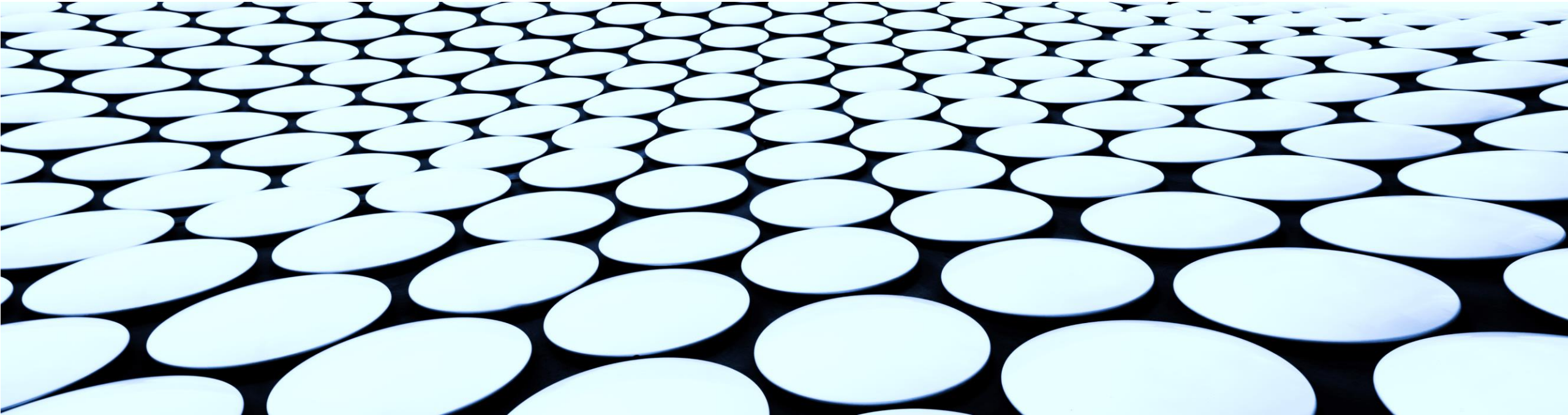
CULTIVATING CRITICAL THINKING MINDSETS AMONG PHARMACY STUDENTS ON PLACEMENT

EILEEN SAVAGE PHD

EXCELLO COACHING & FACILITATION

Enabling you to grow and excel yourself

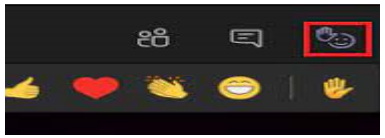


COMMUNICATING & CONVERSING TOGETHER

Microsoft Teams

Please Interact & Engage

- VIDEOS ON/OFF - Please put on if speaking
- CHAT FUNCTION - Feel free to add in comments / Ask questions
- Reactions - Use



WELCOME!

