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 \textit{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
Research

Gathering

• You learned the steps of the research process
• And names of databases
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
You analyzed when you might use each database.
Creating
Convert comprehension to

• Ideas
• Hypothesis
• Plans
You projected a limit for your topic and projected which databases to use.
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
Research

Acting

Your response to your predictions

• You planned the parts of a research project. Some of you actually wrote a research paper.
Learner becomes

*Producer of Knowledge*