Critical thinking

2023 – FACULTY OF INFORMATION TECHNOLOGY

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Why do you study for a Degree?

Some reasons

- Increased Access to Job Opportunities
- Preparation for a Specialized Career
- Increased Marketability
- Increased Earning Potential
- Economic Stability
- Networking Opportunities
- A Pathway to Advancement
- Personal Growth and Improved Self-Esteem
- Positive Return on Investment
- …

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Why do we have this lesson?

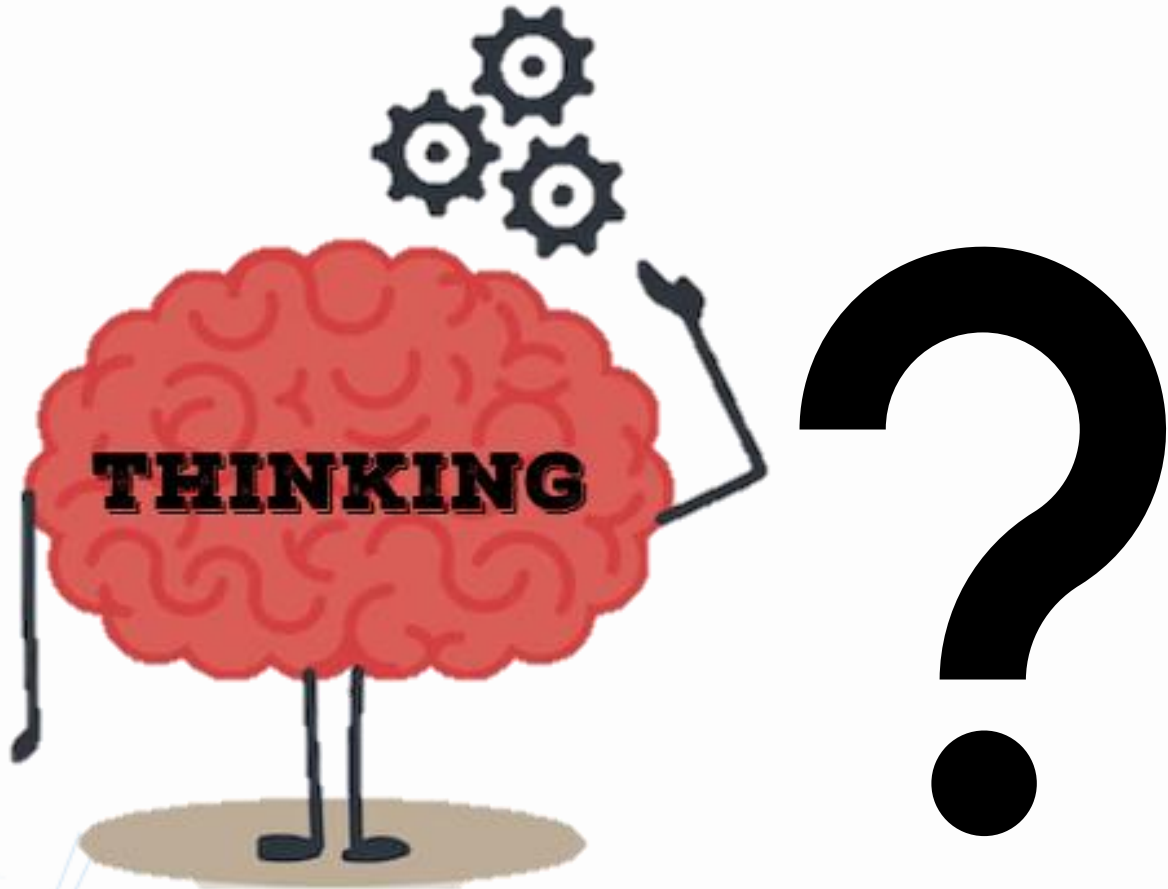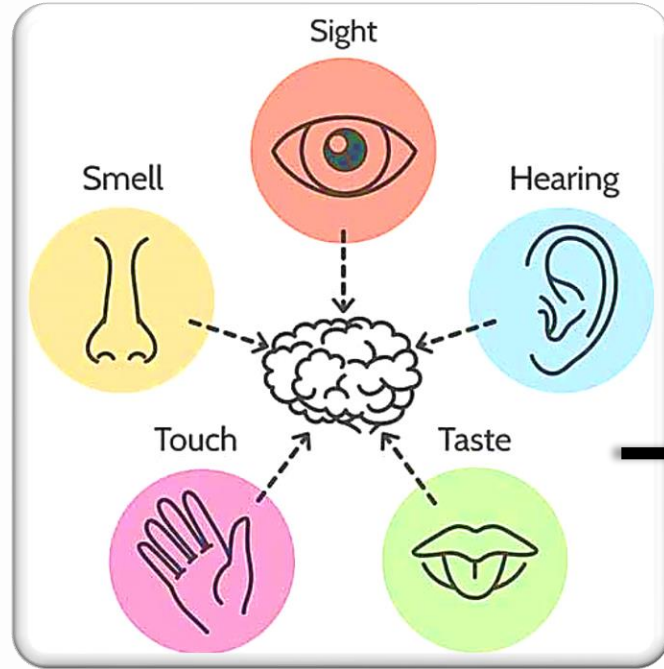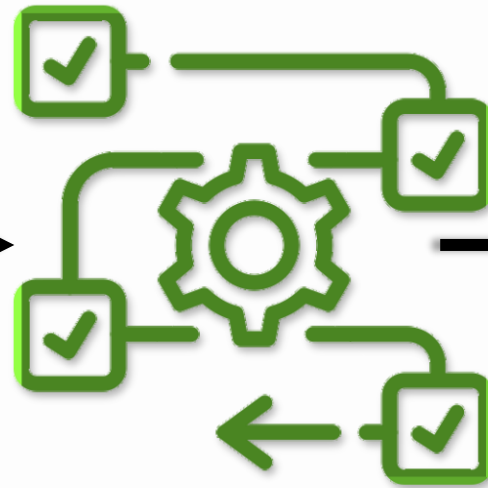**To help you improve your thinking skill**