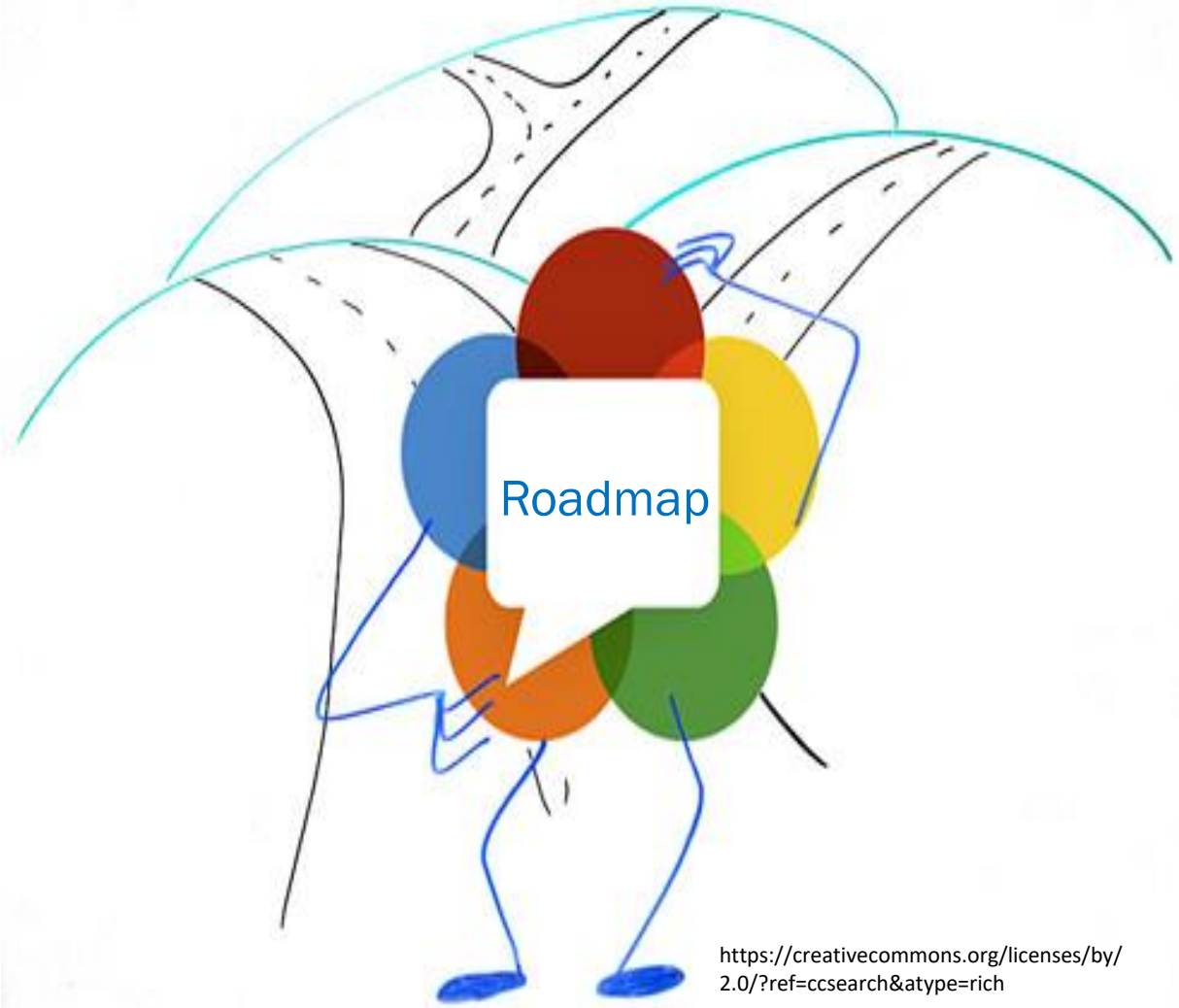
OVERALL AIM OF THE SESSION

The aim of this workshop is to facilitate participants cultivate critical thinking mindsets in undergraduate pharmacy students when facilitating their learning during placement experiences.

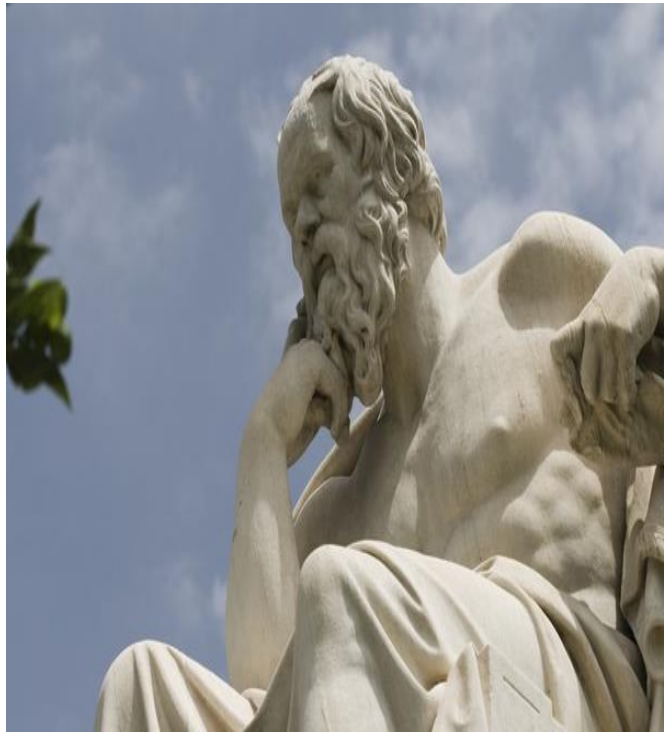
https://search.creativecommons.org/search?q=pharmacy

