

SLS1101

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METACOGNITIVE STRATEGIES REVIEW

- **Metacognitive strategies** facilitate learning how to learn. You can incorporate these into your courses:
 - Ask questions.
 - Foster self-reflection.
 - Encourage self-questioning.
 - Learn strategies directly.
 - Promote autonomous learning - encourage participation in challenging learning experiences
 - provide access to mentors - many people learn best by interacting with peers who are slightly more advanced.
 - Solve problems with a team.
 - Think aloud - report your thoughts outloud while performing a difficult task.
 - Self-explanation.
 - Provide opportunities for making errors.

METACOGNITION

- **Metacognition** refers to higher order thinking which involves active control over the cognitive processes engaged in learning.
- **Metacognition** is “thinking about thinking” according to educational psychologists. Other similar terms include executive control, self-regulation, and meta-memory. All of these emphasize the role of executive processes in the overseeing and regulation of cognitive processes.

METACOGNITIVE KNOWLEDGE

- **Metacognitive knowledge** refers to acquired knowledge about cognitive processes, knowledge that can be used to control cognitive processes.
- John Favell (1979) divides **metacognitive knowledge** into three categories:
 - knowledge of person variables
 - knowledge of task variables
 - knowledge of strategy variables

METACOGNITIVE KNOWLEDGE

- **Knowledge of person variables** - refers to general knowledge about how human beings learn and process information, as well as individual knowledge of one's own learning processes.

METACOGNITIVE KNOWLEDGE

- **Knowledge of strategy variables** - include knowledge about both cognitive & metacognitive strategies as well as conditional knowledge about when and where it is appropriate to use such strategies.

METACOGNITIVE KNOWLEDGE

- **Knowledge of metacognitive strategies** - are sequential processes that one uses to control cognitive activities, and to ensure that a cognitive goal (e.g. understanding a text) has been met. These processes help to regulate and oversee learning and consist of planning and monitoring cognitive activities, as well as checking the outcomes of those activities.

METACOGNITIVE VERSUS COGNITIVE STRATEGIES

- **Cognitive Strategies** - are used to help an individual achieve a particular goal (e.g. understanding a text)
 - **Metacognitive Strategies** - are used to ensure that the goal has been reached (e.g. quizzing oneself to evaluate one's understanding of that text)
- * the distinction lies in how the information is used between the two

METACOGNITIVE EXPERIENCES

- **Metacognitive Experiences** usually precede or follow a cognitive activity. They often occur when cognition fails (e.g. recognition that one did not understand what one just read). Such an impasse is believed to activate metacognitive processes as the learner attempts to rectify the situation.

METACOGNITIVE EXPERIENCES

- **Metacognition** or the ability to control one's cognitive processes (self-regulation) has been linked to intelligence. **Metacomponents** are executive processes that control other cognitive components as well as receive feedback from those components. Metacomponents are responsible for figuring out how to do a particular task or set of tasks, and then making sure that the task is done correctly.

CSI COGNITIVE STRATEGY INSTRUCTION

- **Cognitive Strategy Instruction** is an instructional approach which emphasizes the development of thinking skills and processes as a means to enhance learning. The objective is to enable all students to become more strategic, self-reliant, flexible and productive in their learning endeavors.

METACOGNITION

- enables students to benefit from instruction & influences the use & maintenance of cognitive strategies
- it is the process of thinking about thinking and it is the process of developing self-awareness and the ability to self-assess
- the ability to understand and analyze one's own learning is especially influenced by educational background & previous experience
- sometimes learners have higher-order thinking skills in place but lack the communication skills to relay them. It is also difficult to convey some of the more abstract or complex ideas like goals, strengths, and learning styles without translation.

METACOGNITION

- Instructors at the lowest levels often use visual representations of simplified concepts and translation
- Learners may not feel it appropriate to share “personal” thoughts and reflective insights

QUESTIONS TO ASK TO ACTIVATE METACOGNITIVE SKILLS

- What did I learn today?
- How will I use what I am learning outside of class?
- Why am I practicing “x”? How will it help me?
- When I am about to try something new, how do I feel?
- When I am doing something and I get stuck, what do I do?
- Do I (cook, drive, relax) the same way in every situation? Why do I shift how I do things?

