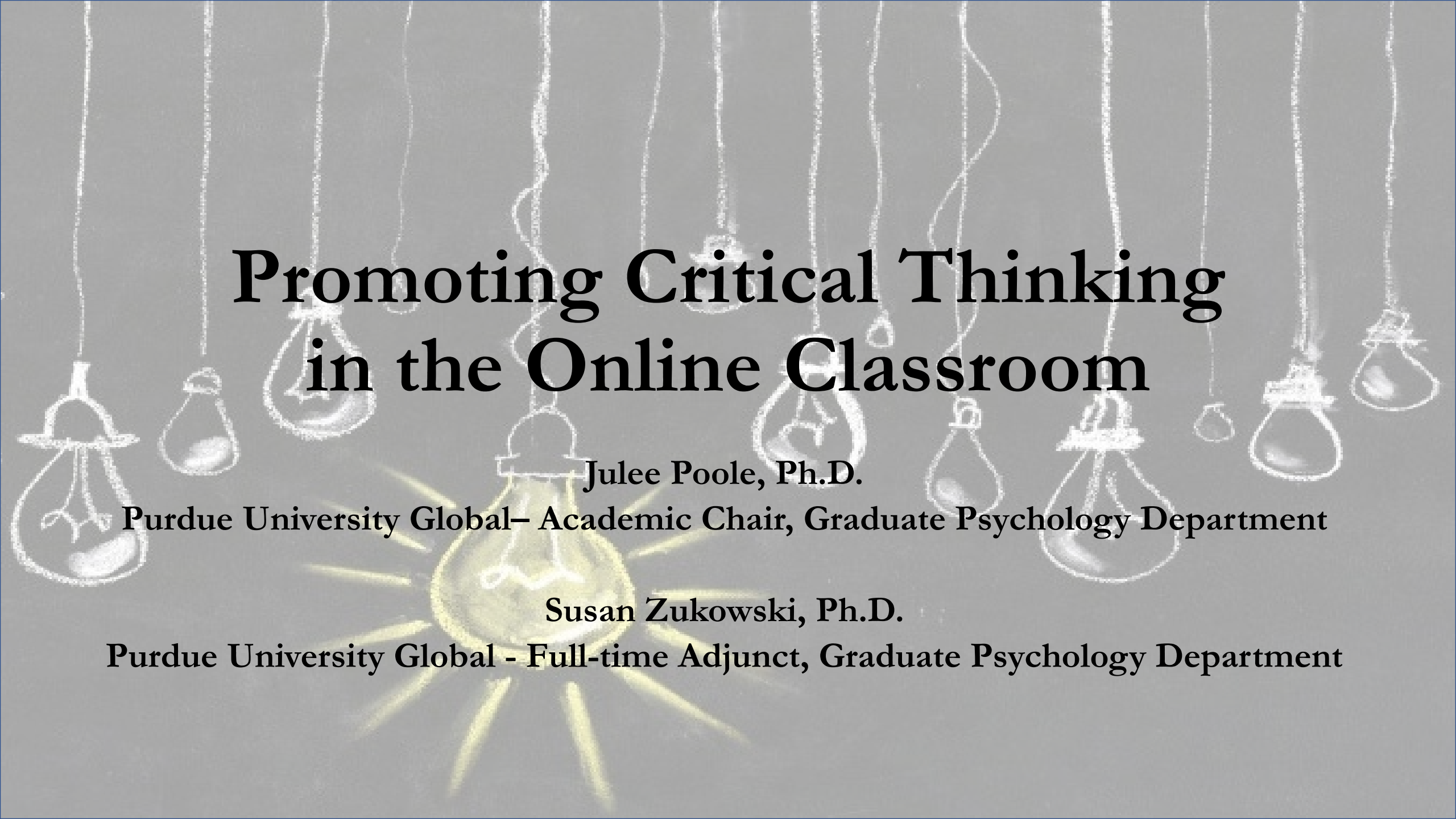


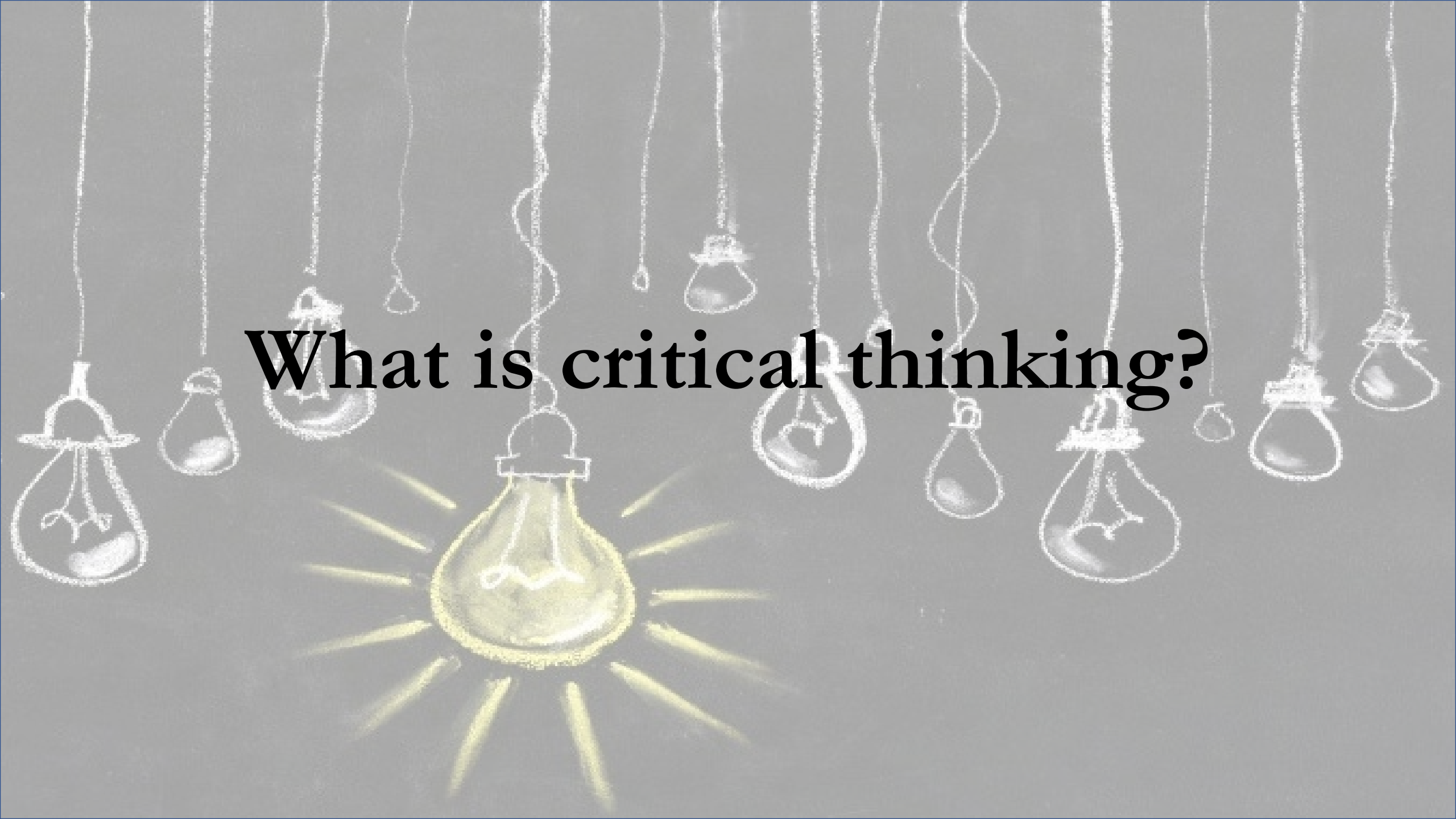
Promoting Critical Thinking in the Online Classroom

Julee Poole, Ph.D.
Purdue University Global– Academic Chair, Graduate Psychology Department

Susan Zukowski, Ph.D.
Purdue University Global - Full-time Adjunct, Graduate Psychology Department

Overview

- This workshop will focus on specific teaching strategies to promote critical thinking in students taking online courses.
- Critical thinking activities will be discussed for both asynchronous and synchronous activities in online courses including:
  - Critical thinking in reading and writing;
  - Synchronous and asynchronous online discussions;
  - Group activities, online debates, and virtual field trips;
  - Online service learning projects and
  - Connecting the online learning experience to real world applications.
- Gain practical skills for building critical thinking in online classroom.



What is critical thinking?

Defining Critical Thinking

- Critical thinking is an active learning process that requires students to study, think and learn through processes such as reflecting, questioning, challenging, exploring alternatives, reflective skepticism, synthesizing and analyzing.
- Components of critical thinking.
    1. Identifying and challenging assumptions
    2. Challenging the importance of context
    3. Being able to imagine and explore alternatives
    4. Having reflective skepticism.

