

Productive Struggle

*the
struggle
you're in
today
is developing the
strength
you need for
tomorrow*

Factors Associated with the Maintenance of High-Level Cognitive Demands

1. Scaffolding of student thinking and reasoning is provided.
2. Students are given the means to monitor their own progress.
3. Teacher or capable students model high-level performance.
4. Teacher presses for justifications, explanations, and meaning through questioning, comments, and feedback.
5. Tasks build on students' prior knowledge.
6. Teacher draws frequent conceptual connections.
7. Sufficient time is allowed for exploration – not too little, not too much.

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 to 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. Task is appropriate for a given group of students (e.g., students do not engage in high-level cognitive activities because of lack of interest, motivation, or prior knowledge needed to perform; task expectations are 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 given the impression that their work will not “count” toward a grade).