HOW TO THINK

Thinking

Discuss

- By group (6-7 members)
- Duration: 10 minutes

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Sight
Smell
Hearing
Touch
Taste

Information processing

CONCLUSION

What is thinking?

The process of using one's mind to consider or reason about something.

(https://dictionary.Cambridge.org)

Thinking in **psychology** is the process of consciously generating and manipulating thoughts and ideas in the mind.

As you start asking questions and seek answers,

you are thinking.

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What is thinking?

"Thinking is an operational skill of the brain through which intelligence is nurtured and developed."

(Dr. Edward de Bono)

Discuss

"What were the mistakes in thinking that you found in the video?"

The story of Confucius and Yan Hui- SPOT OF RICE

https://chuaxaloi.vn/

Do you remember this story?

Lesson

- Don't judge a book by its cover

- Looks aren't everything

- What really matters is invisible to the eyes

Let's perform an experiment

- Our minds don't work the way we suppose.

- We think we **see** ourselves and the world as they really are → We are missing a lot of what goes on around us, and that we have no idea that we are missing so much
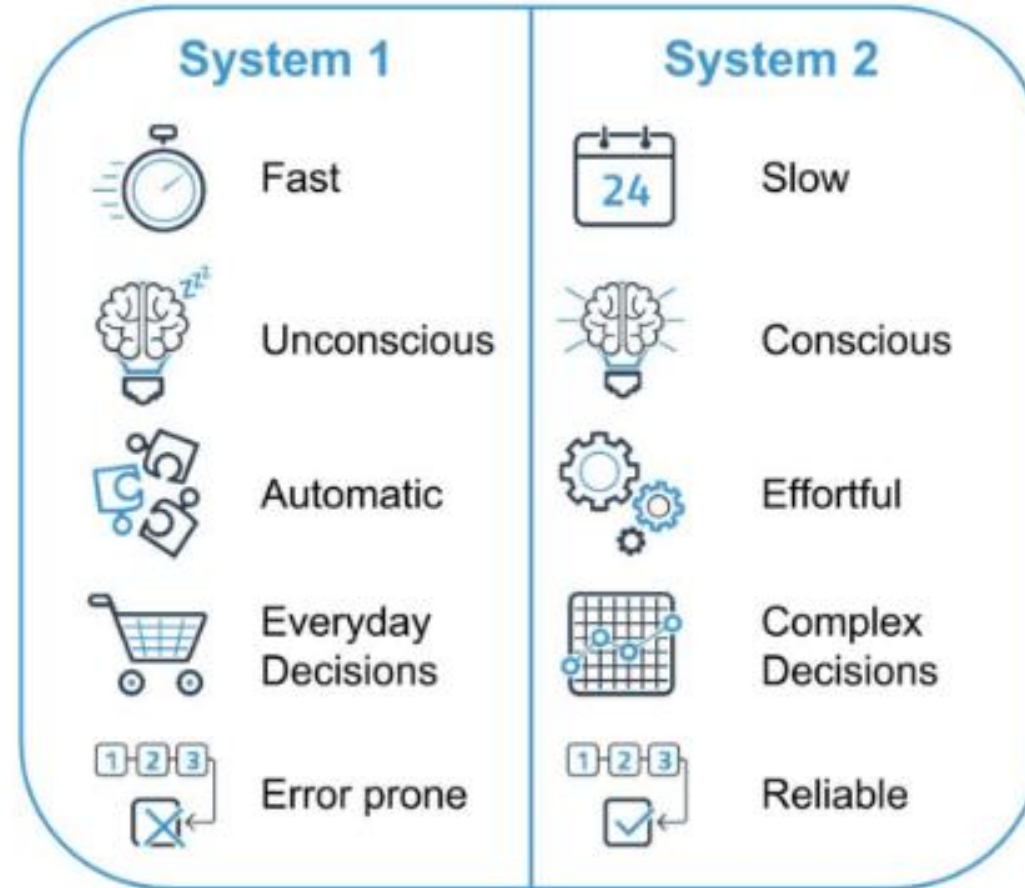
Left vs Right Brain

- Analysis
- Logic
- Sequencing
- Linear thinking
- Mathematics
- Facts
- Thinking in words

- Imagination
- Holistic thinking
- Intuition
- Arts
- Creativity
- Feeling
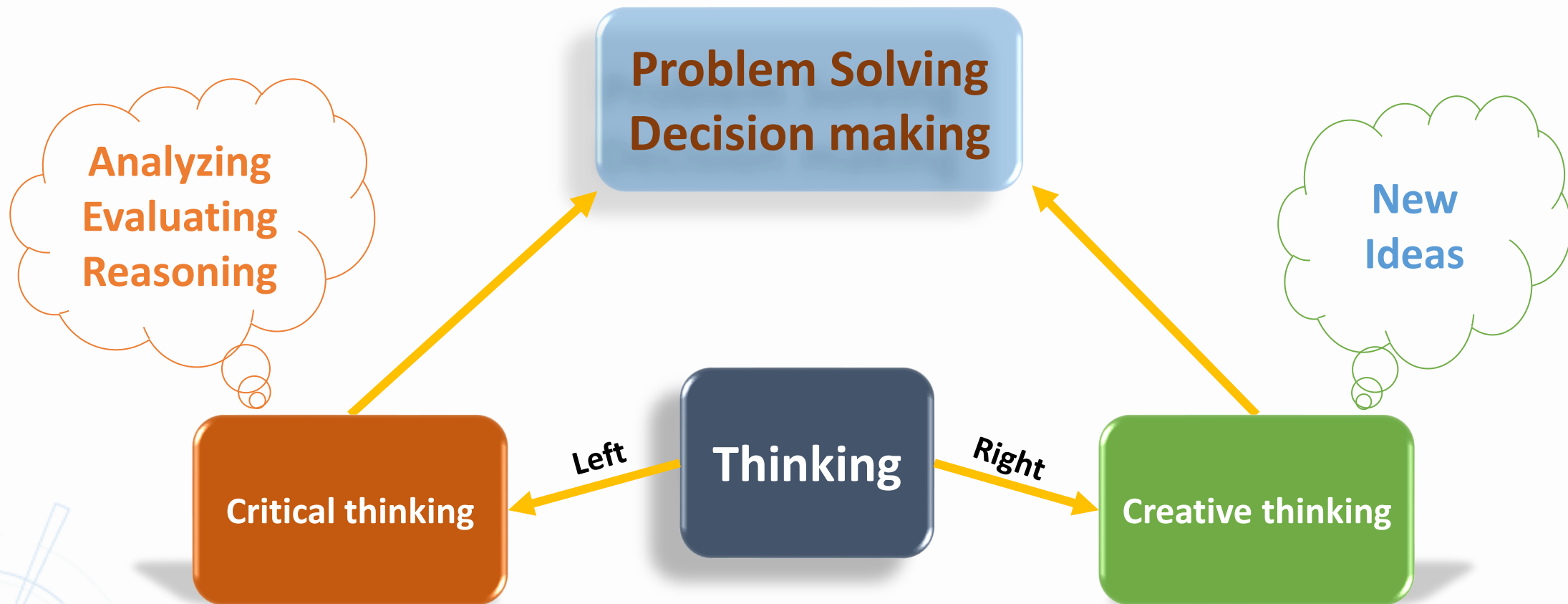- Daydreaming

