Four Cognitive Strategies for Student Engagement

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Blog Series: Notes From The Field
February 26, 2020
Tags: student learning | teaching strategies | cognitive learning | cognitive strategies

Cognitive strategies are pedagogical ways that enable learners to manage their own learning. They mediate the transition from teaching to student learning. Instructors and students acquire cognitive strategies from their experience and schooling—for better or worse. Many instructors settle on those strategies that "work," or seem to. This is a pragmatic approach often uncritically unlinked to foundational theories of learning or research-based knowledge. The danger here is that it does not take long for these uncritically held strategies to become biased practices. An instructor will continue to use them even when they stop working. Lacking rigorous assessments of learning there is danger in continuing to use methods even when they don't work.

Below are four theory- and research-based cognitive strategies. Most instructors use some form or another and likely refer to these as "methods" or "approaches." You can download a **handout of these strategies here.**

Input Cognitive Strategies. An input cognitive strategy depends on those things to which learners pay attention. Most instructors overestimate the level of attention students give to the instructional intent of learning experience (the teacher's lecture, for example). Aside from short attention spans, learners pay attention to events external to them, by their own choice, or by distraction. An *external* stimulation might include anxiety about a job loss or family situation, which creates significant emotional distraction and is an un-motivator to learn. An *internal* stimulation might include remembering a career goal, which will motivate learners to give attention to those things in the lesson that will help meet that goal. Input cognitive

strategies are applied to intentionally gain and maintain student attention. The rule is: *students learn that to which they pay attention; and when they don't pay attention, they don't learn.*

Process Cognitive Strategies. A process cognitive strategy helps learners make sense of what they learn. Gagné and Medsker (1996) list several such as, Rehearsal: trying out something new; Elaboration: associating something new with something previously learned; Organization: imposing a structure on what is newly learned through such methods as outlining, categorizing, or diagramming. Instructors need to embed student learning activities throughout the lesson or course that facilitate these experiences.

Output Cognitive Strategies. An output cognitive strategy helps ensure that learners acquire new knowledge or skills by *applying* what they have learned and making meaning of their experiences. For example, assigning learners to teach on something they would like to learn. The teaching (output) focuses the learners' attention on organizing the new knowledge or skill to teach it to others. Through this approach, learners make sense of what they want to learn.

Feedback Cognitive Strategies. Through feedback cognitive strategies learners to acquire new knowledge or skills by giving feedback to others. An example is to ask learners to hear a presentation or sermon and provide feedback to another student about that delivery. Giving feedback focuses the learners' attention on organizing the new knowledge or skill to provide feedback to others. It is necessary to provide students a rubric of the concepts, principles, or criteria for assessment upon which to give feedback.

For more information on cognitive strategies see Rothwell, William J., et al., *Mastering the Instructional Design Process : A Systematic Approach,* Center for Creative Leadership, 2015. See also Gagne and Medsker, *The Conditions of Learning* Wadsworth Publishing, 1996.

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