Critical Thinking Involves…

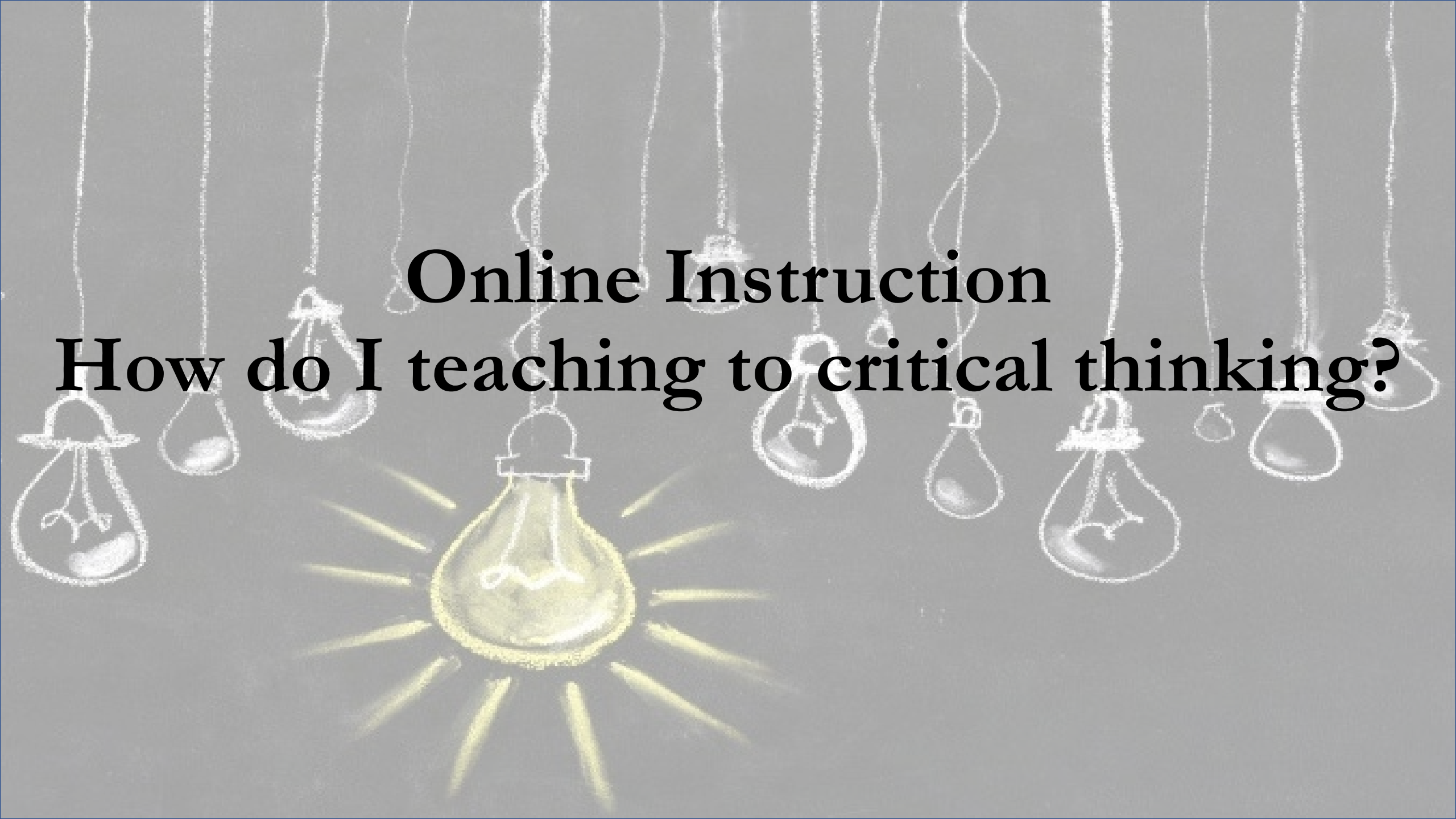
- **Interpretation** is the ability to understand and identify problems.
- **Analysis** is the ability to examine, organize, classify, categorize, differentiate, and prioritize variables
- **Evaluation** is the ability to assess the credibility, significance, and applicability of sources of information necessary to support conclusions.
- **Inference** is the ability to formulate hypotheses or draw conclusions based on the evidence.
- **Explanation** refers to the ability to explain the assumptions that lead to the conclusions reached.
- **Self-regulation** indicates the ability for self-examination and self-correction.