Thinking Systems

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Fast thinking

Slow thinking

(Thinking Fast and Slow – Daniel Kahneman)
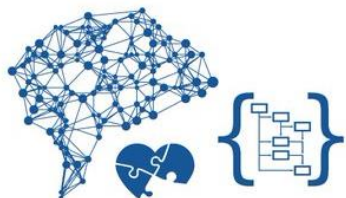
Critical thinking

Why Critical Thinking?

Top 10 skills

in 2020

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

Source: Future of Jobs Report, World Economic Forum

It enhances **problem-solving ability.**

Refine your **research skills.**

Polishes your **creativity.**

Helps to improve **decision making.**

Why is **CRITICAL THINKING** Important?

Stimulates **curiosity.**

(https://tscfm.org/blogs/the-benefits-of-critical-thinking-for-students/)

What is critical thinking?

Problem Solving
Decision making

Analyzing
Evaluating
Reasoning

Critical thinking

Left

Thinking
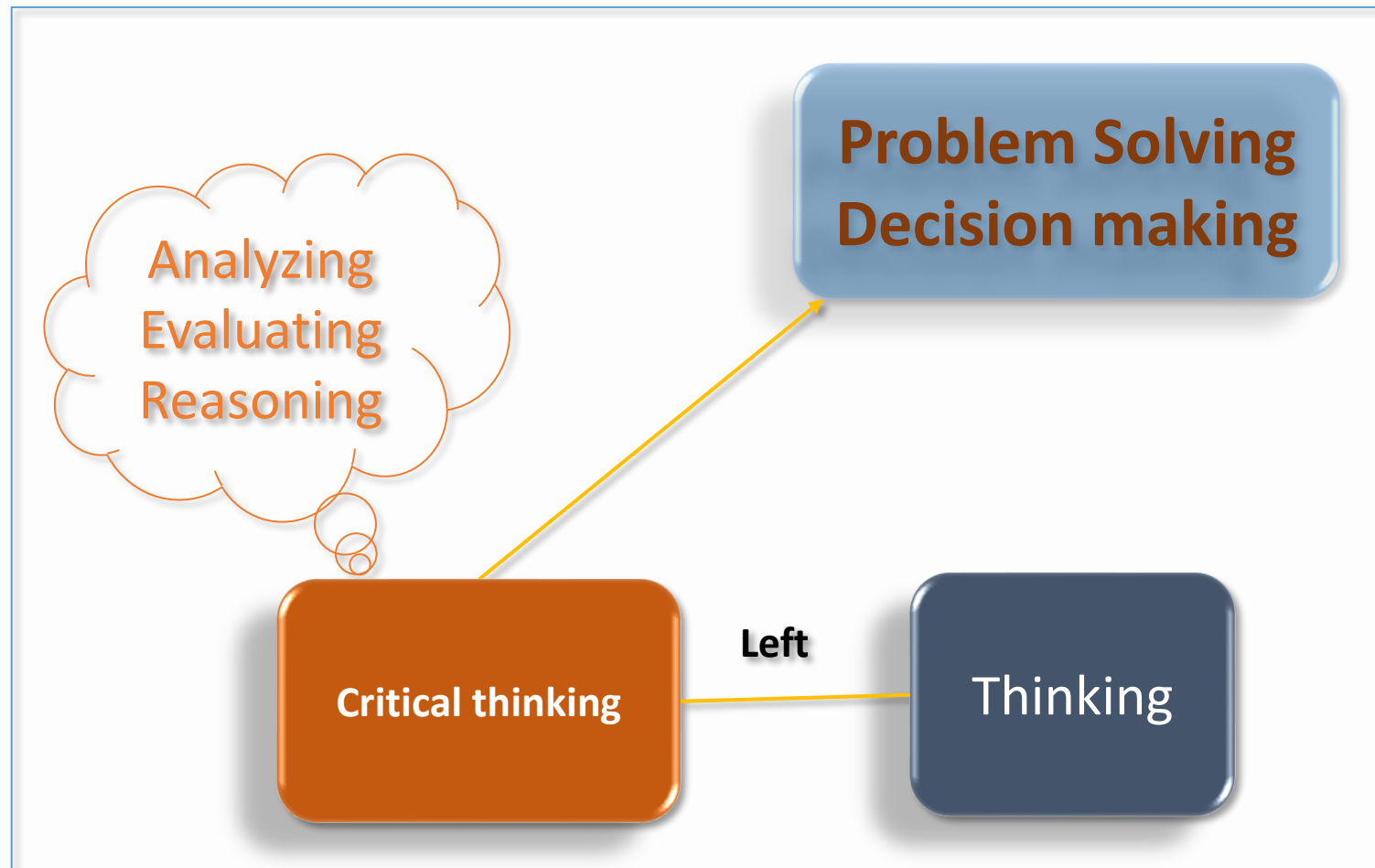
What is critical thinking?