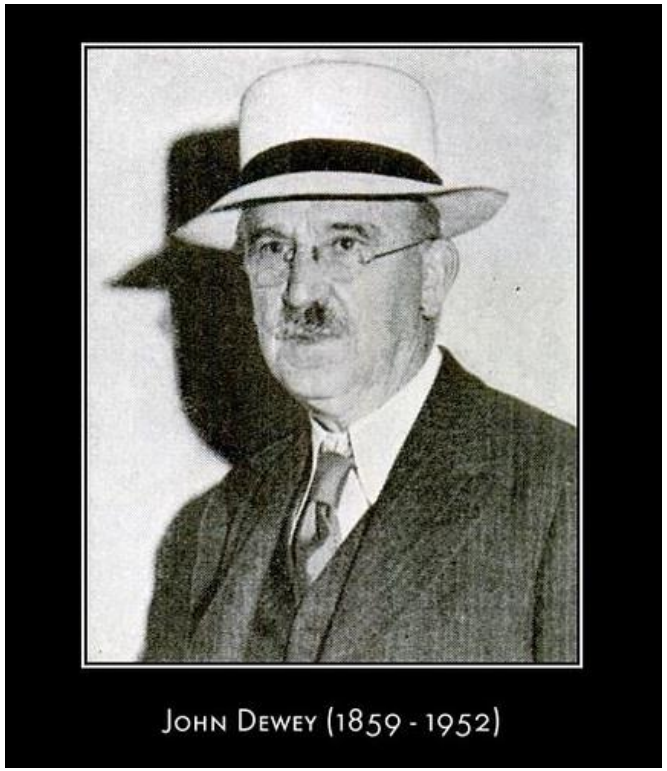
OUTLINE

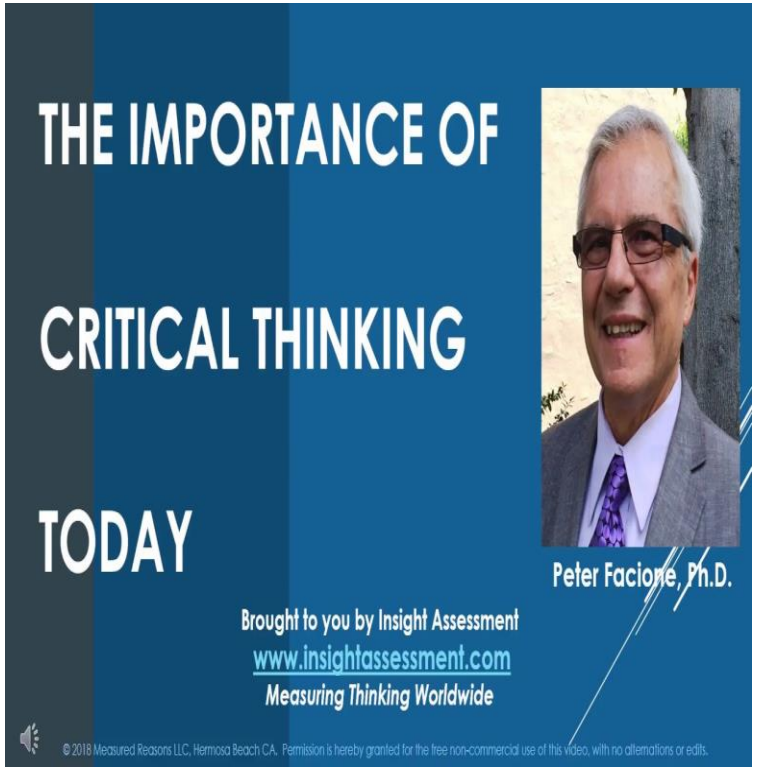
- Critical thinking – What it is and why it counts
- Critical thinking in clinical contexts
- Critical thinking as a matter of mindset
- Honing critical thinking skills



CRITICAL THINKERS OVER TIME







CRITICAL THINKING – WHAT IT IS

EXERCISE

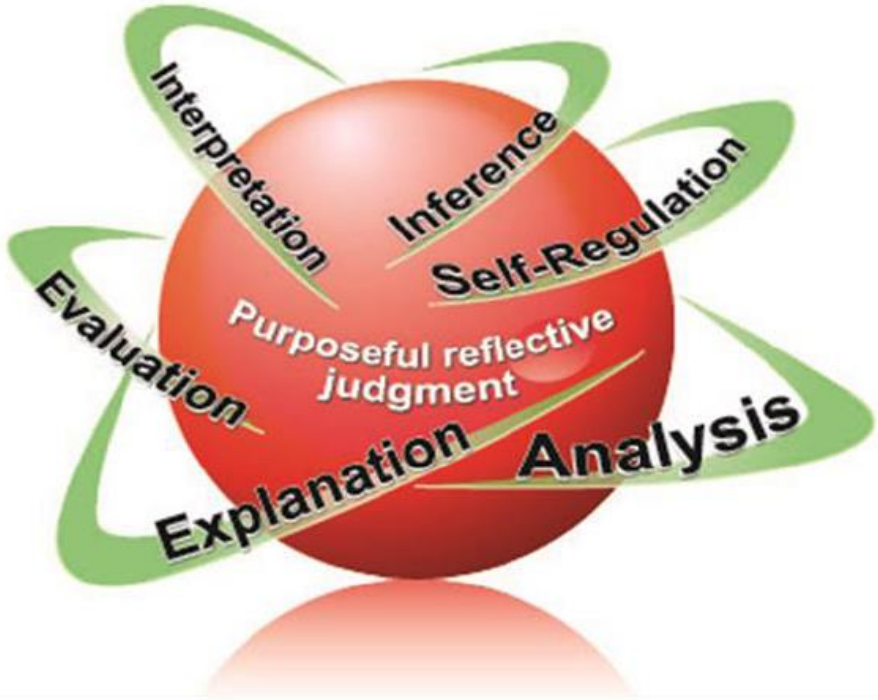
Reflect on any one person you know that you consider to be a strong critical thinker

What is it about this person that indicates s/he is a strong critical thinker?

Let’s Create a Wordle

Participants can vote at **slido.com** with **#347090**

CRITICAL THINKING - WHAT IT IS.



Interpretation	Understanding & Express meaning
Analysis	Examining ideas, arguments, similarity & differences, pros and cons
Evaluation	Judging the credibility of claims made, logical strengths and weaknesses of argument
Inference	Drawing reasonable conclusions, deducing consequences
Explanation	Justifying one's reasoning/ decisions.
Self-regulation	Self-conscious monitoring of one's thinking activities; Involves self-correction.

WORKING DEFINITIONS OF CT

- ..a reflective and reasonable thinking that is focused on deciding what to believe and what to do.. (Ennis, 1985 cited in Golding 2011).