Characteristics of a Critical Thinker

- Shades of gray - strives for depth and breadth
- Interdisciplinary, multifaceted, and holistic
- Knowledge is open and intertwined with thinking rational and consistent
- Strives to learn **how** to think
- Original/insightful
- Multiple frames of reference suspends closure
- Actively explores and probes
- Questioning and creative problem solving
- Fair and open minded
- Collaborative/communal
- Precise language
- Uses skepticism
- Discovers weaknesses in ideas, reasoning and evidence

Characteristics of a Non-Critical Thinker

- Black and white - superficial level
- Knowledge is closed and independent of thinking, it is irrational and inconsistent
- Strives to learn **what** to think
- Uni-disciplinary/linear
- Relies on second-hand information
- One or very limited frames of reference strives for closure
- Dogmatic or avoiding of outside ideas that challenge one's biases and assumptions
- Doubting of information that is outside the known
- Ego-/ethnocentric/emotional
- Passive, yet authoritative
- Vague language
- Fails to see limitations in ideas, reasoning or evidence



Online Instruction
How do I teaching to critical thinking?

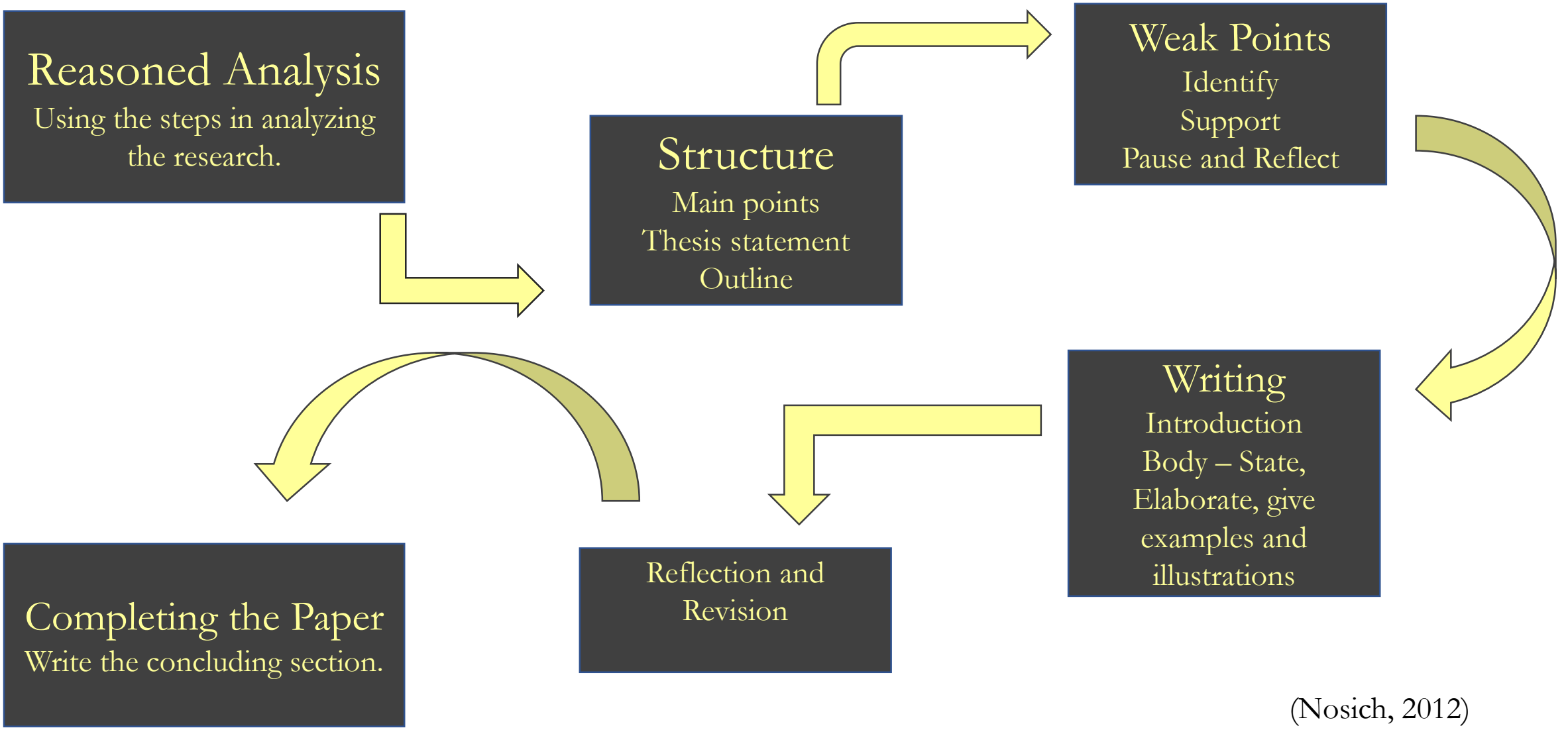
Online Instruction Promoting Critical Thinking

