

Higher Order Thinking Skills

"Promoting Rigor in the classroom"

Miami Carol City Senior High School

Essential Question

- How can higher order thinking skills promote rigor in the classroom?

WHAT'S HOT?

- Higher Order Thinking is thinking on a higher level than memorizing facts or telling something back to someone exactly the way the it was told to you.
- Complex thinking that goes beyond basic recall of facts, such as evaluation and invention, enabling students to retain information and to apply problem-solving solutions to real-world problems.
- Higher order thinking skills are valued because they are believed to better prepare students for the challenges of adult work and daily life and advanced academic work.

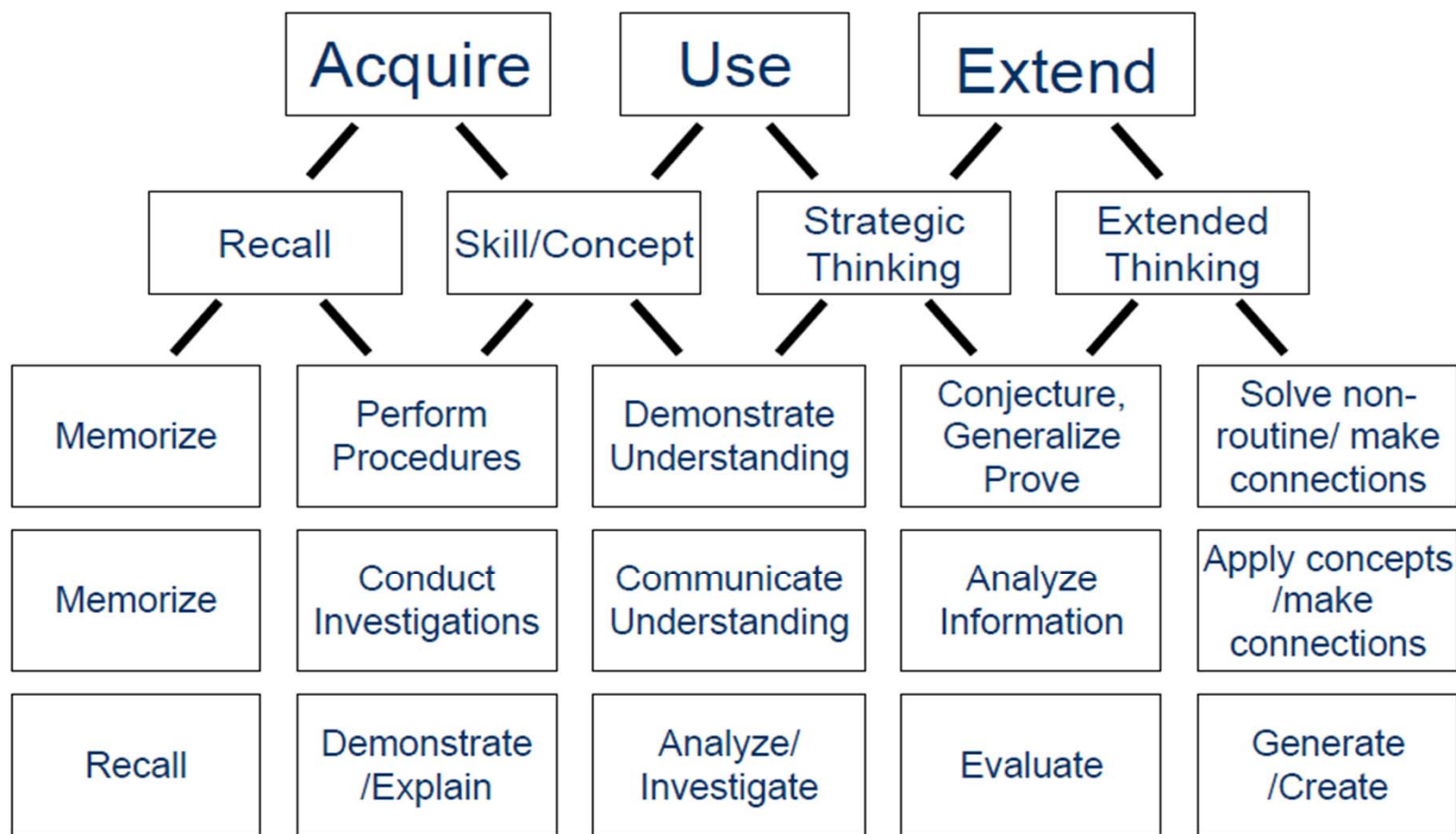
Metacognition

- **Metacognition**, or “thinking about thinking” refers to the mental processes that control and regulate how people think. Metacognition is especially important in project-based learning because students must make decisions about what strategies to use and how to use them.

Project-Based Learning

- **Project-based learning** allows students to practice higher-order thinking and use knowledge. The processes included in this category are *decision making, problem solving, experimental inquiry, and investigation*. *Creativity*, another type of complex thinking, is often described as a special type of problem solving.

Expectations for Student Performance



Analysis

- Learners can use what they are learning to create new insights and invent ways of using what they have learned in new situations. When people use analysis skills to determine the validity and worth of a particular piece of information, they are engaging in critical thinking. Another type of analysis is argumentation, the presenting of claims and evidence persuading others of a point of view.