The process of thinking carefully about a subject or idea, without allowing feelings or opinions to affect you.

(https://dictionary.Cambridge.org)

What is critical thinking?

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 & Richard Paul, 1987)

What is critical thinking?

- **Steps:**
  - Analyzing and weighing up arguments
  - Evaluating evidence that has been presented
  - Distinguishing between fact and opinion
  - Reviewing the research methods used (how the data has been gathered)
  - Considering the potential for bias
  - Analyzing different interpretations, viewpoints and perspectives
  - Reaching conclusions based on your own reasoning.

"making clear, reasoned judgments"

(Barry K. Beyer, 1995)

Critical thinking standards

Clarity

Relevance

Logicalness

Accuracy

Depth

Significance

Precision

Breadth

Fairness

Critical thinking standards

Clarity Unambiguous and understandable	Could you elaborate further? Could you illustrate what you mean? Could you give me an example?
Accuracy Based in facts that can be objectively verified	How could we check on that? How could we find out if that is true? How could we verify or test that?
Precision Exact and specific to the the necessary level of details	Could you be more specific? Could you give me more details? Could you be more exact?

Critical thinking standards

Relevance Relating to the matter at hand	How does that relate to the problem? How does that bear on the question? How does that help us with the issue?
Depth Containing complexities and inter-relationships	What factors make this difficult? What are some of the complexities of this question? What are some of the difficulties we need to deal with?
Breadth encompassing multiple viewpoints	Do we need to look at this from another perspective? Do we need to consider another point of view? Do we need to look at this in other ways?

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Logicalness The parts make sense together, no contradictions	Does all of this make sense together? Does your first paragraph fit in with your last one? Does what you say follow from the evidence?
Significance focusing on the important, not trivial	Is this the most important problem to consider? Is this the central idea to focus on? Which of these facts are most important?
Fairness justifiable, not self – serving or one-sided	Is my thinking justifiable in context? Am I taking into account the thinking of others? Is my purpose fair given the situation? Am I using my concepts in keeping with educated usage, or am I distorting them to get what I want?

Critical Thinking vs. Overthinking

Critical thinking is systematic, objective, analytical, disciplined, and leads to finding solutions,
while overthinking is psychological, inhibits action, and is generally negative and not in our control.

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Thank you!