- …active, persistent, and careful consideration of a belief or supposed form of knowledge in light of the grounds which support it (Dewey 1909 cited in Moattari et al. 2014)

- …thinking about one's thinking..(Wiersema & Licklider, 2009)

CRITICAL THINKING AS FOUNDATIONAL

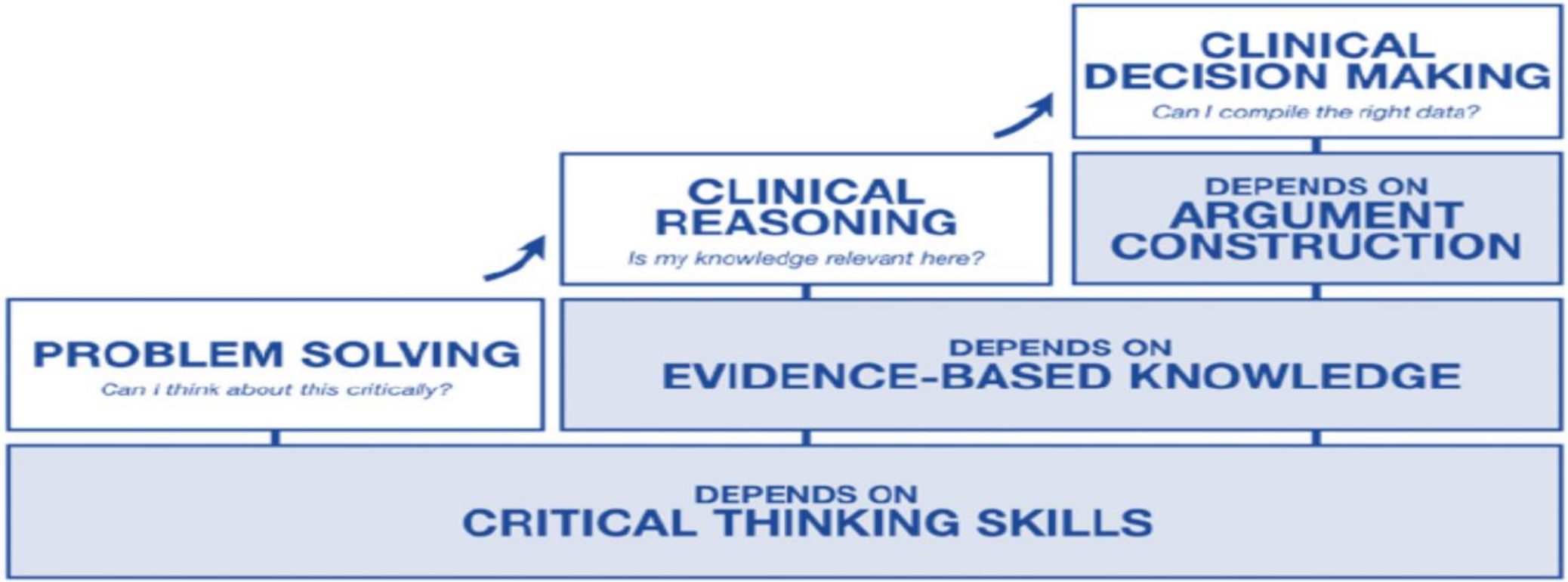


Figure 1. Schematic of Critical Thinking and its Relationship to Other Types of Thinking

Persky et al. 2019

PHARMACY EDUCATION

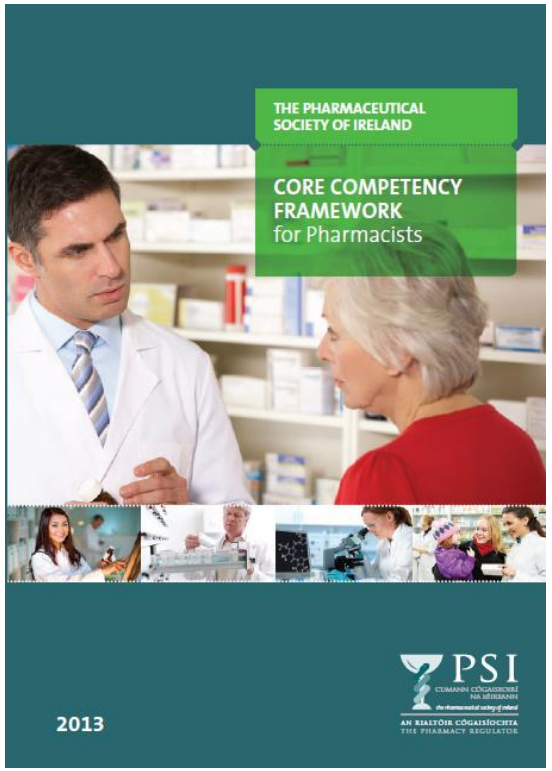


Table 1: Core Competency Framework for Pharmacists

Domain	Competency
Professional practice	Practises 'patient-centred' care Practises professionally Practises legally Practises ethically Engages in appropriate continuing professional development
Personal skills	Leadership skills Decision-making skills Team working skills Communication skills
Supply of medicines	Manufactures and compounds medicines Manages the medicines supply chain Reviews and dispenses medicines accurately
Safe and rational use of medicines	Patient consultation skills Patient counselling skills Reviews and manages patient medicines Identifies and manages medication safety issues Provides medicines information and education
Public health	Population health Health promotion Research skills
Organisation and management skills	Self-management skills Workplace management skills Human resources management skills Financial management skills Quality assurance

EDUCATING FOR CRITICAL THINKING

Is it possible?

