

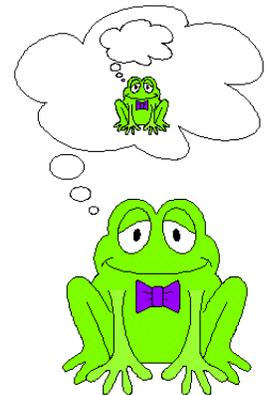
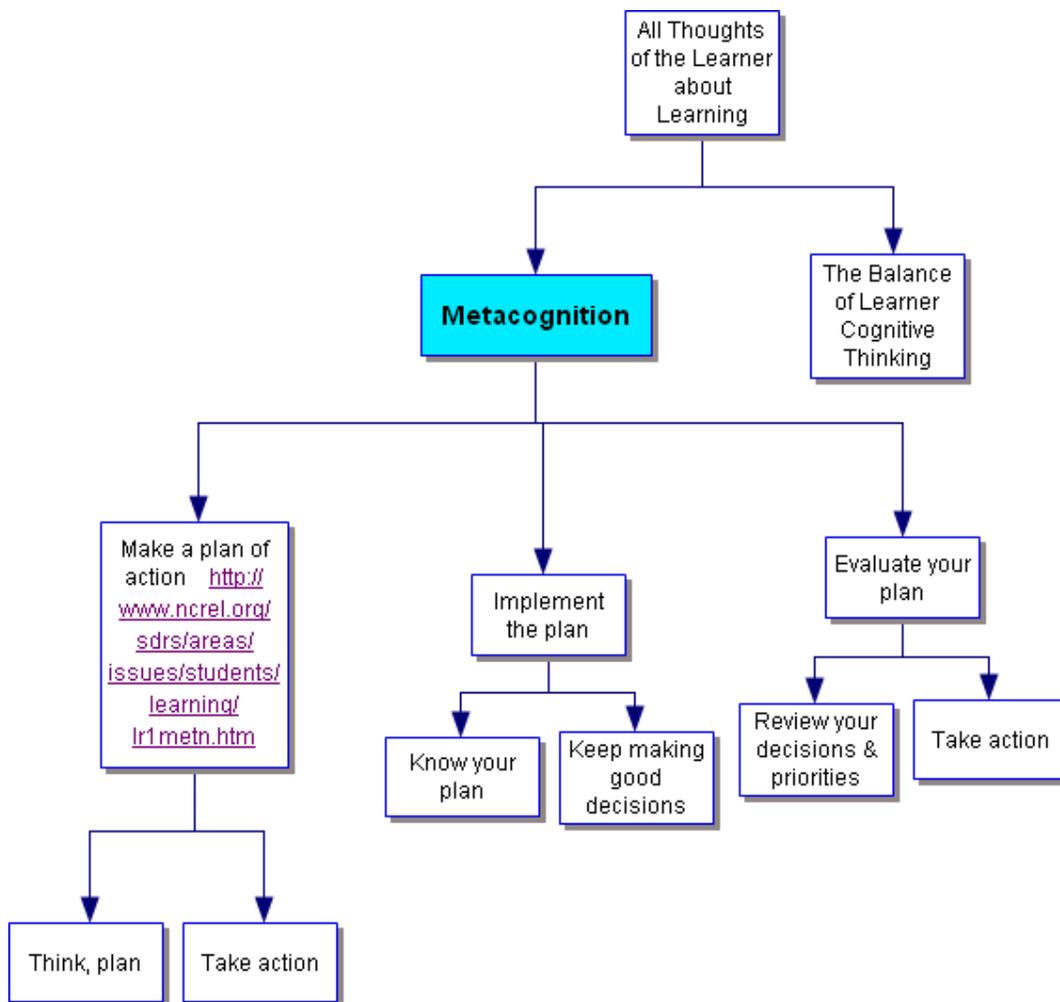
**EDCI-675 Teaching Strategies: Patterns of Learning**  
**Instructor: Dr. Trina Davis**

