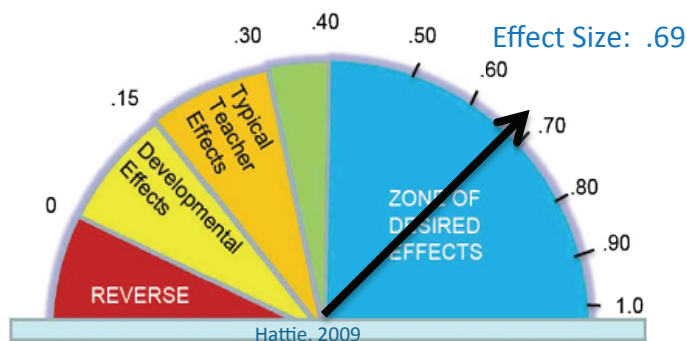# Metacognition

What is Metacognition?

- Awareness of one's own actions and their effects
- Posing internal questions to find information and meaning
- Developing mental maps, pictures, or plans
- Monitoring plans throughout a process and revising plans when they do not work
- Self-evaluating a completed plan

Costa 2008

Thinking about our thinking:

I'm Thinking
I'm seeing
I'm Wondering
I'm Feeling
I'm noticing

The Research

.30   .40   .50
.15   .60
Typical Teacher Effects
Developmental Effects
0
.70
Effect Size: .69
ZONE OF DESIRED EFFECTS
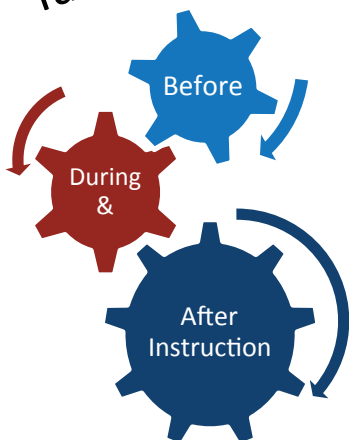.80
.90
REVERSE
1.0
Hattie, 2009

Impact of Metacognition

- Shapes active rather than passive learners
- Gives students a sense of control over learning
- Promotes "deep learning"
- Makes students aware of their own thinking

McElwee 2009

Four Types of Self-addressed Metacognitive Questions

Takes place:

Before
During &
After Instruction

Comprehension

What is the question?

Connection

How is this problem like one I already solved?

Strategic

Why is this strategy the best to solve the problem?

Reflection

Does the solution make sense?