Figure 3.3 Responses to Cognitive Challenges

CHALLENGE	INDICATORS	POTENTIAL ACTIONS
1. Mental mindset	• • •	• Explain the value and importance of the learning (relevance). • Increase students' ownership of their learning. • Teach habits of minds and mindsets. • •
2. Metacognition and self-regulation	• • •	• Create reflection assignments. • Teach students about planning, monitoring, and adjusting their learning. • Use practice tests. • •
3. Fear and mistrust	• • •	• Focus on trust between teachers and students. • Restructure feedback to ensure that students experience it as growth-producing. • Create a safe climate for learning and making mistakes. • •

(Continued)

CHALLENGE	INDICATORS	POTENTIAL ACTIONS
4. Insufficient prior knowledge	• • •	• Use initial assessments to identify what students already know and what they need to know. • Provide lesson background knowledge and key vocabulary in advance, perhaps through interactive videos. • Identify what students need to know versus what would be neat for them to know. • •
5. Misconceptions	• • •	• Use advance organizers that allow student misconceptions to surface. • Recognize common misconceptions for students at a specific age or in a specific content area. • Invite students to justify their responses to that thinking. • •
6. Ineffective learning strategies	• • •	• Teach study skills. • Model effective strategies with think-alouds. • Teach about and use spaced practice.

CHALLENGE	INDICATORS	POTENTIAL ACTIONS
7. Transfer of learning	• • •	• Plan appropriate tasks that include near and far transfer. • Model the application of skills and concepts in different contexts. • Tailor feedback to include processing of the task. • •
8. Constraints of selective attention	• • •	• Increase teacher clarity such that students know what they are learning and why. • Use breaks and re-orientation strategies. • Teach students to avoid multi-tasking, especially with media. • •
9. Constraints of mental effort and working memory	• • •	• Organize information and chunk it in ways that are easy to digest. • Use both visual and auditory cues (dual coding). • Use retrieval practice and universal response frequently. • •