Building Student Capacity to Reflect Critically Alone and Together: Asking and Answering Questions

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Goals

To develop and integrate activities and assignments into courses that will

- Develop the targeted critical thinking skills in students through reflective practices
- Develop strategies for engaging students in discussion

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Workshop Outcomes

Participants will

- Explore models for critical thinking (CT) and ways to apply to assignment creation
- Practice writing CT questions to meet a learning objective
- Analyze activities for application to building CT

What is Critical Thinking Exactly?

"Critical thinking is that ***mode*** of thinking - about any subject, content, or problem - in which the thinker improves the ***quality*** of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them."

Source: The Foundation for Critical Thinking

A Well Cultivated Critical Thinker:

1. Raises vital questions and problems
2. Gathers and assesses relevant information
3. Thinks open-mindedly
4. Communicates effectively

Critical thinking is ideally self-directed, self-disciplined, self-monitored, and self-corrective

Engage Students in Critical Thinking

Example: Discussion Forum Assignments

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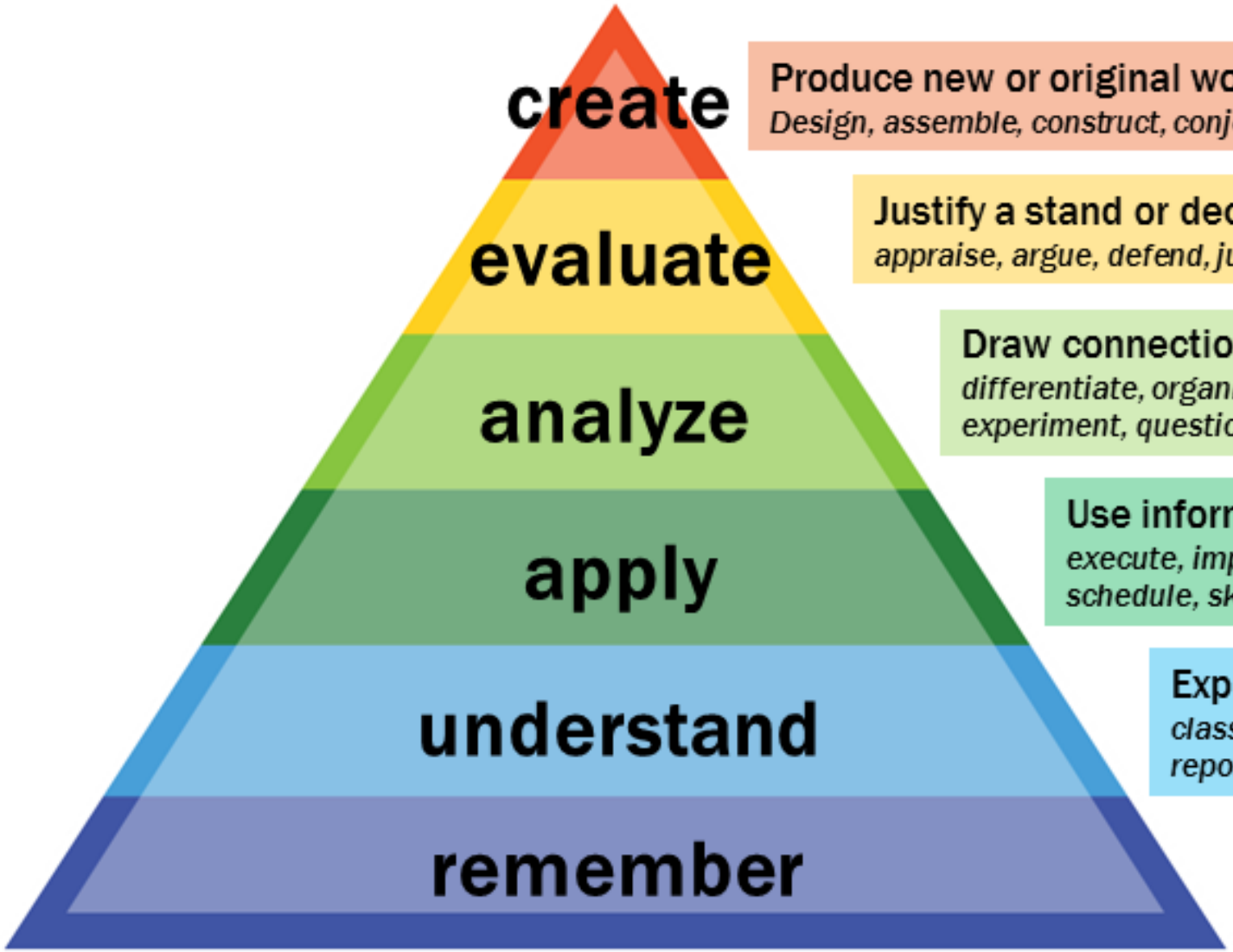
Reflect and Discuss

For One Minute:

Write down your thoughts on how discussion forums are used, the good, the bad, the ugly.