METACOGNITIVE SKILLS

- Learners will set learning goals:
 - understand goals and illustrate and / or describe your own personal goals for participation in class.
 - set goals related to working, studying and / or participating in your community
 - differentiate between long and short term goals
 - identify obstacles to meeting your goals
 - Identify community resources & sources of support for meeting your goals.
 - Develop and practice skills necessary to achieving your personal goals (i.e. problem-solving skills)
 - report any progress toward meeting your goals
 - review and update learning goals throughout school and review course of action for meeting goals.

METACOGNITIVE SKILLS

- Learners will understand their own learning styles:
 - Identify your previous learning experiences
 - Express likes and dislikes about learning activities
 - Understand strengths and weaknesses
 - Recognize learning modalities / preferences in simple terms (e.g. see, hear, feel, do)
 - self-assess learning styles and preferences, strengths and weaknesses
 - share & explain your own learning preferences and learning strategies to others
 - describe how one's learning preference affects how one learns
 - recognize learning modalities / preferences in more complex terms (e.g. visual, auditory, oral, etc.)

METACOGNITIVE SKILLS

- Learners will evaluate their own learning:
 - express feelings about class in simple terms
 - illustrate and describe progress toward their goals
 - monitor and assess their progress
 - provide feedback to instructor about needs and preferences
 - identify achieved goals
 - determine next steps / changes to plans and activities
 - report new needs (goals) as they arise
 - demonstrate an understanding of evaluations and surveys (e.g. on-the-job, in school, customer service, etc.)
 - seek additional / supplemental learning opportunities

RECOMMENDED INSTRUCTIONAL STRATEGIES

- Develop a plan before approaching a learning task, such as reading for comprehension or solving a math problem.
- Monitor your understanding; use fix-up strategies when meaning breaks down.
- Evaluate your thinking after completing task

THE SCIENCE OF MINDSETS

- Mindset is a way of thinking about something. There is a fixed and a growth mindset.
- A fixed mindset is where intelligence & competency are a rigid, unchangeable quality.
- A growth mindset is where intelligence and competency can be developed over time as the brain changes and grows

THE SCIENCE OF MINDSETS

- Where Mindsets originate from:
 - Intense life experiences which may evoke strong emotional events that can alter your course in life (ex: trauma)
 - Pervasive culture consistently & purposefully shapes actions. These happen in families, at companies, in the military, sports teams, sororities and fraternities
 - Conscious growth and learning: reflection, self-talk, discovery, reading, writing, learning & mindfulness
 - When humans are constantly hearing & repeating stories about “the way things are”, the narrative gets daily reinforcement. The stories could come from music, books, online sites, newspapers, theatre, politics, musicals, sports, interest groups and school & community cultures
 - Specific social groups that include or exclude you based on how you respond to challenges, obstacles, the success of others and criticism.

THE SCIENCE OF MINDSETS

- Neuroscience tells us that activating mindsets (or perspectives) alters two areas:
 - Value which activates the MOC (medial orbitofrontal cortex) and LLPC (left lateral prefrontal) areas of the brain
 - Choice which activates the amygdala and left putamen.

WHY IS THIS IMPORTANT?

- Unless your actions alter values and choices, they are unlikely to succeed in influencing another's mindset. Mindsets are what you value and the corresponding choices you make.

WHY IS THIS IMPORTANT?

- Practical Applications:
 - Reality 1: Pervasive work cultures can consistently shape actions.
 - Action Steps: at school create ceremonies, teams, rituals, routines, daily and weekly events that reinforce the values, beliefs and actions that everyone at your school will take; classroom cooperative learning groups can be setup to influence thinking.
 - Reality 2: Learning can change our lives: writing, reflection, mindfulness, self-talk and reading.
 - Action Steps: give staff and students reflective questions to answer daily; use this daily practice of reflection to create dissonance between the present and the “new”. Reinforce the affirming new behaviors with daily triggers. Students should answer three questions per day such as, “How did I help others today? How did I become a better learner today? What am I grateful for and also looking forward to?

WHY IS THIS IMPORTANT?

- Practical Applications:
 - Reality 3: Hearing and repeating stories about “the way things are” will become the dominant, reinforcing narrative in your head.
 - Action Steps: Create and repeat a new narrative. Help collaborate to set new, higher goals, provide a reason for others to believe them; set micro-goals and share the rewards of success. Affirm the positives. Do this in meetings, casual conversations, and at school events. Talk about the successes of your past students. Have them repeat the stories as a memory activity. In reality, the repetition will be influencing their mind-sets.