Synthesis

- Synthesizing involves even more abstract thinking. Students reflect on their reading, combine the ideas they gained by reading with their own knowledge, and create new ideas, perspectives or opinions, and a personal understanding of the text.

Evaluation

- Evaluation is where students make judgments about the value of ideas, items, materials, and more.

Rigor in the Classroom

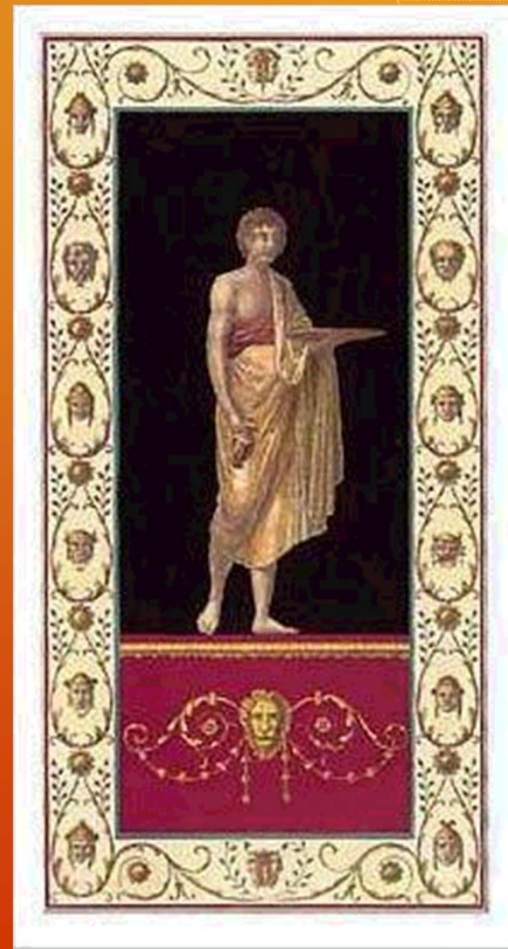
- **Rigor** is the goal of helping students navigate through challenging and complex content.
- Strategies should be implemented to aid students in comprehending difficult content (i.e.) marginal note-taking, summarizing, or reflecting and clarifying text.
- Involves student engagement in discovering new ideas and concepts through exploration.

Rigorous Learning

- **Active**, either through conversation or hands-on or minds-on activity. There's questioning and discovery going on.
- **Deep**, rather than broad; **project based**. The learners are digging into a topic or project.
- **Engaging**. Either on his or her own or with the help of a teacher, each learner has made a real connection with the material to be learned.

What is a Socratic Circle?

A constructivist strategy in which participants engage in a conversation to collectively seek a deeper understanding of complex ideas.



Benefits of Socratic Circles



- Advances critical reading
- Spurs critical thinking
- Improves discussion and listening skills
- Increases vocabulary
- Provides student ownership, voice, and empowerment
- Allows students to synthesize both the knowledge-base and the skills-base of the curriculum

Knowing What Questions to Ask

Three Basic Types of Questions to Ask:

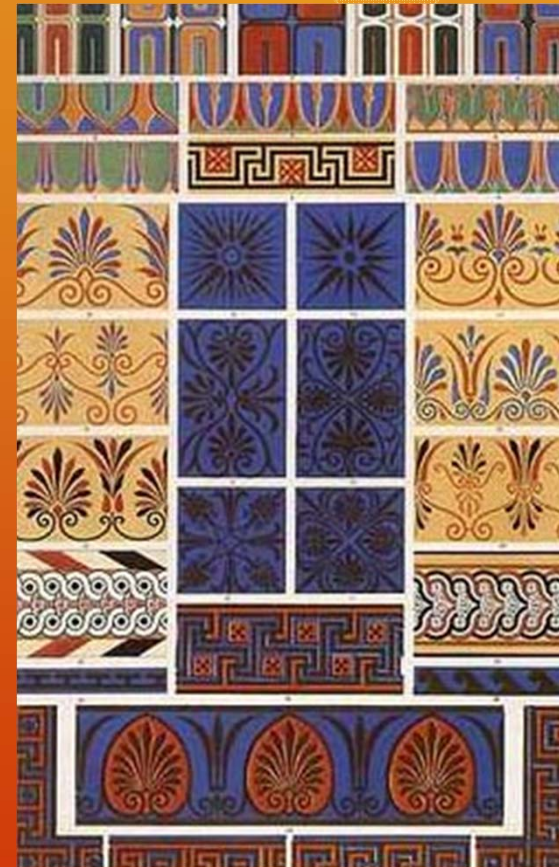
- Factual
(what is said?)
- Interpretive
(what is meant?)
- Evaluative
(why is it important?)

Teacher Preparation

- Generate a list of 15-20 questions
- Be sure to include a few questions of each type
- List will not be exhaustive
- Asterisk good initiating questions
- Understand not all questions will be relevant to each class's conversation

Teacher Reflection

1. How could you adapt Socratic circles to fit your classroom?
2. What areas of your content would facilitate the use of Socratic circles?
3. How might the use of this strategy help to synthesize your content and student learning?
4. What questions or issues does the idea of this strategy raise in your mind?



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