Classroom vs Placement

WHAT MIGHT GET IN THE WAY?

CHALLENGES TO CRITICAL THINKING

- Poor Metacognition Skills
- Superficial thought processes
- Memorisation = shallow short-term learning (vs higher order thought processes = deep long-term learning (Brown 2016)

Zorek et al.[1] described an alarming pattern of study among pharmacy students, termed "bulimic learning," which refers to the binge-purge pattern of cramming course material intensely during the days leading up to an exam.

AGREE OR DISAGREE

STUDENT THINKING TYPES

SPONGES

OR

PANNING FOR GOLD

A FEW WORDS ON MINDSET

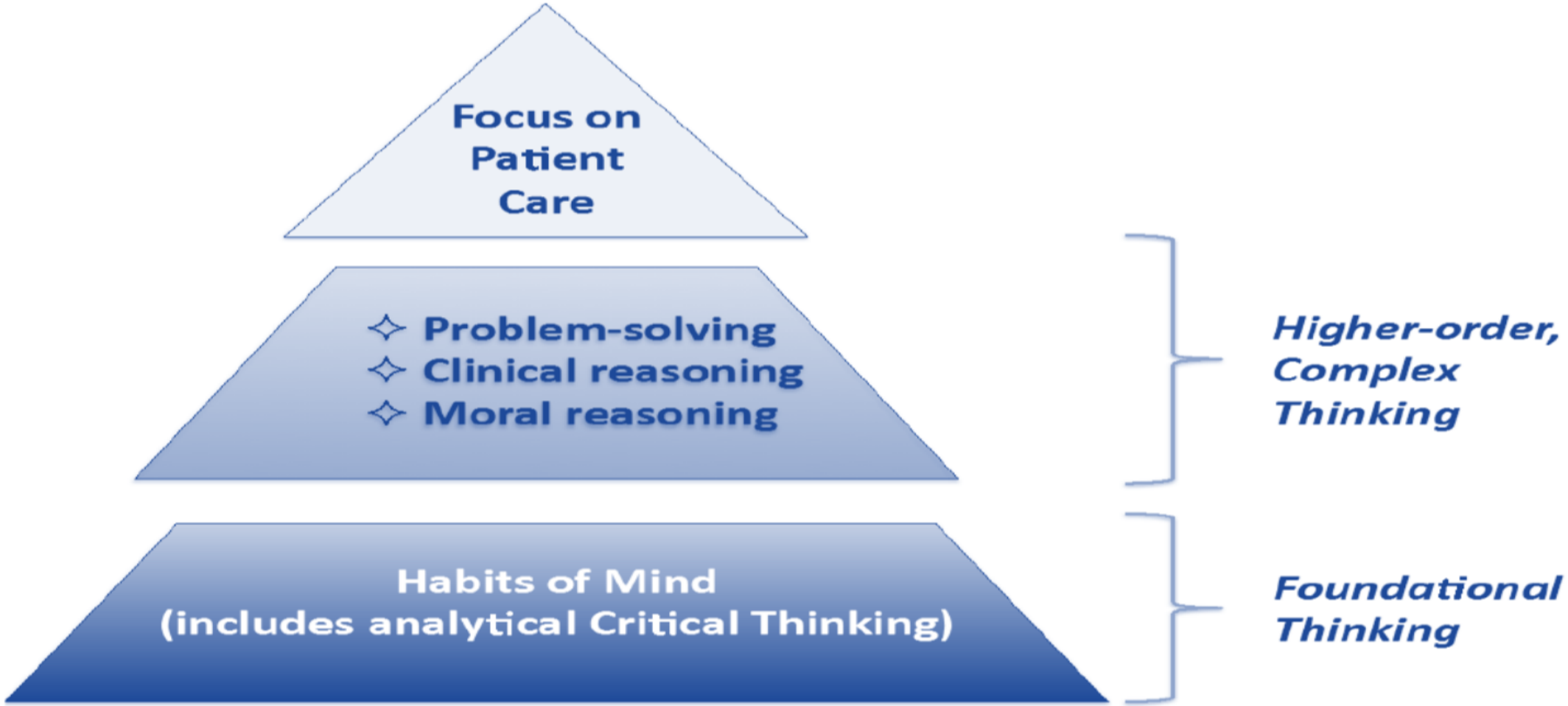
1. Keen to pursue challenges during placement
2. Willing to hear various options/arguments before drawing conclusions
3. Willing to engage in trial and error if it means learning
4. Eager to seek feedback including areas for improvement
5. Asking lots of questions with inquiring mind
6. Excited about the skills learned to become a pharmacists

1. No point in trying -too hard to understand/practice
2. Draws conclusions without teasing out alternatives
3. Don't like stepping out of comfort zone
4. Discouraged or defensive with constructive feedback
5. Seldom ask questions about practice
6. Doubt abilities to become pharmacists