Bloom's Taxonomy



Produce new or original work
Design, assemble, construct, conjecture, develop, formulate, author, investigate

Justify a stand or decision
appraise, argue, defend, judge, select, support, value, critique, weigh

Draw connections among ideas
differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test

Use information in new situations
execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch

Explain ideas or concepts
classify, describe, discuss, explain, identify, locate, recognize, report, select, translate

Recall facts and basic concepts
define, duplicate, list, memorize, repeat, state

Vanderbilt University Center for Teaching

Building Critical Thinking Assignments & Activities

1

Write effective **questions (what are your choices)**

2

Set expectations and provide examples **for student answers (criteria)**

3

Build **student skill (practice, feedback,** reflection—self-assessing and **"metacognitive")**

4

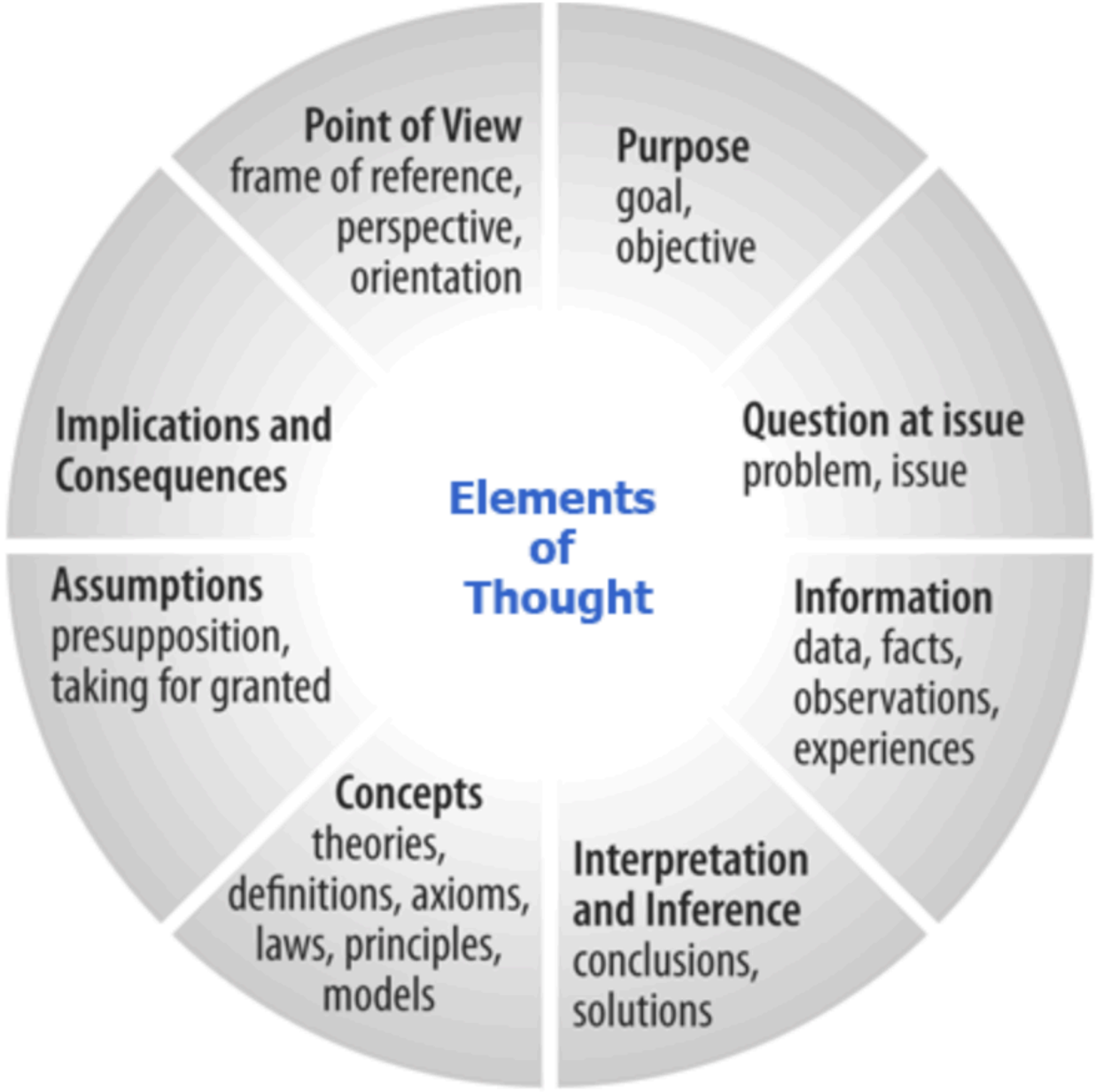
Develop **student ownership for deeper conversation (student asking own questions)**

