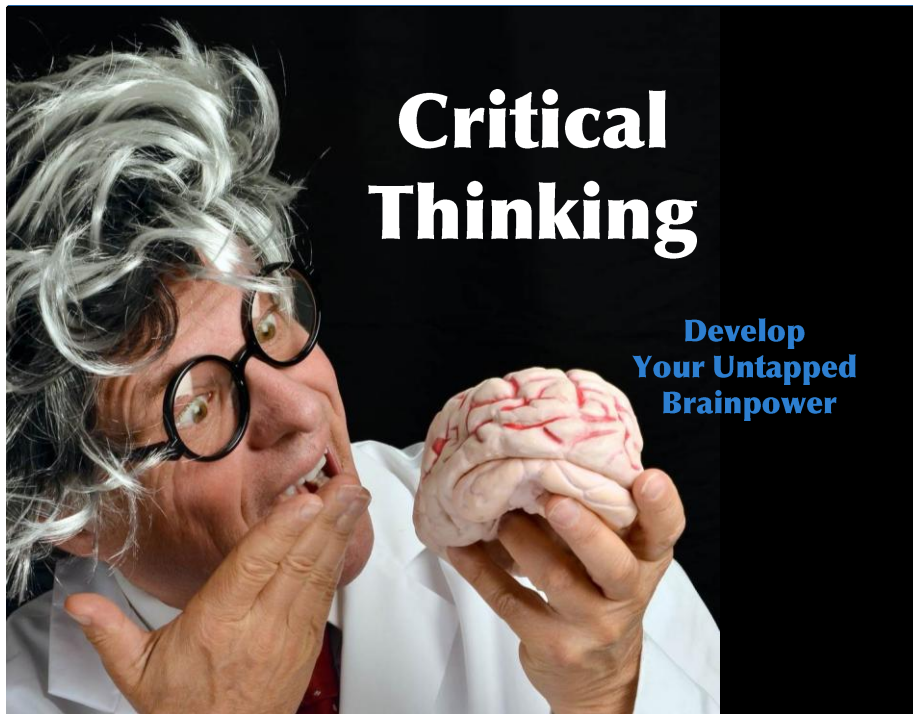




The ability to think critically is an essential competency in today's workplace. You have to quickly assess complex information and make well-reasoned yet rapid decisions. You must go beyond a simple "fix it and move on" mentality to a process that considers *why* something happened. You need to constantly question, challenge assumptions and look for patterns so problems can be prevented rather than just repaired. And, you must do all this in a work environment that has lost almost all time for reflection!



About the Author

TJ Titcomb has been helping organizations manage change, develop leaders and prevent problems for more than forty years. She holds a master's degree in counseling psychology and a PhD in organizational development. Now mostly retired, Dr. Titcomb is sharing workbooks from presentations she has given at conferences.

What is Critical Thinking?



Critical Thinking (CT) is not criticizing, disapproving or being negative. The experts provide a range of definitions. They say CT is the ability to . . .

- . . . use a disciplined intellectual process to apply skillful reasoning as a guide to belief or action
- . . . think in a systematic, logical manner with openness to question and reflect on the reasoning process used
- . . . take charge of one's own thinking

**Critical thinking is
thinking about your thinking
while you're thinking in order to
make your thinking better.**

– Richard Paul



Critical thinkers are truth seekers. They . . .

- ☑ demonstrate open-mindedness
- ☑ show tolerance for others' views
- ☑ admit to own areas of ignorance
- ☑ examine their own biases
- ☑ are curious and eager to learn

2



Why is Critical Thinking Important?

Think of the opportunities, changes and challenges your organization is facing. Identify ways CT could affect your team, your workplace and your outcomes:

1. _____
2. _____
3. _____
4. _____

Critical thinking is not one of those simple skills that you can learn by taking three easy steps. Becoming a critical thinker is a lifelong journey.

There are days and issues when you will excel in critical thinking. On other days or with other issues, you will probably slide into old habits, with your brain operating on auto-pilot. The starting point is to consistently pay attention to **HOW** you think. Take your brain off auto-pilot.



AUTOMATIC

REFLECTIVE

Recognize the Brain Plays Tricks

3

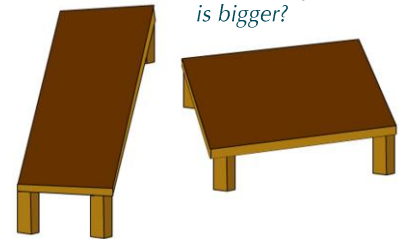


1 count the F's

FINISHED FILES ARE THE RESULT OF YEARS OF SCIENTIFIC STUDY COMBINED WITH THE EXPERIENCE OF YEARS.

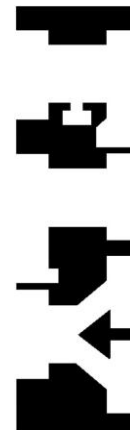
2

which tabletop is bigger?

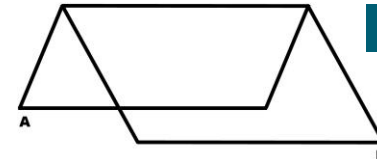


3

what do you see?



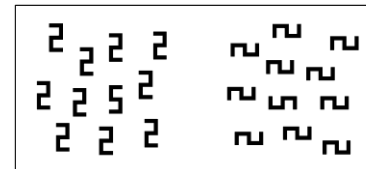
4 which flap is in the front?



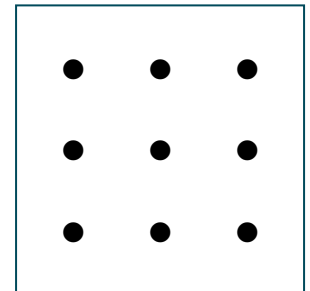
6

Is it legal for a man to marry his widow's sister?

