Critical Thinking: A Critical Skill

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Question 1

• How do you put a giraffe into a refrigerator?
  • You open the refrigerator, put in the giraffe and close the door.
  • This question tests whether you tend to do simple things in an overly complicated way.

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Question 2

• How do you put an elephant into a refrigerator?
  • You open the door, take out the giraffe and put in the elephant.
  • This question tests your ability to think through the repercussions of your previous actions.
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Question 3

• The king of the forest is hosting an animal conference. All of the animals attend except one. Which one does not attend?

• The elephant. He's in the refrigerator. You just put him there.

• This question tests your memory.

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Question 4

• There is a river you must cross, but it is inhabited by crocodiles. How do you manage it?

• You swim across. All of the crocodiles are attending the animal conference.

• This question tests whether you learn quickly from your mistakes.

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Learning Objectives

• Discover the obstacles to overcome for more productive thought and better decisions.

• Find better ways to learn, listen and understand.

• Apply the problem-solving process and learn ways to devise effective, long-lasting solutions.

• Think for yourself.
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The Decision-Making Process

- Recognize the problem
- Define it
- Learn more about it
- Brainstorm possible solutions
- Choose a solution(s) and set goals
- Troubleshoot any problems
- Try the solution and assess results
- Modify or reject. Repeat as necessary

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The Trouble With Problems

- Definition: something that calls for a solution
- Roadblocks to recognizing them
  - To avoid taking action
  - To avoid taking responsibility
- Types
  - Severe
  - Major
  - Minor
  - Important

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Solving Problems

- Define it
  - Do not be overwhelmed at first
  - Get information
  - Do not just solve off-shoots
- Distinguish between problem, symptoms, consequences
  - Avoid assumptions
  - Think it through - what is really happening?
- Group action
  - Roadblock – acting too quickly
Use Focused Observation

- Increase awareness
- Use our senses
- Direct method
- Gather information
- Focus
- Concentrate
- Create context
- Be thorough

Graphic Organizers (1)

- Meaningful display of complex information
- Help us to see patterns & organize our thinking
- Help us to gather and compress information
- Keep us focused on our goal
- Show us what we know & what we need to find out
- Help us understand & interpret thoughts & ideas

Graphic Organizers (2)

- Concept map
- Webbing
- Venn diagram
- Chart
- Problem/solution outline
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**Exercise**

- Problems:
  - Equipment needed for a new park
  - Paint city hall
  - Additional staff person needed
  - Your child wants a pet dog
  - Employee needs disciplining
  - Need a date for Saturday night
  - Complaints about small dollar purchase policy
  - Your pre-teen wants a cell phone
  - Your spouse wants a vacation

Draw me on a piece of paper.

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**Goal Setting**

- Goal – a thing to accomplish or solve
- Why?
  - Helps make things happen
  - Gives us focus
  - A map to guide us
- Qualities of a good goal
  - In writing
    - Specific
    - Measurable
    - Realistic
    - Deadline

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**Information Resources**

- Libraries
  - People trained to help
  - Non-searchable print
  - Information has been vetted
  - Have the “in-between” stuff
  - Are free
- Experts – the human resource
  - Know their subject
  - Can be relied upon for correct information

Are saves time over library and web?

Credentials – are they really an expert?
Information Resources

- The Internet
  - Search methods
    - Search engines like Google, Yahoo, Ask, etc.
  - Subject directories
    - Go directly to a site
- Roadblocks
  - Lots of poorly researched data
  - Lots of slapdash work
  - Lots of knowingly false data
  - Fiction posing as fact
- Reliability check

Evaluating Facts

- LA Times, WSJ, NY Times, USA Today, Miami Herald vs supermarket tabloids
- Fact vs opinion
  - Facts – objective statements that can be verified
  - Opinion – subjective statements based on personal belief
- Do we trust the source?
- Is there bias?
- Is content accurate?

Persuasion Techniques

- Persuasion
  - Anyone can use it
  - Political groups try to get our vote
  - Advertisers try to sell us stuff
  - Propaganda
- Rhetoric
  - Rhetorical devices
    - Rhetorical question
    - Rule of three
    - Emotional language
  - Hyperbole
  - Sound patterns
  - Comparisons
Persuasion Techniques

- Persuasive advertising
- Sensory appeal
- Sex appeal
- Group appeal
- Authority
- Scientific or statistical
- Flattery
- Unfinished claim

The Numbers Game

- Manipulating surveys
  - Use an appropriate sample size
  - Large enough
  - Similar to target population
  - Random
  - Remain unbiased
- Margin of error – indication of confidence
- Correlation studies
- Statistics
- Is it meaningful?
- Is it misrepresenting something?

Emotions

- Recognize them
- Bias and stereotyping
- Making decisions under stress
  - Inability to recognize/understand problem
  - Difficulty brainstorming/setting reasonable goals
  - Inability to assess the solution
- Ego
  - We can overstate our abilities
  - We may not be able to take valid criticism
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**Types of Reasoning**

- **Deductive**
  - Two facts or premises that if both true will make the conclusion true
- **Inductive**
  - Two facts or premises that if both true will make the conclusion probably true

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**Explanations and Arguments**

- **Explanation**
  - Reasons or causes for something
  - Gives new information
  - Topic is accepted as fact
  - Removes or lessens a problem
  - It is relevant
- **Argument**
  - Evidence for a conclusion
  - Judgments
  - Opinions
  - Differences
  - Explanations are not about persuasion
  - Feelings and beliefs are used in arguments
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**Judgment Calls**

- **Tricky**
  - Stakes are high
  - Information is incomplete
  - Knowledgeable people disagree
  - Ethics/conflicting values involved
  - Outcome is both subjective and debatable
- **Preparation**
  - Gather as much information as possible
  - Seek out others for info. and feedback
  - Play “what if?”
  - Ask and intuition
  - Making the call