The Psychology of Critical Thinking

Tools, Tips and Techniques to help you think at your best

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Learning Objectives:

• Describe the difference between “usual” thinking patterns and critical thinking

• Self-identify your stage of thinking based on a six-stage process of critical thinking functioning

• Learn tools to promote your critical thinking

• Gain question tools to apply the standards of reasoning

• Practice applying critical thinking tools
What makes thinking different?
Critical Thinking is a self-directed process by which we take deliberate steps to think at the highest level of quality.

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Critical Thinking is a self-directed process by which we take deliberate steps to think at the highest level of quality.

You can’t think for others, others can’t do your thinking for you.

Follows a process so you can explain or write down the steps so others can follow.

Conforms to standards of thinking.

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Critical thinking isn’t natural

“Thinking is to critical thinking as walking is to ballet”

--Dr. Enoch Hale, The Foundation for Critical Thinking
Critical thinking can seem this complicated....
In reality, we are all on a journey of thinking throughout our lives.

Good thinking habits are second nature

Master Thinker

Unreflective Thinker

Unaware of significant problems in our thinking
Unreflective Thinker

Unaware of significant problems in thinking

Draws inferences

Continually makes assumptions

Thinks within a point of view

Flies are tasty!
Anyone would love flies.
Let’s serve flies

Sees beliefs as truths

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Unreflective Thinkers

- Cling to beliefs as though they are truths
- Engage in self-deception by creating and maintaining “pleasant illusions”
  - Frogs are awesome
  - Toads, are losers!
- Believe their decisions are sound even though they are unconsidered
- Irrationally dismiss ideas because they don’t want to change their behavior or comfortable way of looking at things
- Often stereotype others

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Unreflective Thinkers in the real life

In organizational life

…the irrational manager who can’t understand why his employees can’t “give it up”
…the perpetual procrastinator

In health

…the teenager who thinks vaping is cool
…the motorcyclist who reasons that helmets obstruct vision, so therefore it must be safer to ride without one.
…the person who thinks they can drive safety while drunk

In personal life and relationships

…the individual who decides to marry a self-centered person with the thought that he or she will “change” after marriage
Inference vs. Assumptions

This person is a single mother

There will be food at the party
Challenged Thinker

Faced with significant problems in our thinking, yet we begin to notice that we:

- Make questionable assumptions
- Use false, incomplete, or misleading information
- Make inferences that do not follow the evidence we have
- Think egocentrically and irrationally, reasoning within prejudiced points of view

Unreflective Thinker

Unaware of significant problems in our thinking

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Challenged Thinker: 

signs of emerging reflectiveness

➢ Striving to analyze thinking
➢ Thinking about assumptions
➢ Wondering if they are stuck in a certain point of view
➢ Thinking about issues like “is it logical”, “is it accurate”, “is it precise”, even though these concepts can seem new to them.
➢ Becoming curious about self-deception, though challenged to find examples from their own life.

Challenged thinkers often mistakenly believe they are immune to the flaws in thinking, because they have dawning awareness of those flaws.

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Beginning Thinker

Aware of problems in thinking and trying to improve but without regular practice

- Starts to take thinking seriously and develop “thinking willpower”
- Notice when selfish interests bias viewpoint
- Begins to express clear and precise questions, check information for accuracy and relevance
- Distinguish between information and someone’s interpretation of it

Challenged Thinker

Faced with significant problems in our thinking

Unreflective Thinker

Unaware of significant problems in our thinking

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Practicing Thinker

Aware of the need to actually practice thinking and adopt a strategy to practice it

• Tests out different strategies, builds skills
• Reflects on process of thinking
• Uses skills like S.E.E.I
• Considers points from multiple perspectives when evaluating information

Beginning Thinker

Trying to improve but without regular practice

Challenged Thinker

Faced with significant problems in our thinking

Unreflective Thinker

Unaware of significant problems in our thinking

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Advanced Thinker
Keep up with disciplined practice in thinking and is developing:
- Intellectual humility, autonomy, integrity and courage
- Confidence in reason
- Intellectual empathy and fair-mindedness

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Master Thinker
Good habits of thought become 2nd nature

Advanced Thinker
Keeps up with disciplined practice in thinking

Practicing Thinker
Aware of the need to actually practice thinking

Beginning Thinker
Aware of problems in thinking and trying to improve but without regular practice

Challenged Thinker
Faced with significant problems in our thinking

Unreflective Thinker
Unaware of significant problems in our thinking

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
What stage of thinking are you at? Where do you think most people are?
Master Thinker
Good habits of thought become 2nd nature

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Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
How to Practice Critical Thinking #1

S.E.E.I.

State
Elaborate
Exemplify
Illustrate

Deliberate steps to take to think at the highest level of quality

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SEEI

- **STATE** in your own words what someone else has said or written or the key concepts, 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.
SEEI – Example

**STATE** Research has shown that self-awareness is a critical skill for successful leaders. Best practice asks us how we can become more self-aware of our perspectives, traits, habits, and actions.

