

# Four Cognitive Strategies for Student Engagement

Cognitive strategies are pedagogical ways that enable learners manage their own learning. They mediate the path between teaching and learning. 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."

<p><b>Input Cognitive Strategies</b></p>	<p>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 <i>external</i> stimulation might include anxiety about a job loss or family situation, which creates significant emotional distraction and is an un-motivator to learn.</p> <p>An <i>internal</i> stimulation might include remembering a career goals, which will motivate learnings 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: <i>students learn that to which they pay attention; and when they don't pay attention, they don't learn.</i></p>
<p><b>Process Cognitive Strategies</b></p>	<p>A process cognitive strategy helps learners make sense of what they learn. Gagné and Medsker (1996) list several: 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.</p>
<p><b>Output Cognitive Strategies</b></p>	<p>An output cognitive strategy helps ensure that learners acquire new knowledge or skills by <i>applying</i> 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. Though this approach learners make sense of what they want to learn.</p>
<p><b>Feedback Cognitive Strategies</b></p>	<p>Through feedback cognitive strategies learners acquire new knowledge or skill by giving feedback to others. An example would ask learners to hear a presentation or sermons and provide feedback to another student about that delivery bases on a rubric. 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.</p>

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