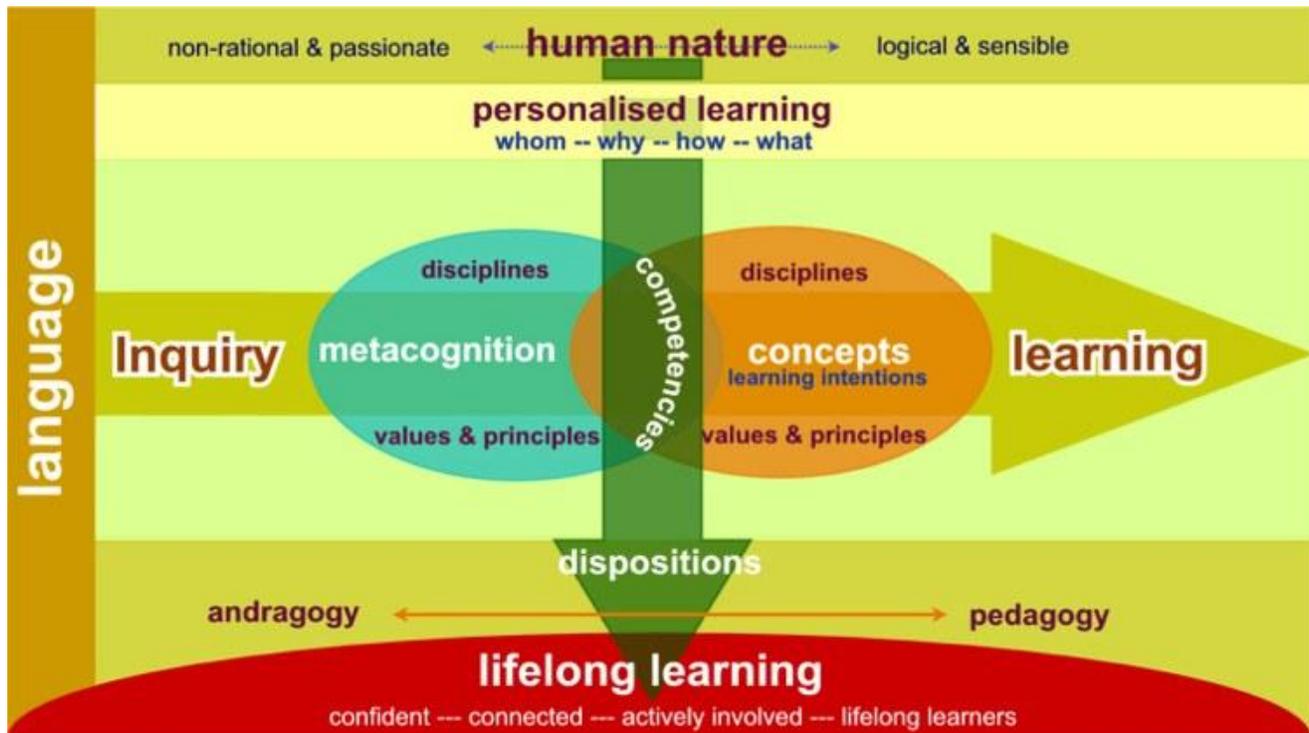
**Concept Analysis Paper – Objective 2**  
By Gayle Fisher

The following concept analysis is based upon the components specified by Klausmeier & Allen (1978). *How People Learn* (Bransford et al, 2000) was used as a reference for this analysis.

**Target Concept:** Metacognition

1. Outlining the taxonomy of which Metacognition is a part:





## 2. Defining the concept of Metacognition in terms of its attributes:

- Metacognition is the process of thinking about one's thinking. Flavell (1976) describes it as follows: "Metacognition refers to one's knowledge concerning one's own cognitive processes or anything related to them, e.g., the learning-relevant properties of information or data." <http://tip.psychology.org/meta.html>.
  - Metacognition consists of three basic elements:
    - Developing a plan of action
    - Maintaining/monitoring the plan
    - Evaluating the plan
- <http://www.ncrel.org/sdrs/areas/issues/students/learning/lr1metn.htm>

## 3. Specifying the defining attributes and some of the variable attributes of Metacognition:

The following defining attributes apply to all:

- a. The learner is engaged in metacognition if she notices that she is thinking about her thinking and her learning. She more easily understands Topic 2 than Topic 1. She will think to double check other topics before accepting them as fact. She is aware of her learning different subjects at different rates of efficiency.
- b. Metacognition has three components:
  - i. Planning

- ii. Problem-solving, and
- iii. Self-evaluation.

Variable attributes: The volitional choices of the learner (not all learners will choose to pursue learning once they are aware they are learning). Some learners may engage in metacognition in some areas, and reject metacognition in other areas of learning.