5 find the oddball in both groups



7



draw 4 straight lines that pass through all 9 dots without picking up your pen and without retracing

If you get hopelessly stuck, email TJ at tj1948@gmail.com and she'll help with the answers.



Beware Sneaky Mind Traps

Critical thinking does not come naturally to most of us. We are all vulnerable to common unconscious TRAPS that block critical thinking.

The FRAMING Trap

our approach is shaped by how we define the problem and by the questions we choose to ask
work to reframe in various ways ... ask how your thinking might change if your framing changed ... consider how others framed the problem

The STATUS QUO Trap

we have a strong bias toward alternatives that perpetuate the status quo
assess how the status quo is working ... always consider multiple options ... don't exaggerate the cost or effort needed to make a change

The SUNK COST Trap

we make choices in a way that justifies past choices because we've sunk so much cost
seek input from people not involved in the original decision and listen carefully to them ... ask yourself admitting earlier mistakes distresses you

The ANCHORING Trap

we give more weight to initial data and first impressions including biases & stereotypes
move past first impressions and view problems from different perspectives ... seek info and opinions from a variety of people ... be open-minded

The CONFIRMATION Trap

we seek info that supports our point of view and gut instinct and avoid contradicting input
don't accept confirming evidence without question ... use a devil's advocate ... be honest about your motives ... do you really want to think critically?

These are just a few of the most common cognitive biases or distortions – Check Wikipedia for a list of more than 100



Think Consciously and Intentionally



Taking your brain off auto-pilot is a great starting point to becoming a more effective critical thinker. Make a conscious and intentional effort to ...

► Engage the PFC; resist the amygdala

the pre-frontal cortex is the executive function of the brain that solves problems and decides what to do – it is the conductor of the orchestra – the amygdala is one of the older parts of the brain that contributes to the process of emotion and is prone to over-reacting

► Know your Goal and Purpose in this situation

why are you pondering this? what do you want to accomplish?

► Seek Relevant Information

gather input from the right sources – remember to open your mind to new or different viewpoints – ask the right questions for the goal and purpose – weed out stuff that's interesting but doesn't apply now

► Evaluate Statements and Arguments

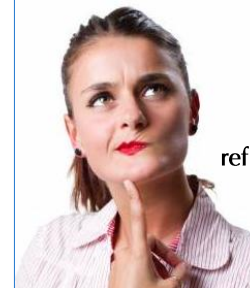
reject inaccurate or irrelevant info – check your facts and check your data – don't automatically value stories over statistics

► Examine your Beliefs and Assumptions

be aware of things you take for granted – conclusions you make – things you learned previously as do not question – interpretations of things based on your background

► Take the Time

use your reflective brain – take the time needed to make well-thought out decisions – keep in mind that the human brain not designed for heavy duty multi-tasking – you actually lose time every time you switch from one task to another – with complex and important decisions, give them the time and attention they deserve



If we don't take the time for reflective thought about our decisions, we cannot improve them.

- Richard Paul



Assess with Intellectual Standards

Critical thinker Richard Paul says we need to not only apply logic but also use “basic intellectual standards” to assess our thinking. Try using these questions to challenge your thought processes on the job. They can also enhance team problem solving ...

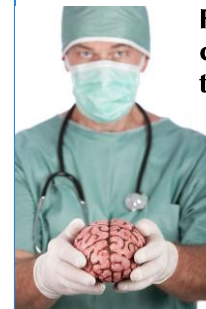
Clarity	Could you give me an example? Could you illustrate what you mean?
Accuracy	How could we check on that? How could we find out if that is true?
Precision	Could you be more specific? Could you give me more details?
Relevance	How does that relate to the problem? How does that help us with the issue?
Logicalness	Does all of this make sense together? Does what you say fit the evidence?
Depth	What factors make this a complex problem? What are some of the difficulties we need to deal with?
Breadth	How can we look at this from another perspective? What other points of view can we consider?
Significance	Is this the most important problem to consider? Which of these issues are the most critical?
Fairness	How are we being influenced by biases + preferences? Are we giving each option an impartial evaluation?

– adapted from Richard Paul



Resources to Learn More

- [Bowell & Kemp, *Critical Thinking: A Concise Guide*](#)
- [Buonomano, *Brain Bugs*](#)
- [Caroselli, *The Critical Thinking Toolkit: Spark your Team's Creativity with 35 Problem Solving Activities*](#)
- [Hallinan, *Why We Make Mistakes*](#)
- [Kahneman, *Thinking Fast and Slow*](#)
- [Paul & Elder, *Critical Thinking: Tools for Taking Charge of Your Professional and Personal Life*](#)
- [Paul & Elder, *The Miniature Guide to Critical Thinking – Concepts and Tools*](#)
- [Royal, *The Little Blue Reasoning Book*](#)
- www.criticalthinking.org – [a ton of resources](#)
- [List of Cognitive Biases – www.wikipedia.org](http://www.wikipedia.org)
- [A Map of the Brain – Allan Jones, TED](#)
- [Rethinking Thinking – Trevor Maber, TED-Ed Animated Lesson](#)
- [Skepticism: Why Critical Thinking Makes You Smarter – Bill Nye + \(Big Think\)](#)
- [Thinking Fast & Slow – Daniel Kahneman \(Talks at Google\)](#)
- [Think Again | Adam Grant | Animated Book Summary – Felix Hofmann](#)
- [Adam Grant, *Rethinking* – *Busting the Myths of the Brain* \(Chantal Prat\)](#)
- [Shankar Vedantam, *Hidden Brain* – *How Your Beliefs Shape Your Reality and I'm Right, You're Wrong*](#)



**For every
complex problem,
there is an answer
that is clear, simple
and wrong.**

– H.L. Mencken