Metacognition

The following information comes from Dr. Saundra Yancy McGuire's presentations at Delta State University on September 9, 2015. Dr. McGuire is Assistant Vice Chancellor Emerita, Professor Emerita of Chemistry, and Director Emerita of the Center for Academic Success at Louisiana State University.

"Metacognition" refers to the ability to
- think about one's own thinking,
- be consciously aware of oneself as a problem-solver,
- monitor, plan, and control one's mental processing (e.g., "Am I understanding this material or just memorizing it?), and
- accurately judge one's level of learning.

Advice:
- Help students study as if they had to teach the material, not just make an A on the test.
- Teach students about Bloom's Taxonomy.
- Encourage students to solve problems without looking at an example or the solution.
- Have students constantly ask "why," "how," and "what if" questions.
- Have students test their understanding by verbalizing or writing about concepts and practicing the retrieval of information.
- Design activities that require higher-order thinking skills like analysis, synthesis, and evaluation.
- Openly attribute failures to correctable causes.
- Openly attribute success to effective strategies.

Teach students the study cycle:
- **Preview before class** – Skim the chapter, note headings, and boldface words, review summaries and chapter objectives, and come up with questions you'd like the lecture to answer for you.
- **Attend class** – Answer and ask questions and take meaningful notes.
- **Review after class** – As soon after class as possible, read notes, fill in gaps, and note any questions.
- **Study** – Repetition is the key. Ask questions such as "why," "how," and "what if." Have 3-5 short study sessions per day. During the weekend, read notes and material from the week to make connections.
- **Assess your learning** – Periodically perform reality checks. Am I using study methods that are effective? Do I understand the material enough to teach it to others?