Decision Making Problems

❧ Snap decisions

❧ Don't jump to conclusions!

❧ Narrow thinking

❧ Broaden your vistas!

❧ Sprawling thinking

❧ Don't beat around the bush!

❧ Fuzzy thinking

❧ Keep it sharp! Keep it relevant!

What is a Claim?

!

- ❧ A *claim* is a statement which can be either true or false, but not both.
- ❧ A claim is an assertion you want to have accepted as a fact and not be disputed.
- ❧ When evaluating a claim, you have three choices:
 - ❧ accept the claim
 - ❧ reject the claim
 - ❧ suspend judgment until you have more information

What is an Argument?

- An *argument* is a set of claims.
- Arguments begin with *premises and lead to a conclusion*
- A good argument is one in which the premises lead logically to a *strong* or *valid* conclusion.

Form Strong Arguments

- Be sure the conclusion follows logically from the premises.
- Leave out faulty or dubious premises.
- Use precise language to pinpoint your claim.
- Avoid making claims you can't prove.

Know Your Own Biases

- ❧ Everyone has strong preferences and prejudices that may prevent us from evaluating arguments fairly.
- ❧ Acknowledging these can increase the likelihood of coming up with more effective arguments.
- ❧ Good reasoners guard against their own “soft spots” to increase their objectivity.
- ❧ Be honest with yourself: “Am I opinionated?”

Refine Your Reasoning

- ❧ Be willing to argue
- ❧ Use deductive reasoning
- ❧ Check your assumptions
- ❧ Know your own biases
- ❧ Observe carefully
- ❧ Stay positive and persistent
- ❧ Show concern for accuracy
- ❧ Take time before concluding

What Makes a Creative Thinker?

- ❧ They actively pursue experiences that are aesthetically pleasing.
- ❧ They enjoy taking a unique approach to things.
- ❧ They love the process of creating.
- ❧ They are flexible and like to play with problems.
- ❧ They take risks and learn from their mistakes.
- ❧ They strive to evaluate their work fairly.

Why demonstrate Critical Thinking?

⋮

- ⌘ Manage and interpret information
- ⌘ Examine exciting ideas and develop new ones
- ⌘ Pose logical and cogent arguments
- ⌘ Recognize reliable evidence
- ⌘ Be proactive rather than reactive
- ⌘ Think things through in depth.