- Online instruction could occur in seminar, announcements, discussion forums, etc.
- Enhance students' cognitive information processing skills:
  - Provide organized instruction
  - Arrange extensive and variable practice
  - Enhance the student's encoding and memory
  - Enhance the student's self-control of information processing
  - Challenge thinking
  - Provide information needed for student success
    - Must go beyond a collection of links, facts and resources
  - Incorporate visuals, audio, video, simulations
  - Don't overwhelm students
    - Provide scaffolding and guidance with opportunities for additional resources

Online Instruction
How to Analyze Research

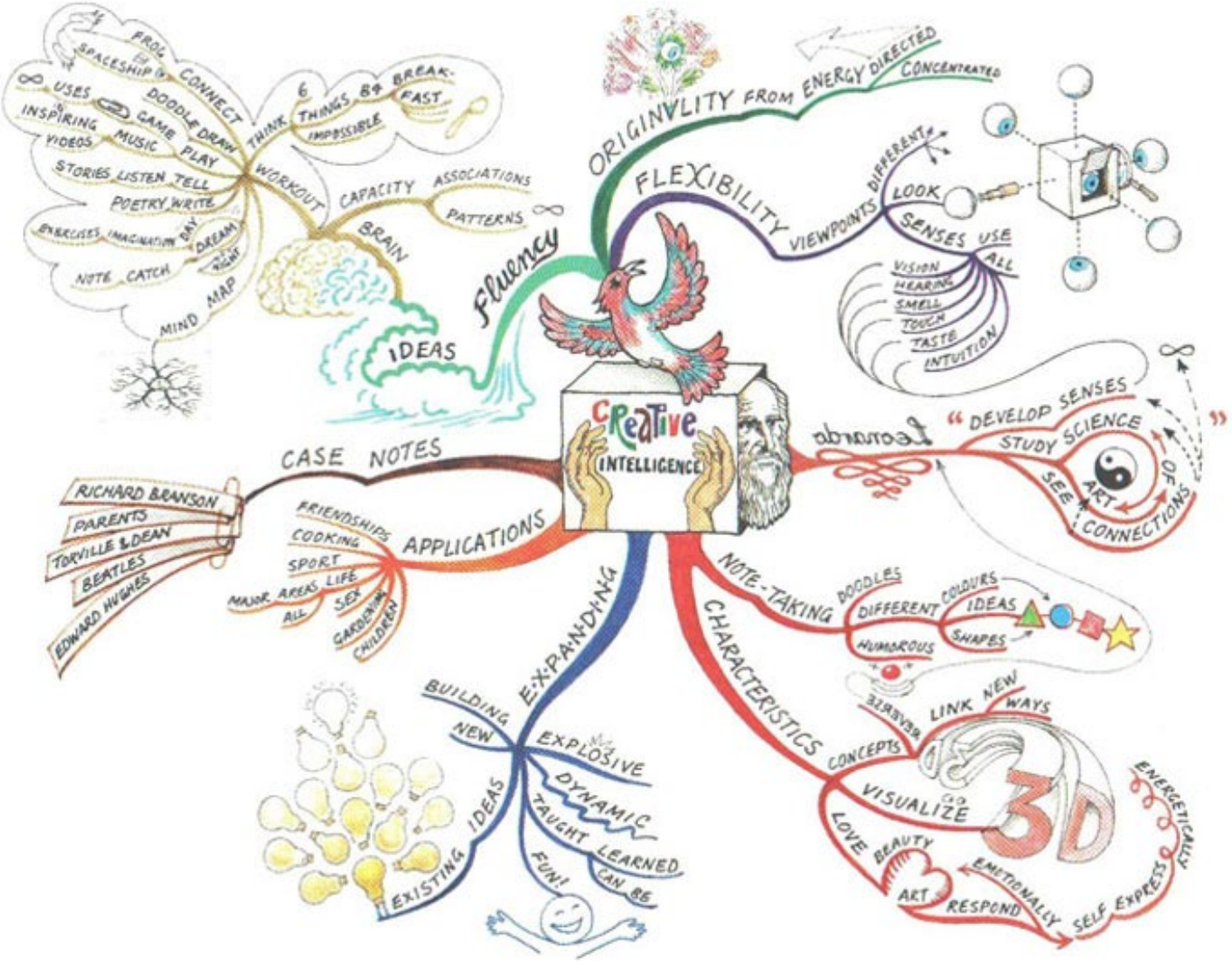
- The main purpose of this article is…
- The main arguments that the author is making are…
- The evidence or facts the author uses in this article to support his/her arguments are…
- The main conclusion(s) or inference(s) in this article are…
- The main assumptions underlying the author's thinking are…
- Discuss the significance of the issue that is the focus of the article.
- What do you base your assertions regarding its significance?
- What potential problems do you see in the author's reasoning? What potential problems are there with the author's use of the information? Does the information used appear relevant, significant, valid, and sufficient for the conclusions being drawn?
- What other possible conclusions can be drawn from the outcomes of the article?

