Modeling the Learning Process

James Zull. *The Art of Changing the Brain*  
(Sterling, VA: Stylus Publishing, 2002)
4 Basic Functions the Brain Uses for Learning

- Getting Information
- Making Meaning of Information
- Creating New Ideas
- Acting on Those Ideas
Learner *Begins* as

**Receiver** of Knowledge
Gathering
Information Enters through Senses

- Can you remember four things that influence this gathering?

- Interest
- Intent
- Basic Background (prior knowledge)
- Understanding
Gathering takes place in the sensory cortex
Strategies for Taking Tests

Gathering

• You gathered strategies for taking specific test
Analyzing to Make Meaning

REFLECTION

• Try to make personal
• Try to determine connection to past experiences
• Try to discover relevance and usefulness
• Try to discover what it's like that we already know.
Analyzing takes place in the Back Integrative cortex
Strategies for Taking Tests

Analyzing

• You analyzed examples and took practice tests.
Creating

Convert comprehension to

• Ideas
• Hypothesis
• Plans
Strategies for Taking Tests
Creating

- You predicted what questions might be
- And planned possible answers
Creating Takes Place in the front integrative cortex
Acting
Testing Ideas

- Writing
- Speaking
- Drawing

Can you think of other ways?
Acting Takes Place in the Motor Cortex
Strategies for Taking Tests

Acting
Your response to your predictions

- You wrote essay answers
- Wrote a practice test
Learner becomes

Producer of Knowledge