1. Writing Questions

Observing Critical Thinking

To analyze thinking we must identify and question its elemental structures

https://community.criticalthinking.org/wheelOfReason.php#interactiveModel



DEAL Model

D = Description of experiences in an objective and detailed manner

E = Examination of those experiences in light of specific learning goals or objectives

A & L = Articulation of Learning
Including goals for future action that can then be taken forward into the next experience for improved practice and further refinement of learning

Prompts:

- What did I learn?
- How did I learn it?
- Why does it matter?
- What will I do in light of it?

Source: (Ash & Clayton, 2009)

DEAL Model

Remembering	•What did I accomplish? •What steps did I take to complete this work?
Understanding	•What new insights did I develop as a result of doing this work? •How has my perspective changed after doing this assignment?
Analyzing	•What challenges to my current thinking did this work present? •How does work in this course connect with work in another course?
Evaluating	•What did I do well? What areas do I still need to work on? •What would I do differently if I did it again?
Creating	•What next steps do I want to take as a result of this learning experience? •What should I do next to achieve my goals?

Source: (Ash & Clayton, 2009)

6 Types of Socratic Questioning

- "Why do you think I asked that question?"
- "What do you think was important about that question?"
- "What might be another question you could ask?"

1. Questions for Clarification
2. Questions to Identify/Challenge Assumptions
3. Questions for Evidence/Reasoning
4. Questions for Alternative Viewpoints
5. Questions on Implications & Consequences
6. Questions Challenging the Questions

Pick one model and write three open-ended questions in a specific context

Models

- DEAL
- Socratic questioning
- Elements of Thought

Enter your questions on a Google Slide

10-15 minutes

For reference folder link: https://bit.ly/3DFBmeZ

Students Building Capacity

- Written reflection and other thinking alone activities
- Practice writing and asking a variety of questions
- Group activities to build thinking together
- Practice listening techniques

2. Setting Expectations

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Reflecting Alone & Together

Begin	Begin with frequent, low/no stakes reflection
Model	Model how to do reflection
Create	Create clear reflection prompts
Provide	Provide clear guidelines / rubric and examples for graded reflection assignments

Rubrics

IUPUI Rubric

- Clarity
- Relevance
- Analysis
- Interconnections
- Self-criticism

Visit the folder to access sample rubrics:

https://bit.ly/3DFBmeZ

3. Practice Student Skills

Reflection

Collaboration

Metacognition

CATS: Formative Feedback

- Classroom Assessment Techniques
- Angelo and Cross
- See folder for resource on CATS

Activity for the Discussion Forum (10-15 mins)

- Look at PDFS in the Google Folder
- Pick one and share with your table why/how you would use this
    1. CATS
    2. Reflection activity
    3. Exam Wrapper

    Reference for later—the Patricia K Cross Academy library has great instructions for activities


4. Thinking about Thinking

How People Learn

Teaching practices congruent with a metacognitive approach to learning include those that focus on:

- Sense-making
- Self-assessment
- Reflection
- What worked and what needs improving

These practices have been shown to increase the degree to which students transfer their learning to new settings and events

Source: Bransford, Brown, Cocking. (2000). *How People Learn.*

Metacognition is the ability to:

- Use prior knowledge to strategize how to complete a learning task
- Take necessary steps to problem solve
- Reflect on and evaluate results
- Modify one's approach as needed.

