



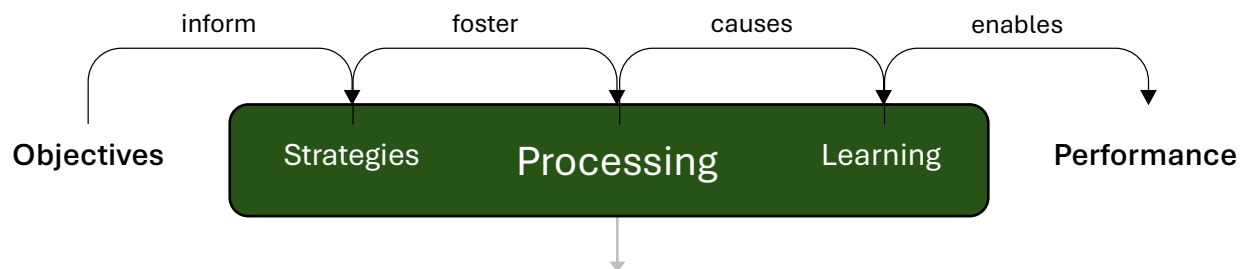
Learning → Performance



Peter Doolittle, Professor
Educational Psychology, Virginia Tech
pdoo@vt.edu * peterdoolittle.org

I. How do YOU learn ?

II. A Model of Learning



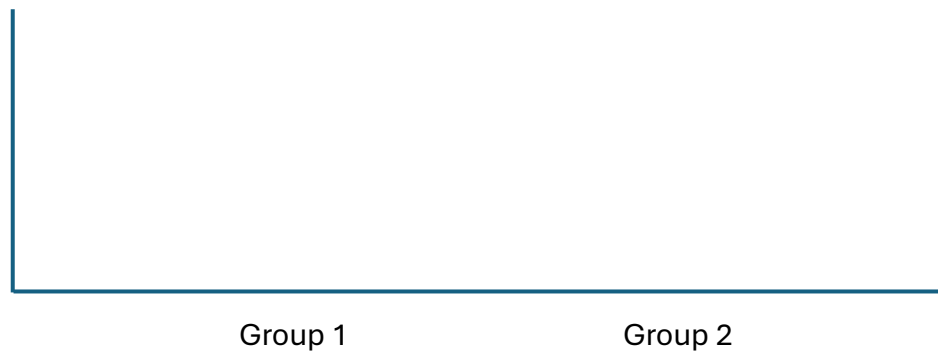
Learning is Effortful.

III. Attention

a. What is attention?

An Activity

Color	Group 1	Group 2
Orange		
Purple		
Red		
Green		
Blue		



b. Focus and Suppression

c. Capture and Selection

The Science of Attention

Principle 1: Attention is a competition for the spotlight.

Principle 2: Attention capacity is small and fragile.

Principle 3: Attention focus is effortful and fails often.

Principle 4: Attention is impacted by sleep, anxiety, and fatigue.

Principle 5: Attention to one thing, suppresses other things.

The Application of Attention

App 1:

App 2:

App 3:

]

App 4:

App 5:

No Attention. No Learning.

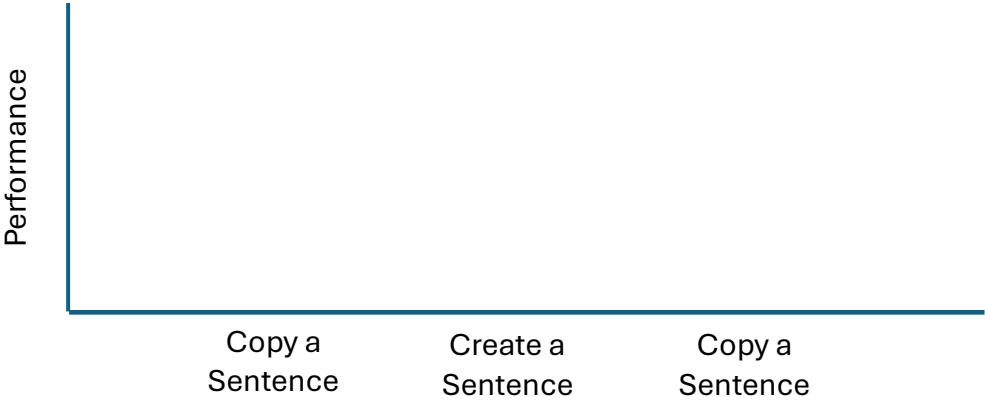
IV. Processing: Making Meaning

a. What is meaning?

