**Indicator:** All teachers and teacher teams plan instruction based on the aligned and expanded curriculum that includes objectives for student management of their learning. (D3)

**Explanation:** Personal learning models emphasize a number of instructional strategies to enhance students’ metacognitive competency and encourage management of their own learning. Explicit strategy instruction that includes teacher modeling, scaffolding of the strategy to students through plenty of guided practice, and self-assessment of student learning has been shown to positively impact student learning. Effective strategies include think-aloud, goal setting, and self-checking for learning. Teachers may need discipline-specific professional development on how to promote metacognitive competency within their teaching contexts.

**Questions:** What are the benefits of building students’ metacognitive competency? What teaching strategies benefit students’ metacognitive competency and encourage them to manage their own learning? How can teachers plan instruction to maximize student metacognitive competency?

**What Are the Benefits of Building Students’ Metacognitive Competency?**

Learner-centered, or personalized learning refers to “a teacher’s relationships with students and their families and the use of multiple instructional modes to scaffold each student’s learning and enhance the student’s personal competencies” (Twyman & Redding, 2015, p. 3). The student is actively involved with the teacher in co-constructing their individualized learning pathway, and often through technology the location, time and pace of learning may vary from student to student (Redding, in press). Metacognitive competency, one of four personal competencies within recent personalized learning frameworks\(^1\) becomes critical for student success, particularly within personalized learning pedagogies, as students are responsible to some degree for managing their own learning. Metacognition refers to how students learn, and self-regulate learning and use of learning strategies (Redding, in press). Research has provided extensive support for explicitly teaching self-regulated learning strategies to students, and meta-analyses have shown consistently positive effects on student performance generally, and in specific domains such as reading, writing, and mathematics (e.g., Hattie, Biggs & Purdie, 1996; Dignath & Büttner, 2008). In a recent comprehensive meta-analysis including 58 studies addressing 95 strategy instruction interventions, researchers found that:

Strategy instruction that included the combination of ‘general metacognitive knowledge’, the metacognitive strategy ‘planning and prediction’ and the motivational strategy ‘task value’ enhanced student performance the most effectively. Therefore, teaching students skills such as determining when, why and how to use learning strategies, how to plan a learning task and establish goals for learning, and explaining the relevance and importance of a task (so that they see the importance of what they are doing) are important aspects of self-regulated learning interventions. Especially the inclusion of task value in the strategy instruction had a large effect on student performance. (deBoer, Donker-Bergstra, & Kostons, 2013, p. 59-60)

\(^1\) Other personal competencies are Cognitive, Motivational, and Social/Emotional. For a complete description of a personalized learning framework see Redding, in press: http://www.centeril.org/2016handbook/resources/Redding_chapter_web.pdf)
How Can Teachers Plan Instruction to Maximize Student Metacognitive Competency?

Twymans and Reddings (2015) and others (Wolf & Davis Poon, 2015) advocate teachers intentionally building metacognitive competencies into their teaching and lesson planning; for example, documenting explicitly how a lesson plan component promotes students’ self-regulatory abilities, goal setting, and tracking of mastery. However, metacognitive instruction is not commonly observed and teachers often have limited knowledge about metacognition and how it can be enhanced (Wilson & Conyers, 2014). Professional development that provides teachers with this knowledge and how they can teach and reinforce metacognitive learning behaviors in their students has been successfully used within several areas, including science inquiry programs (Seraphin, Philippoff, Kaupp, & Vallin, 2012), formative assessment within middle school math classrooms (Dempsey, Beesley, Fazendeiro Clark, & Tweed, in press) and elementary students’ formative self-assessments of their learning using rubrics (Zubrzycki, 2015). Deeper learning within domains may require metacognitive instruction embedded within content to help students “think like a historian or an engineer” for example (Muijs, Kyriakides, van der Werf, Creemers, Timperley & Earl, 2014; Graesser, 2015), suggesting that this instruction should be strategically incorporated into teacher planning within professional learning communities.

References and Resources