**ELABORATE** In other words, it is crucial that a leader understands how s/he is the same as, and different from others with whom s/he works, communicates, and leads.
SEEI – Example

- **EXEMPLIFY** Since self awareness is a key factor of success, I signed up for a leadership development program and completed a 360-degree assessment, along with several other tools. Along with the coaching, that taught me how others see me as well as how to be effective in communicating with them and motivating them as we transform our enterprise.
SEEI – Example

*ILLUSTRATE* My process used several highly respected, scientifically valid and reliable tools. These helped me to go beyond understanding the concept, and to actually begin to quantify it and put into practice the insights I learned.
Zoom Rooms: 10 minutes

In Random Groups

Exercise A:

- Create a SEEI example from your group
- Go to the Google doc that matches your Zoom Room number
- You have 10 minutes

Collaborative Google Doc Link:
https://docs.google.com/document/d/1E2ZJSzxqNtErqgCw3pY72C5x6L7MezP_-ZG8wDVoAOc/edit
How to Practice Critical Thinking #2

Follow proven strategies, such as The Elements of Thought
The elements of thought...
In attempting to answer a question we think for a purpose within a point of view based on assumptions leading to implications and consequences. We use data, facts, and experiences to make inferences and judgments based on concepts and theories.

Make sure your thought process includes these steps. It is like showing your work in math class.
These *Elements of Thought* might seem intuitive, but check your assumptions and examine whether you really do follow these steps.

**Elements of Thought**
- **Points of View**
  - Frame of Reference
  - Perspective
  - Orientation
- **Purpose of the Thinking**
  - Goal, objective
- **Questions at Issue**
  - Problem
- **Implications & Consequences**
- **Assumptions**
  - Presuppositions, taking for granted
- **Information**
  - Data, observations, facts, experiences
- **Concepts**
  - Theories, laws, models, definitions, principles
- **Interpretation & Inference**
  - Conclusions, solutions

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
When you do an *Elements of Thought* group exercise, your board might look something like this (or be even busier!)

http://www.criticalthinking.org/ctmodel/logic-model1.htm
How to Practice Critical Thinking #3

The Standards of Reasoning
The 9 Standards of Reasoning

Clarity
Accuracy
Precision
Depth
Logic

Breadth
Significance
Fairness
Relevance

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Standards of Reasoning Questions to Ask

Clarity
Could you give me an example?

Accuracy
Can you elaborate further?

Precision

Depth

Logic

Relevance

Fairness

Significance

Breadth

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Standards of Reasoning Questions to Ask

- Clarity
- Accuracy
- Precision
- Depth
- Logic
- Relevance
- Fairness
- Significance
- Breadth

How could we check on that?

How could we test or verify that?

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Standards of Reasoning Questions to Ask

Clarity
Accuracy
Precision
Depth
Logic
Relevance
Fairness
Significance
Breadth

Could you be more specific?

Could you give me more details?

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Standards of Reasoning Questions to Ask

Clarity
Accuracy
Precision
Depth
Logic
Relevance
Fairness
Significance
Breadth

What factors make this a difficult problem?

What are some of the difficulties we need to deal with?

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Standards of Reasoning Questions to Ask

- Clarity
- Accuracy
- Precision
- Depth
- Logic
- Relevance
- Fairness
- Significance
- Breadth

Does all this make sense together?

Does your first paragraph fit in with your last?

Does what you say follow from the evidence?

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Standards of Reasoning Questions to Ask

Clarity
Accuracy
Precision
Depth
Logic
Relevance
Fairness
Significance
Breadth

How does that relate to the problem?

How does that help us with the issue?

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Standards of Reasoning Questions to Ask

Clarity

Accuracy

Precision

Depth

Logic

Relevance

Fairness

Significance

Breadth

Am I sympathetically representing the viewpoints of others?

Do I have a vested interest in this issue?

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Standards of Reasoning Questions to Ask

- Clarity
- Accuracy
- Precision
- Depth
- Logic
- Relevance
- Fairness
- Significance
- Breadth

Is this the most important problem to consider?

Which of these facts are most important?

Is this the central idea to focus on?

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Standards of Reasoning Questions to Ask

Clarity
Accuracy
Precision
Depth
Logic
Relevance
Fairness
Significance
Breadth

Do we need to look at this from another perspective?

Do we need to look at this in other ways?

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
How to Practice Critical Thinking #4

The Intellectual Virtues
The Intellectual Virtues... And their opposites

- Intellectual Integrity
- Intellectual Humility
- Intellectual Perseverance
- Intellectual Autonomy
- Intellectual Empathy
- Intellectual Narrow-mindedness
- Intellectual Courage
- Fairmindedness
- Distrust of reason & evidence
- Confidence in Reason
- Intellectual Arrogance
- Intellectual Hypocrisy
- Intellectual Cowardice
- Intellectual Laziness
- Intellectual Unfairness
How thinking goes wrong...