Use KLEW activity to help students organize thoughts

- KLEW: for college
- K: ***what do you know?***
- **L:** ***what did you learn?***
- **E:** ***what is the evidence of your learning?***
- **W*: what are you wondering (next questions)?***

Developing Student Ownership

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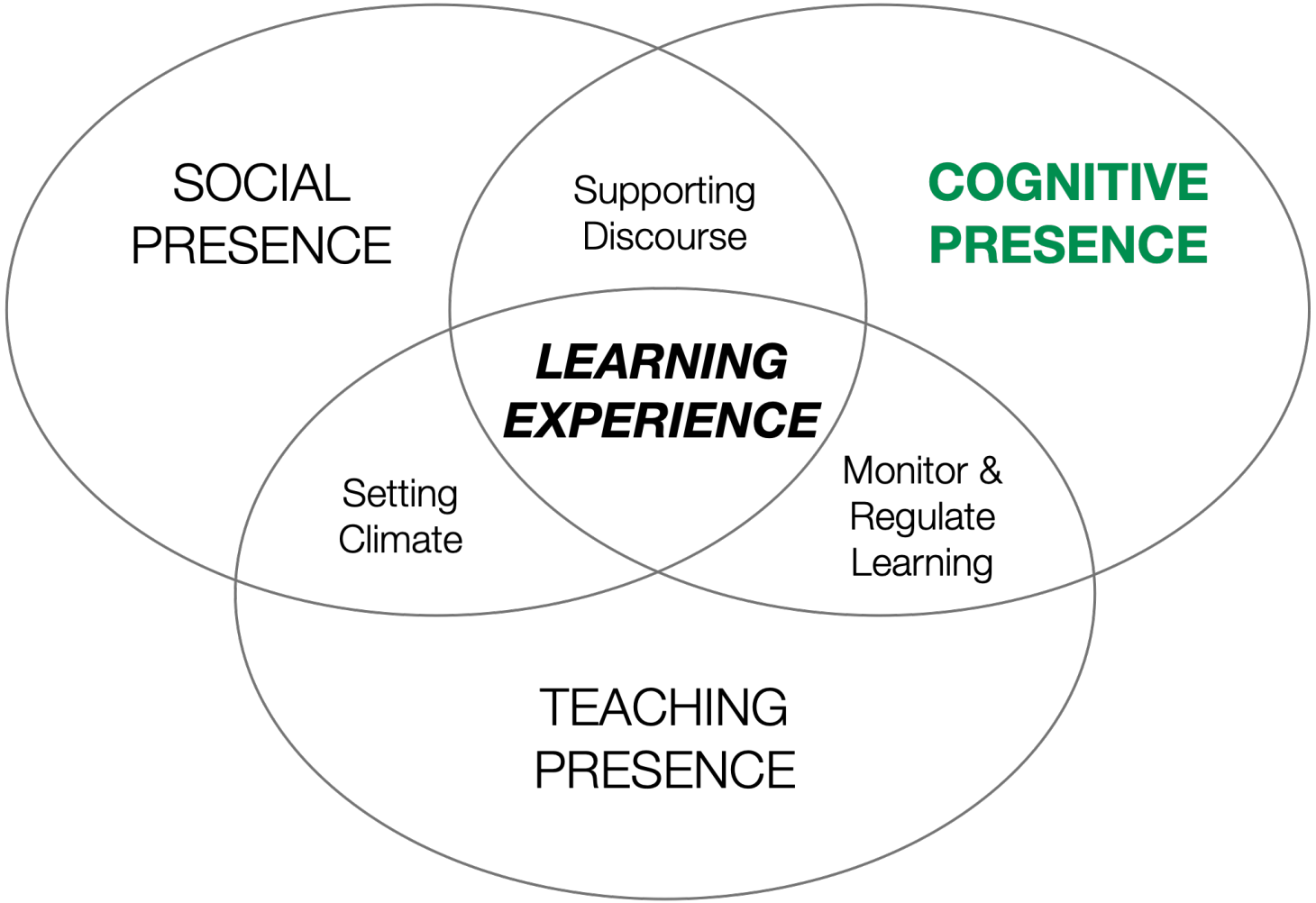
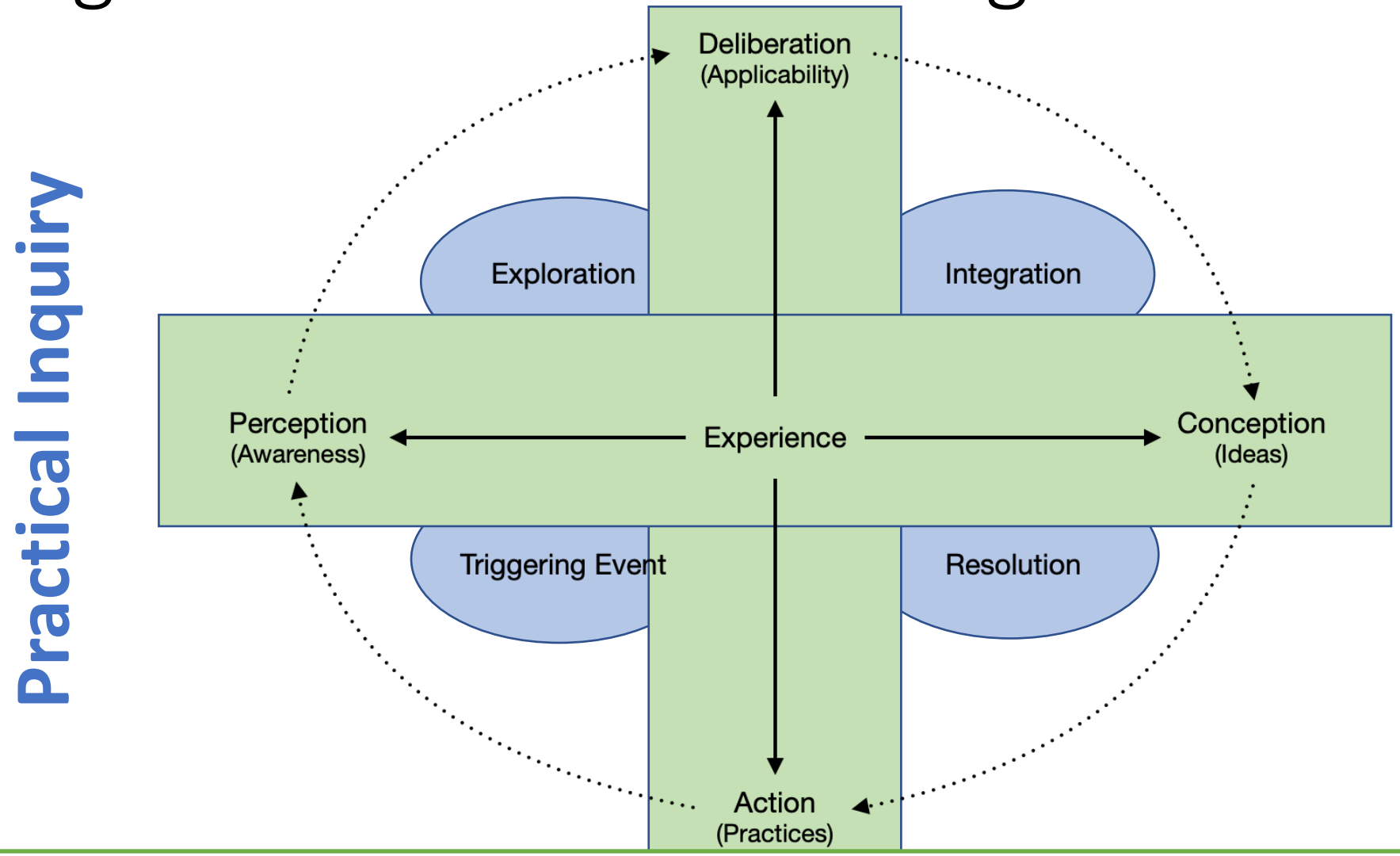
Community of Inquiry Model