Skills
Dispositions

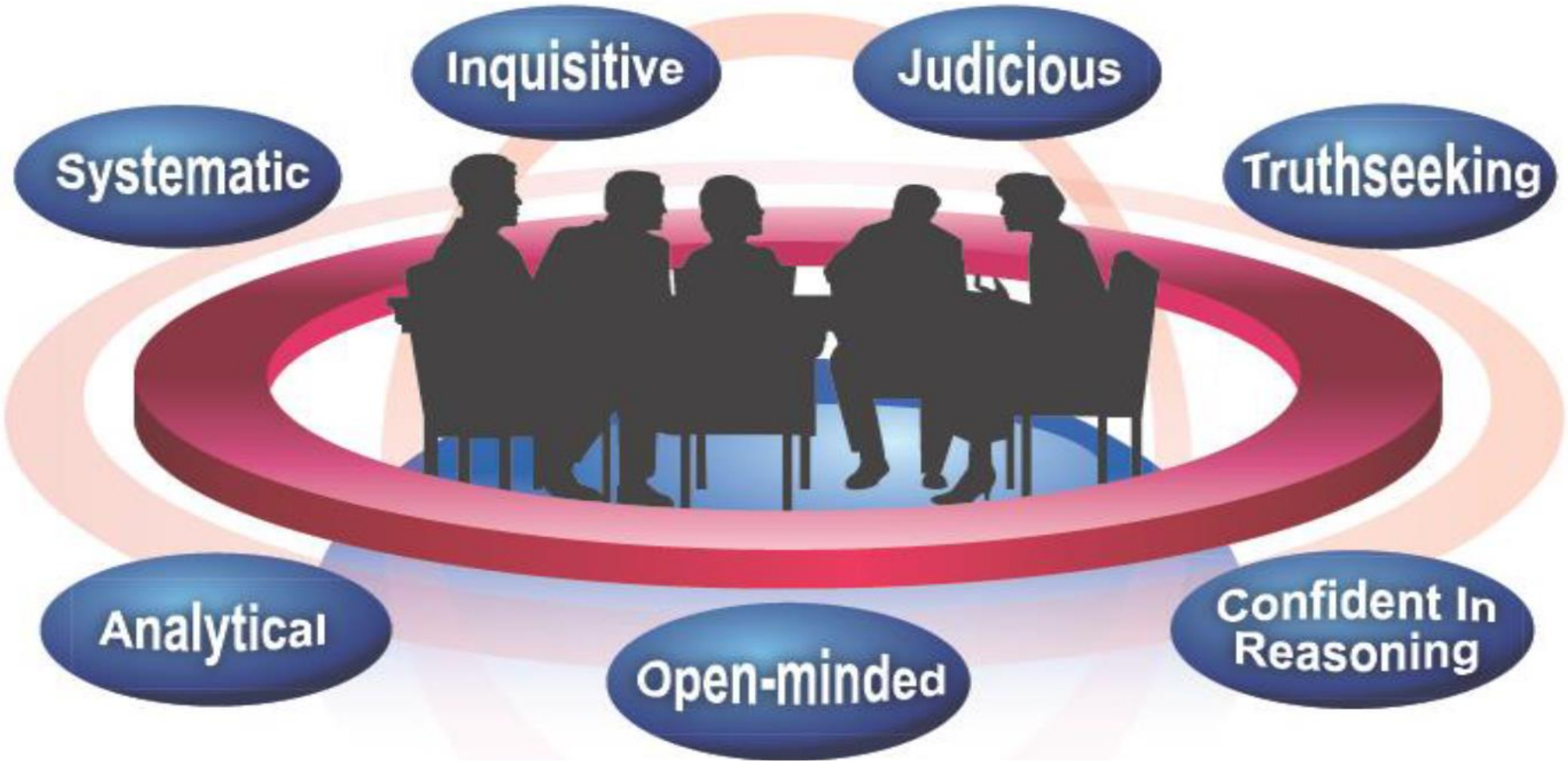
COGNITIVE FRAMEWORK FOR PHARMACY EDUCATION (PETERS ET AL 2016)

Figure 1. A Cognitive Framework for Pharmacy Education



(Modified from references #11 and #43)