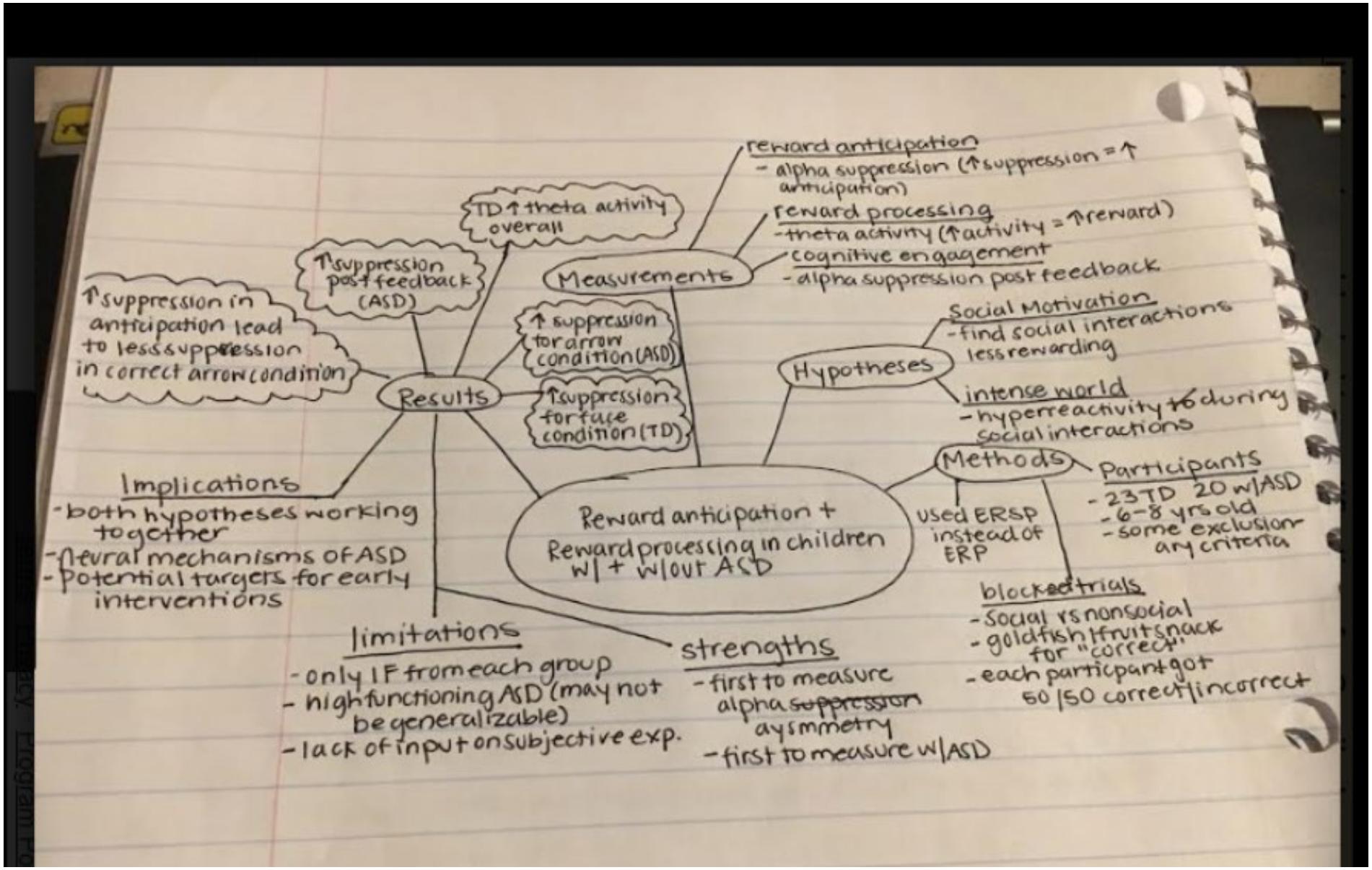
Online Instruction
Teaching the Critical Writing Process