Categories & Indicators of Cognitive Presence



Source: Garrison (2011)

Cognitive Presence

Learners are able to construct and confirm meaning through sustained reflection and discourse.

Activity: Thinking about Discussion Forums

On Your Google Slide

In one sentence, what is a one way that discussion forums can create and sustain reflection (e.g., create cognitive presence)?

With Your Group

Review each others' slides and identify key ideas to share out.

And Debrief

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Questions to Consider For Discussions

What is the goal?

What learning outcomes do you want?

How do you build discussion forums?

Who asks questions and what types of questions?

What kinds of answers do you want?

How do you evaluate the learning?

For Your Course Design:

1. What learning outcomes do you want?
2. What do you want students to think about?
3. What level of thinking do you want?
4. What questions drive this thinking?
5. Who asks those questions (students or you?)
6. How do you evaluate the learning?

High Impact “Evidence Based Teaching Strategies”

Clear Lesson Goals—what do you want students to know and do?

Provide Your Students With Feedback and solicit feedback from students

Check for Understanding of content

Nurture Metacognition

Teach Strategies Not Just Content

***From* the Australian Society for Evidence Based Teaching**

Please give feedback!

- https://bit.ly/3oJiyY7

- Full link: https://clemson.ca1.qualtrics.com/jfe/form/SV_e4AWvpBp8d1fbH8

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