Critical Thinking and Values

Thinking as Reasoning
The drawing of conclusions or inferences from observations, facts, or assumptions

Algorithms and logic

Deductive reasoning
A tool of formal logic in which a conclusion necessarily follows from a set of premises.

Inductive reasoning
A tool of formal logic in which a conclusion probably follows from a set of premises.
Barriers to rational reasoning

- Exaggerating the improbable
- Avoiding loss
- Biases due to mental set
- The confirmation bias
- The hindsight bias
- The need for cognitive consistency
- Overcoming our cognitive biases

Exaggerating the improbable

Availability heuristic
The tendency to judge the probability of an event by how easy it is to think of examples.

Avoiding loss

People try to minimize risks and losses when making decisions.
The fairness bias
The Ultimatum Game: Your partner gets $10 and must decide how much to share with you. You can accept or reject the offer, but if you reject it, neither of you get any money.
It is rational to accept any offer: you always end up with more money if you accept than if you reject the offer.
In industrial societies, offers of 50% are typical.
Offers below 20–30% are commonly rejected.

The hindsight bias
The tendency to overestimate one’s ability to have predicted an event once the outcome is known.
The “I knew it all along” phenomenon

The confirmation bias
The tendency to pay attention only to information that confirms one’s own beliefs

Test this rule: If a card has a vowel on one side, it has an even number on the other side.
Which 2 cards to turn over?
**Biases due to “mental set”**

**Mental set**
Tendency to solve problems using procedures that worked before on similar problems
Mental sets make learning and problem solving more efficient.
NOT helpful when problem calls for novel or creative approach

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**Cognitive dissonance**
A state of tension produced when a person holds two contradictory cognitions or when a person’s belief is inconsistent with his/her behavior. Examining our thinking and the evidence leads to hanging our behavior and to integrity. Recall: Elliot Aronson’s 1980s UCSC condom study!

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**You try especially hard to reduce dissonance**
When you need to justify a choice or decision you freely made
When you need to justify the effort put into a decision or choice
When you need to justify behavior that conflicts with your view of yourself—hypocrisy and integrity!
Justification of effort

The tendency of people to increase their liking for something they have worked hard for or suffered to attain

A common form of dissonance reduction

Sternberg’s triarchic theory

Componential (analytic)
Comparing, analyzing, and evaluating
This type of process correlates best with IQ

Experiential (creative)
Inventing solutions to new problems
Transfer skills to new situations

Contextual (practical)
Applying the things you know and have learned to your most frequent or valued everyday contexts

Domains of intelligence

Howard Gardner
Proposed several intelligences beyond those usually considered including musical, kinesthetic and emotional intelligence.

Emotional intelligence
Ability to identify your own and other people’s emotions accurately
Ability to express your emotions clearly
Ability to manage emotions in self and others
The drawing of conclusions or inferences from observations, facts, or assumptions.

A personal view or belief.

Opinion.

An inference that is believed to be true.

A set of claims to support an assertion.

Assumption.

Truthful, well-founded.

Logical and believable, credible.

A truth that cannot be disputed.

A personal view or belief.

Critical thinking guidelines

Ask questions (be willing to wonder!)

Define your terms

Examine the evidence

Analyze your assumptions and biases

Avoid overly emotional reasoning (reacting vs. responding)

Don’t oversimplify

Consider other interpretations

Tolerate uncertainty
Values are what we find meaningful in life. They are what you care about and consider to be important. Values are different for everybody, and they can change over time.

Values are different from goals. Put crudely, goals can be ‘achieved’ whereas values are more like compass directions that we want to head in.

For example we might have the goal of getting our children to school on time, which sits within our value of ‘being a good parent’, or the goal of going for a jog while placing value upon exercise and health. Knowing and clarifying your values in the context of good thinking is the First Step in making good decisions and living a life of meaning and integrity.