(Nosich, 2012)

Mind Mapping





Mind Mapping

How do I promote critical thinking in the online discussion forums?

Critical Thinking in the Asynchronous Online Discussion Forums

- Discussions allow students to think critically about the course content and consider their own thoughts and ideas in relation to the opinions of experts and peers.
- Promotes analysis and reflection via carefully constructed questions with asynchronous discussion forum assignment with active instructor moderating.
- Common approaches:
    1. Core Approach Questions
    2. Problem-Solving/Based Questions
    3. Socratic Questioning
    4. Four Question Technique

Core Questions Approach

- Core questions address the central learning outcomes of the course.
- A core concept discussion might ask students to explain a particular scenario using this theory, while identifying the specific attitudes, norms, and behaviors present.
- Then, this core concept might extend into a Socratic or problem-solving question where students will be asked to relate this chain of events to their own lives, or extend it to solving a certain problem.

Problem Solving Based Questions

- Problems evoke students' natural curiosity and stimulate learning and critical thought.
- Problems provide the ability to apply knowledge and skills to creating solutions to real-world problems and application to the field.
- Presenting important problems or authentic tasks challenge students to grapple with ideas, rethink assumptions and examine their mental models of reality.

- Uses for problem solving experiences:
- Serious thinking or exploration about complex issues
- Customizing learning and making it relevant to students' lives/goals
- Incorporating current events and multidimensional issues
- Engaging students in real-world issues
- Preparing students for individual and group projects
- Building critical thinking