CRITICAL THINKING HABITS OF MIND



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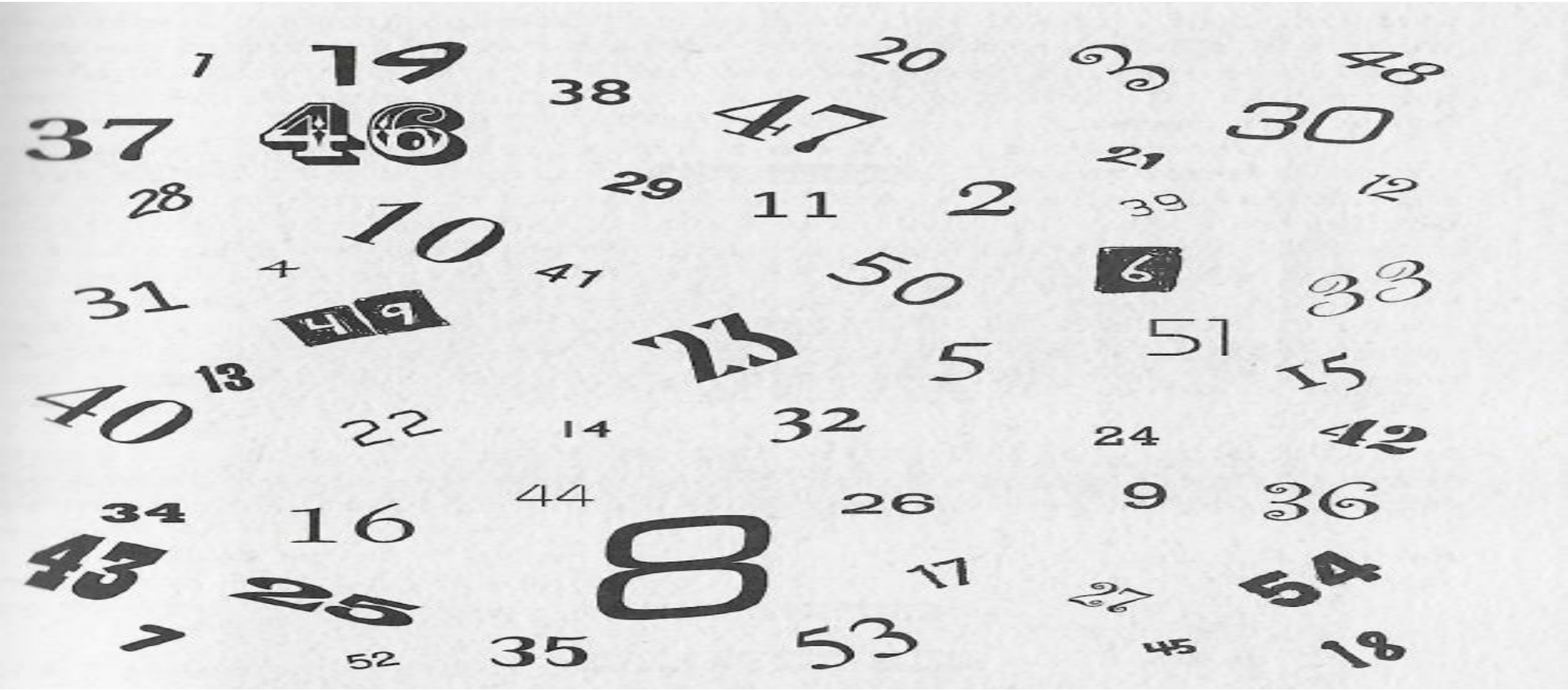
INSTITUTE OF HABITS OF MIND (COSTA & HALLICK)
HTTPS://WWW.HABITSOFMINDINSTITUTE.ORG/WHAT-ARE-HABITS-OF-MIND/

HABIT FORMATION (Covey 2020)

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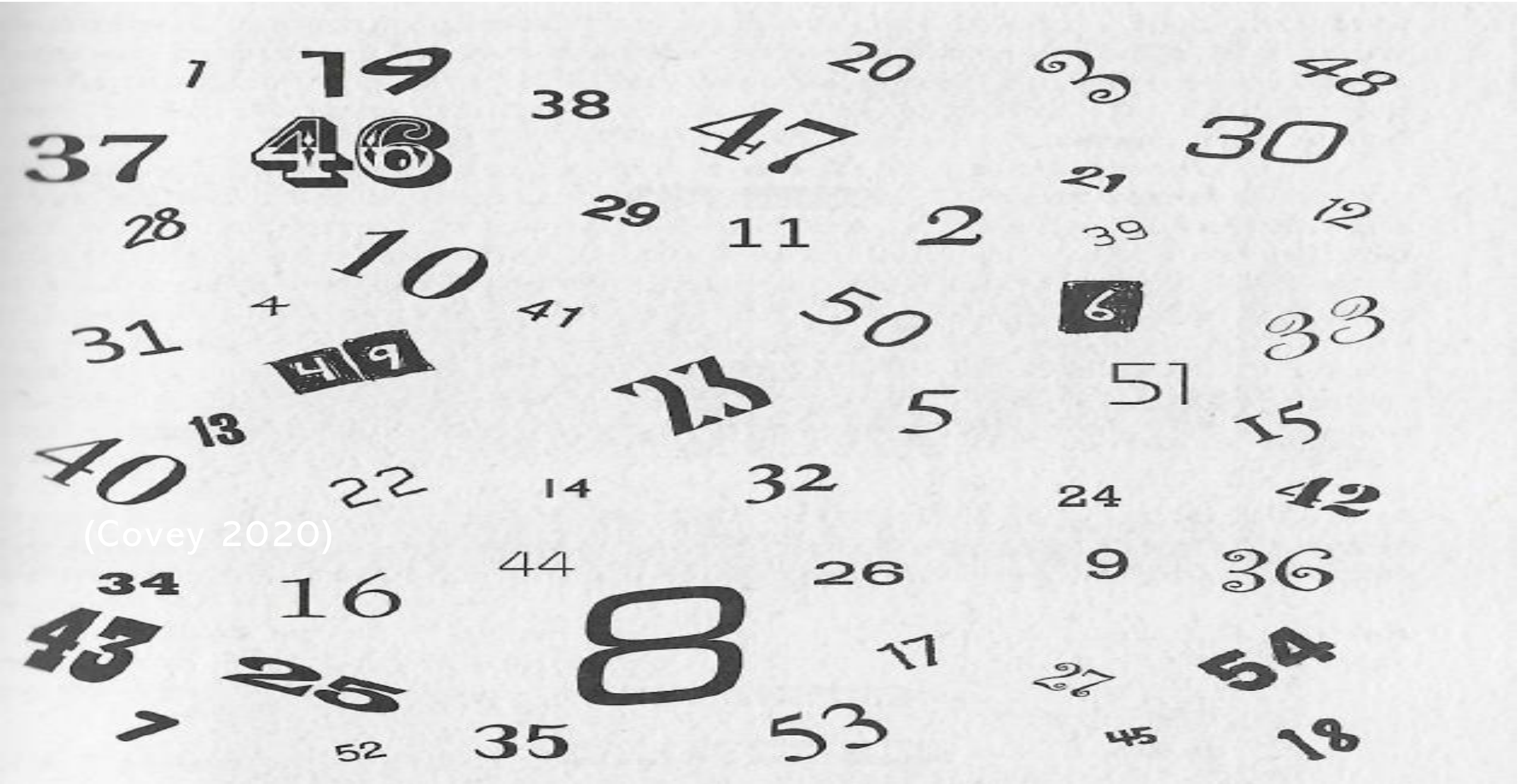
(Covey 2020)