#### 4. Indicating illustrative examples and non-examples of Metacognition:

a. The learner is thinking about her thinking.

- Example: The metacognizant learner who takes a challenging class realizes that he is thinking about his learning intermittently during his non-classroom hours. His subconscious is analyzing, comprehending, and trying to absorb all the learning to which he is now exposed. He can understand some parts better than other parts, and constantly questions his learning: does he truly understand what he thinks he understands? His thinking has now become a deliberate and tangible process, not some automatic recall of prior knowledge.
- Non-Example: The distracted driver is talking on his cell phone while speeding along the long, lonely expanse of freeway, detached from any active involvement in operating a moving vehicle.
- Reasoning: The driver has no metacognition about his robotic function of driving. His brain is working on the cell phone conversation, unaware of any cognizant choices during the time he has spent driving. Ten miles down the road, he snaps to, realizing he has no memory of the previous ten miles.

b. Metacognition has three components: Planning, problem-solving, and self-evaluation.

- Example: Sue knows she needs to pass her SAT with a high score if she wants to get accepted at Stanford. She is aware she needs a plan to make this goal happen. She gets two study buddies; they meet at the library daily to take sample SAT tests, question each other, discuss wrong and right answers, and otherwise prepare for the grueling experience of the SAT. They score their mock tests, check their answers, and always find the correct answer if they miss something. She has both metacognition and the resultant accompanying plan for achievement.
- Non-Example: Joe has no goals. He has a clerk job at his dad's hardware store, and thinks he deserves more. He is not appreciative of the opportunity and takes no pride in his work. He has no plan for his future.
- Reasoning: Joe is not aware of his thinking, has no plan, no problem-solving devices or procedures, and certainly has engaged in no self-evaluation. Joe fails to have any metacognition regarding his learning and his future goals.

5. **Identifying illustrative principles in which the concept of Metacognition is incorporated:** Charles, as he preps himself for West Point, is aware that he is learning, of what he is thinking, and how to control himself in learning circumstances. Metacognition includes the ability, determination, and volition to ask and answer self-analysis questions. <http://chiron.valdosta.edu/whuitt/col/cogsys/metacogn.html>. Charles, through his

metacognition, knows he must be prepared for West Point and its rigors. Charles is self-aware of his learning, his thinking, his choices, and his plan. He chooses to regulate and review himself. Charles is an exceptional young man, and he is excited about his metacognition and the power it gives him about his own future.

**6. Formulating illustrative problem-solving exercises involving use of the concept of Metacognition:**

- a. The young learners in the art class know their primary colors. They are excited about their metacognition---that they know the right answers and are consequently correctly answering the teacher's questions. They readily volunteer answers and congratulate each other when they call out accurate answers to the teacher. They want to keep having this feeling. These students have achieved metacognition on primary colors.
- b. Metacognition is a student's ability to analyze her own learning and learning progression. The learner pays attention to what she is thinking; she uses strategies to think more effectively, and uses self-discipline and persistence to remain metacognitive amid all the possible distractions. She monitors her own progression, and revises her actions when needed. <http://ozpk.tripod.com/0meta>

**7. Developing a vocabulary associated with Metacognition and its defining attributes:** Thinking, Motivation, Self-Aware, Self-Discipline, Volitional, Persistence, Metacognizant, Ambition, Achievement, Goal.

**Teacher Resources**

1. Wikipedia <http://en.wikipedia.org/wiki/Metacognition> "**Metacognition** is the [knowledge](#) (i.e. awareness) of one's [cognitive processes](#) and the efficient use of this [self-awareness](#) to self-regulate these cognitive processes (e.g. Brown, 1987; Niemi, 2002; Shimamura, 2000). It is traditionally defined as the knowledge and experiences we have about our own cognitive processes (Flavell 1979). Writings on metacognition can be traced back at least as far as *De Anima* and the *Parva Naturalia* of the Greek philosopher [Aristotle](#).<sup>[1]</sup>"
2. Metacognition: Study Strategies, Monitoring, and Motivation, by William Peirce (2003). A greatly expanded text version of a workshop presented November 17, 2004, at Prince George's Community College <http://academic.pgcc.edu/~wpeirce/MCCCTR/metacognition.htm>
3. Antidote for "Learned Helplessness" Our classrooms and special education programs are full of students who have not developed metacognitive strategies. They are dependent learners who are not aware of what they need. <http://ozpk.tripod.com/0meta>