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
Critical Thinking

Gathering

• You discovered:
• The steps of the decision making process
• Levels of Blooms Taxonomy

• What else?
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
Critical Thinking

Analyzing

• You analyzed your use of time
  – How?
    – You analyzed options in decisions you need to make
    – You analyzed and found examples of levels of Bloom’s Taxonomy to make sure you understood them.
Creating
Convert comprehension to

- Ideas
- Hypothesis
- Plans
Critical Thinking
Creating

- You created a
- Plan for making decisions
- Predicted Test Questions at each level of Bloom.
Creating Takes Place in the front integrative cortex
Testing Ideas

- Writing
- Speaking
- Drawing

Can you think of other ways?
Acting Takes Place in the Motor Cortex
Critical Thinking

Acting

• You tested your Decision Making plan by following it.

• The practiced answering the questions you predicted and found examples on tests
Learner becomes

Producer of Knowledge