CULTIVATING CRITICAL THINKING IN CLINICAL PRACTICE: WHERE TO FROM HERE?

I D E A S

A 5-Step Critical Thinking General Problem Solving Process

I = IDENTIFY the Problem and Set Priorities (Step 1)
D = DETERMINE Relevant Information and Deepen Understanding (Step 2)
E = ENUMERATE Options and Anticipate Consequence (Step 3)
A = ASSESS the Situation and Make a Preliminary Decision (Step 4)
S = SCRUTINIZE the Process and Self-Correct as Needed (Step 5)

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THE POWER OF QUESTIONING

MATCHING QUESTIONS TO ELICIT CT SKILLS

Interpretation	• What does this mean? • What's happening? • How should we understand that (e.g., what he or she just said)? • What is the best way to characterize/categorize/classify this? • In this context, what was intended by saying/doing that?
Analysis	• Please tell us again your reasons for making that claim. • What is your conclusion/What is it that you are claiming? • Why do you think that? • What are the arguments pro and con? • What assumptions must we make to accept that conclusion?
Inference	• Given what we know so far, what conclusions can we draw? • Given what we know so far, what can we rule out? • What does this evidence imply? • If we abandoned/accepted that assumption, how would things change? • What additional information do we need to resolve this question? • If we believed these things, what would they imply for us going forward? • What are the consequences of doing things that way? • What are some alternatives we haven't yet explored? • Let's consider each option and see where it takes us.

MATCHING QUESTIONS TO ELICIT CT SKILLS

Evaluation	• How credible is that claim? • Why do we think we can trust what this person claims? • How strong are those arguments? • Do we have our facts right?
Explanation	• What were the specific findings/results of the investigation? • Please tell us how you conducted that analysis. • How did you come to that interpretation? • Please take us through your reasoning one more time. • Why do you think that (was the right answer/was the solution)?
Self-Regulation	• Our position on this issue is still too vague; can we be more precise? • How good was our methodology, and how well did we follow it? • Is there a way we can reconcile these two apparently conflicting conclusions? • How good is our evidence? • OK, before we commit, what are we missing?

VISUAL APPROACH: PUT YOUR THINKING HAT ON (DE BONO)

PROCESS

Blue Hat - Process

Thinking about thinking.
What thinking is needed?
Organizing the thinking.
Planning for action.

CREATIVITY

Green Hat - Creativity

Ideas, alternatives, possibilities.
Solutions to black hat problems.

FACTS

White Hat - Facts

Information and data.
Neutral and objective.
What do I know?
What do I need to find out?
How will I get the information I need?

BENEFITS

Yellow Hat - Benefits

Positives, plus points.
Why an idea is useful.
Logical reasons are given.

FEELINGS

Red Hat - Feelings

Intuition, hunches, gut instinct.
My feelings right now.
Feelings can change.
No reasons are given.

CAUTIONS

Black Hat - Cautions

Difficulties, weaknesses, dangers.
Spotting the risks.
Logical reasons are given.

						
What is the current information on the issue or problem?	How does everyone feel about the current situation, issue or problem?	What are the positive aspects of the current situation, issue or problem?	What are the negative aspects of the current situation, issue or problem?	What are new creative ideas or alternatives in solving the issue or problem?	How does everyone feel now that we have worked on the issue or problem?	What conclusions or summaries can we make in moving forward on the issue or problem?

"Too often we... enjoy the comfort of opinion without the discomfort of thought." - JOHN F. KENNEDY


THANK YOU