Thinking Is Your Curriculum: New Ideas from Cognitive Science

1. Teach both the process (how) and the concept (why).

Check to make sure students understand and can articulate both. Process give them strategies. Concepts give them meaning. Following steps is easy. Knowing why is hard. Explaining why to someone else is very hard.

Source: Payne, R. (2009). *Research Based Strategies*. Texas: Aha Press.

1. Teach planning and labeling tasks.
   1. Use planning behaviors
   2. Use a stable system of reference
   3. Organize space
   4. Insist on accurate, precise labels/ vocabulary

No words = no thought

Source: Payne, R. (2009). *Research Based Strategies*. Texas: Aha Press.

1. Teach patterns and variations.
   1. Identify constancies
   2. Identify variations
   3. Gather accurate data
   4. Consider two sources of data at same time.

Source: Payne, R. (2009). *Research Based Strategies*. Texas: Aha Press.

1. Teach question generation.
   1. Use questions to learn how to explore data systematically
   2. Use accurate labels.
   3. Use planning behaviors
   4. Identify the key problem.

Source: Payne, R. (2009). *Research Based Strategies*. Texas: Aha Press.

1. Teach reading as a conversation between reader, author, and other readers.

Conversation is a communication method that requires listening, pondering of ideas, reciprocal communication.

Source: Payne, R. (2009). *Research Based Strategies*. Texas: Aha Press.

1. Value practice and homework. Insist on it.
   1. Assign homework.
   2. Design homework that allows for practice and application.
   3. Practice actively in class. Cultivate a culture of practice.

Reciprocal teaching forces students to actively use information and articulate the why.

* 1. Describe the solution (not the problem).
     1. Identify issue.
     2. Apply.
     3. Replicate.
  2. Limit your critiques.
  3. Positive feedback makes practice more effective.