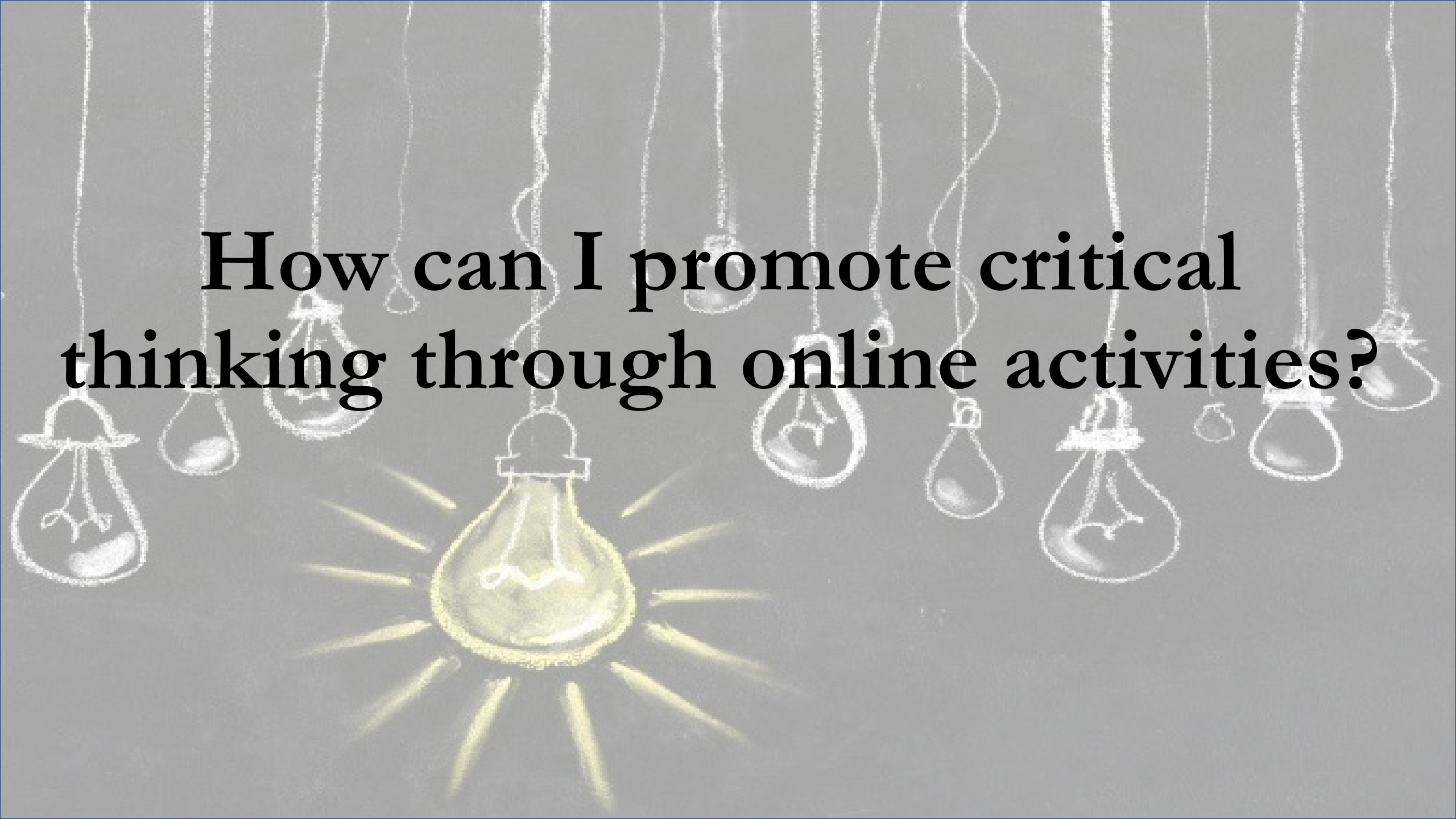
Socratic Approach

- Questions of Clarification
- Questions that Probe Purpose
- Questions that Probe Assumptions
- Questions that Probe Information, Reasons, Evidence, and Causes
- Questions about Viewpoints or Perspectives

- Questions that Problem Implications and Consequences
- Questions about the Question
- Questions that Probe Concepts
- Questions that Probe Inferences and Interpretations

Four Question Technique

- **The Four Question Technique –** Using multiple forms of discussion question resulting in enhanced critical thinking for students.
    - **Analyzing –**Identify one important concept, research finding, theory or idea in the field that you learned while completing this activity.
    - **Reflecting –** Why do you believe that this concept, research finding, theory, or idea in the field that is important?
    - **Relating –** Apply what you have learned from this activity to some aspect of your life."
    - **Questioning –** What question(s) has they activity raised for you? What are you still wondering about?



How can I promote critical thinking through online activities?

Promoting Critical Thinking Online Group Activities

- Problem-Based Group Activities
- Service Learning Group Activities
- Team Debates
  - Position Statement – Description of issue; Description of perspective; Brief summary of arguments that support your position.
  - Summary of supporting arguments and evidence to support your position (evidence, experience, example)
  - Rebuttal strategies
  - Counterarguments
  - Summary Statement (statement of issue; statement of perspective; summary of supporting arguments; summary of opposing arguments; statement of why your position is the most valid and reasonable.
- Examples:
  - Group Activity – Problem Solving – Altruism Campaign
  - Team Debates – Nature vs. Nurture; Freewill vs. Determinism; How do we learn? --- Classical Conditioning vs. Operant Conditioning vs. Social Learning Theory.

Synchronous Activities

- Virtual Seminars
- Online Videos –
  - www.learner.org
  - https://www.ted.com/
- Chat Rooms
- Virtual Office Hours
- Virtual Field Trips
  - To challenge – Belief Perseverance - Common Sense Challenge

Summary

- Knowledge is constructed, not transmitted.
- The quality online course provides "mental "white space" for reflection.
- The master online facilitator/teacher is able to guide the overall learning process.
- To build and facilitate a quality online course to promote critical thinking.
- Provide information that will lead to student success.
- Incorporate various ways for students to learn – (i.e. PowerPoint presentations, video lectures, demonstrations, group activities, web based learning, problem based learning, quality discussion assignments).
- Design learning activities which will trigger students' interest to explore the topics, which will ultimately foster students' critical thinking and higher level learning.
- Design learning activities that will require students to develop skills/knowledge individually and in groups that will be readily applied to real life in their personal, academic and professional careers.

Questions, Thoughts, Feedback?

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