- Egocentric thinking
- Irrational Thinking
Egocentric vs. Rational thinking

Common irrational tendencies

“It’s true because I believe it”

This is innate egocentrism and happens when one assumes what one believes is true but really has never questioned the basis of those beliefs.
Egocentric vs. Rational thinking

Common irrational tendencies

“It’s true because I believe it”

“It’s true because WE believe it”

This is innate sociocentrism and happens when one assumes that the dominant beliefs of the group to which one belongs are true, but really has never questioned the basis of those beliefs.
Egocentric vs. Rational thinking

Common irrational tendencies

“It’s true because I believe it”

“It’s true because WE believe it”

“It’s true because I want to believe it”

This is innate wish fulfillment. For example when one believes in what “feels good” or supports one’s other beliefs, believes in those things that do not require admitting to having been wrong, or believes one is better than others without seriously considering the evidence.
Egocentric vs. Rational thinking

Common irrational tendencies

“IT's true because WE believe it”
“IT's true because I believe it”
“IT's true because I want to believe it”

“It's true because I have always believed it”

This is innate self validation and is based in a strong desire to maintain long held beliefs without considering the extent to which they are justified.
Egocentric vs. Rational thinking

Common irrational tendencies

“It’s true because I believe it”

“It’s true because WE believe it”

“It’s true because I want to believe it”

“It’s true because I have always believed it”

“It’s true because it is in my selfish interest to believe it”

This is innate selfishness. This is when one holds fast to beliefs that justify one getting more power, money or personal advantage even though these beliefs are not grounded in sound reasoning or evidence.
Egocentric thought can be very frustrating!

Defensiveness

Apathy

Irritability

Depression

Resentment

Arrogance

Alienation

Anger

Indifference

IT’S TRUE BECAUSE...
“... I believe it”
“...WE believe it”
“...I want to believe it”
“...I have always believed it”
“...it is in my selfish interest to believe it”

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Irritability

Resentment

IT’S TRUE BECAUSE...
“... I believe it”
“...WE believe it”
“...I want to believe it”
“...I have always believed it”
“...it is in my selfish interest to believe it”

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How can you apply some of these ideas?

- Go to the Google doc group space that matches your Zoom Room number
- Dissect this (actually real) statement in your Google doc
- You have 10 minutes
- Bonus: ID some Standards of Reasoning Questions you might ask this person
Applying the Standards of Reasoning
to an example of clouded thinking

Clarity
Breadth
Accuracy
Precision
Depth
Logic
Relevance
Fairness
Significance

My co-worker shot me a nasty look in the meeting. I know it’s because she just won a huge promotion—everyone is drooling with jealousy. Yeah, most of the team congratulated her. I didn’t stop by her office and say anything because I was working on a deadline and then so much time went by, well, it just seemed awkward after that. But now she’s throwing off all kinds of nasty non-verbals. When she doesn’t like someone she really can’t hide it, and now I’m on her target list. I know she’s going to be staring me down with that smug little smile at the staff meeting this afternoon.
Applying the Standards of Reasoning to an example of clouded thinking

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Can you give me an example?
Could you be a victim of egocentric thinking?

Think of a recent disagreement in which you now realize that you were not fair-mindedly listening to the views of someone else. Perhaps you were defensive during the conversation, or were trying to dominate the other person. You were not trying to see the situation from the perspective of the person with whom you were interacting. At the time, however you believed that you were being reasonable. Now you realize that you were being close-minded. Complete these statements:

1. The situation was as follows...
2. My behavior or thinking in the situation was as follows...
3. I now realize that I was close-minded because...

If you cannot think of an example, think of a situation that you were in recently in which someone else was being close-minded. Also ask yourself why you cannot think of any examples of close-mindedness on your part.
Do you want to become a Master Thinker?

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Reflecting on your knowledge of thinking

Test yourself by writing your answers to the following:
Can you describe the role that thinking is playing in your life? (Be as clear and as detailed as you can.)

1. What was a recent assumption you made (that you should not have made)?
2. What is a recent concept you formed (that you previously lacked)?
3. List five inferences that you made in the last hour.
4. Name and explain a point of view that you sometimes use to guide your thinking.
5. Briefly describe how you analyze and assess thinking.
6. Name some intellectual standards (e.g. fairness, relevance, accuracy, etc.) you use. Explain how you apply them.
7. Explain the role of egocentric thinking in your life.
8. Take one or two intellectual traits (i.e. intellectual humility, courage, or empathy, perseverance) and explain what you are doing to try to embody them.

Source: The Foundation for Critical Thinking, online at www.CriticalThinking.Org
Some good books to help you become a better thinker

- Staying Happy Being Productive
- The Coddling of the American Mind
- Cognitive Behavioral Therapy Made Simple
- 25 Days to Better Thinking & Better Living
- Feeling Good
- Thinking, Fast and Slow

And visit CriticalThinking.org