

Factors Associated With Cognitive Demands

Factors Associated with the Decline of High-Level Cognitive Demands

1. Problematic aspects of the task become routinized (e.g., students press the teacher to reduce the complexity of the task by specifying explicit procedures or steps or perform; the teacher “takes over” the thinking and reasoning and tells students how to do the problem.)
2. The teacher shifts the emphasis from meaning, concepts, or understanding to the correctness or completeness of the answer.
3. Not enough time is provided to wrestle with the demanding aspects of the task or too much time is allowed and students drift into off task behavior.
4. Classroom management problems prevent sustained engagement in high-level cognitive activities.
5. Inappropriateness of task for a given group of students (e.g., Students do not engage in high-level cognitive activities due to lack of interest, motivation, or prior knowledge needed to perform; task expectation not clear enough to put students in the right cognitive space.)
6. Students are not held accountable for high-level products or processes (e.g., although asked to explain their thinking, unclear or incorrect student explanations are accepted; students are giving the impression that their work will not “count” toward a grade).

Factors Associated with the Maintenance of High-Level Cognitive Demands

1. Scaffolding of student thinking reasoning.
2. Students are provided with means of monitoring their own progress
3. Teacher or capable students model high-level performance.
4. Sustained press for justifications, explanations, and/or meaning through teacher questioning, comments and/or feedback.
5. Tasks build on students’ prior knowledge.
6. Teacher draws frequent conceptual connections.
7. Sufficient time to explore (not too little, not too much).

Other Categories of The Decline of Cognitive Demand

Decline into Unsystematic Exploration

Decline into Nonmathematical Activity