An Activity

Copy a Sentence		Create a Sentence	
1.		1.	
2.		2.	
3.		3.	
4.		4.	
5.		5.	
6.		6.	
7.		7.	
8.		8.	
9.		9.	
10.		10.	

Copy a Sentence		Create a Sentence		Read a Sentence	
1.		1.		1.	
2.		2.		2.	
3.		3.		3.	
4.		4.		4.	
5.		5.		5.	
6.		6.		6.	
7.		7.		7.	
8.		8.		8.	
9.		9.		9.	
10.		10.		10.	



The Science of Cognitive Processing

Principle 1: The deeper the processing, the deeper the learning.

Principle 2: Activating prior knowledge is essential for new learning.

Principle 3: Revisit, integrate, and reorganize what you know into greater coherence.

Principle 4: Directly compare and differentiate ideas/skills that you often confuse.

Principle 5: Learning deeply is effortful; what feels easy, isn't learning.

The Application of Cognitive Processing

App 1:

App 2:

App 3:

]

App 4:

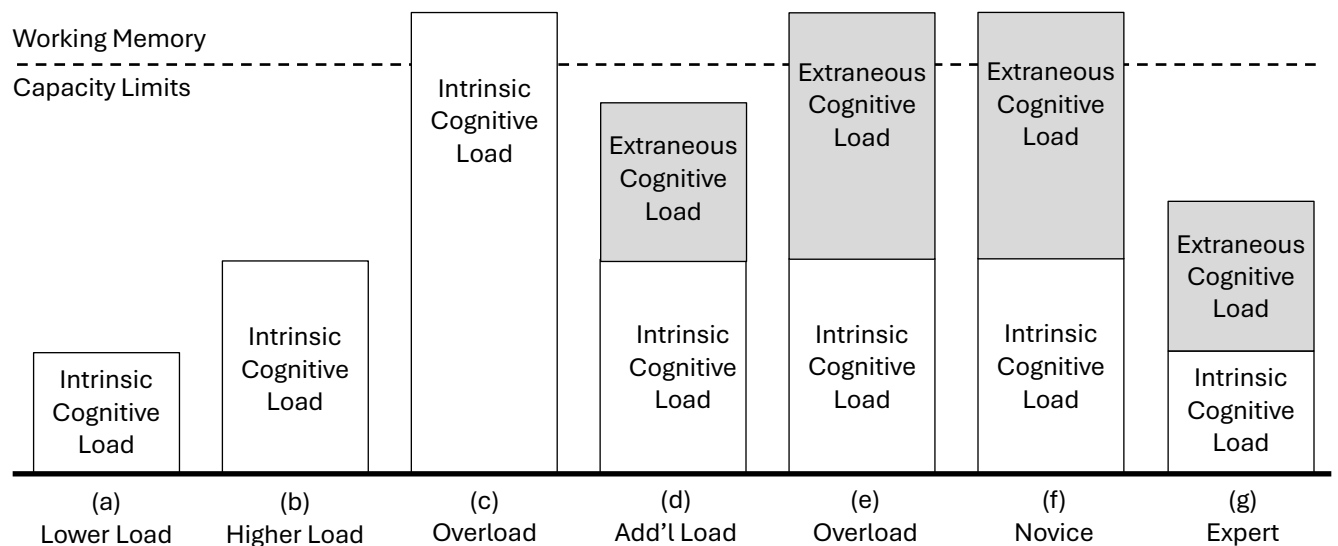
App 5:

What we process, we learn.

V. Cautionary Tales

a. Learning-Performance Distinction

b. Working Memory & Cognitive Load



c. Multitasking

- Multitasking during class leads to poorer learning & performance.
- Sitting close to a multitasking student, leads to poorer learning & performance.
- Students who believe they can multitask, can't.
- Students who believe they can multitask, tend to multitask more.

Learning is messy.

VIII. A Synthesis

List three ideas, concepts, or conclusions that you think are worth remembering.