1

2

Introducti

How do *you* learn?
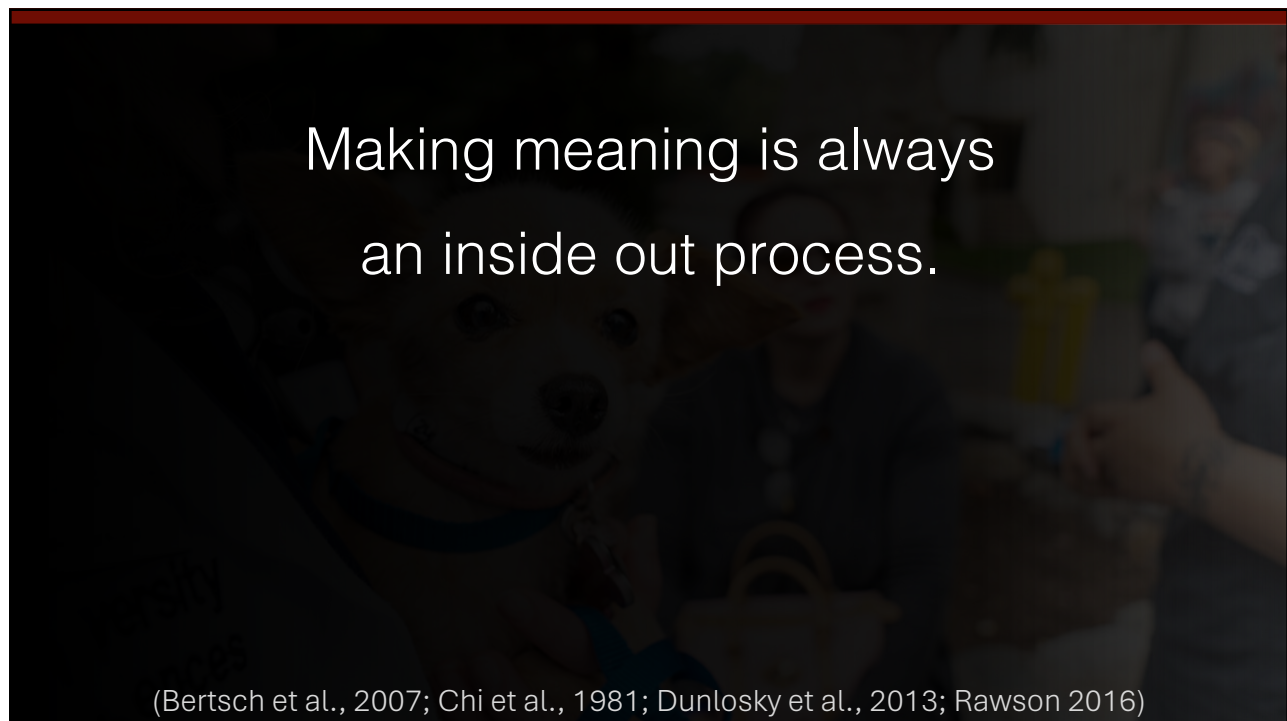
1. Mostly, I ...

2. Sometimes, I ...

VETERINARY MEDICINE

3

Meaning
Meaning is always inside out.

What is "meaning"?

4

Words

Rest   Snore   Sound

Tired   Bed   Comfort

That's all!

Awake   Eat   Wake

Dream   Slumber   Night

5

Making meaning is always

an inside out process.

(Bertsch et al., 2007; Chi et al., 1981; Dunlosky et al., 2013; Rawson 2016)

6

7

"Excuse me...

how do we create meaning?"
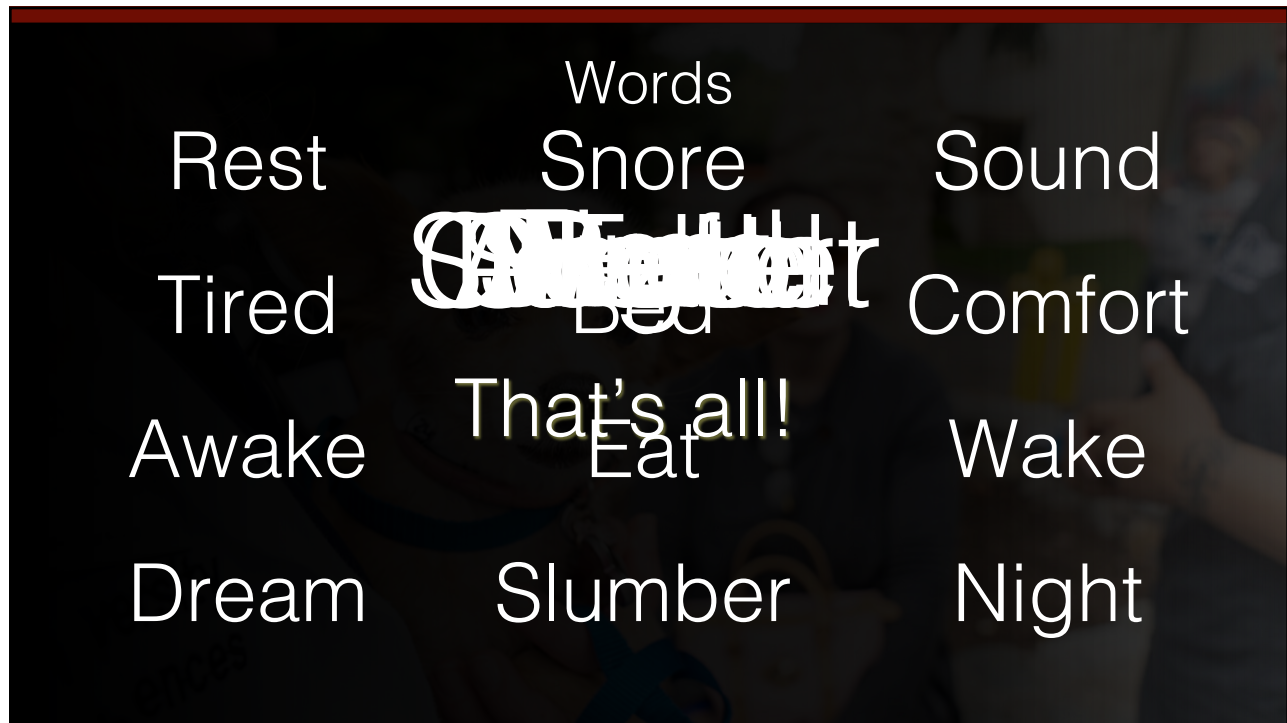
8

Making Sense of the World

Learning is fostered when experience is meaningful.

1. Connect new knowledge and experience to what you already know (and have experienced)
2. Recognize the functionality and usefulness of new knowledge and experience
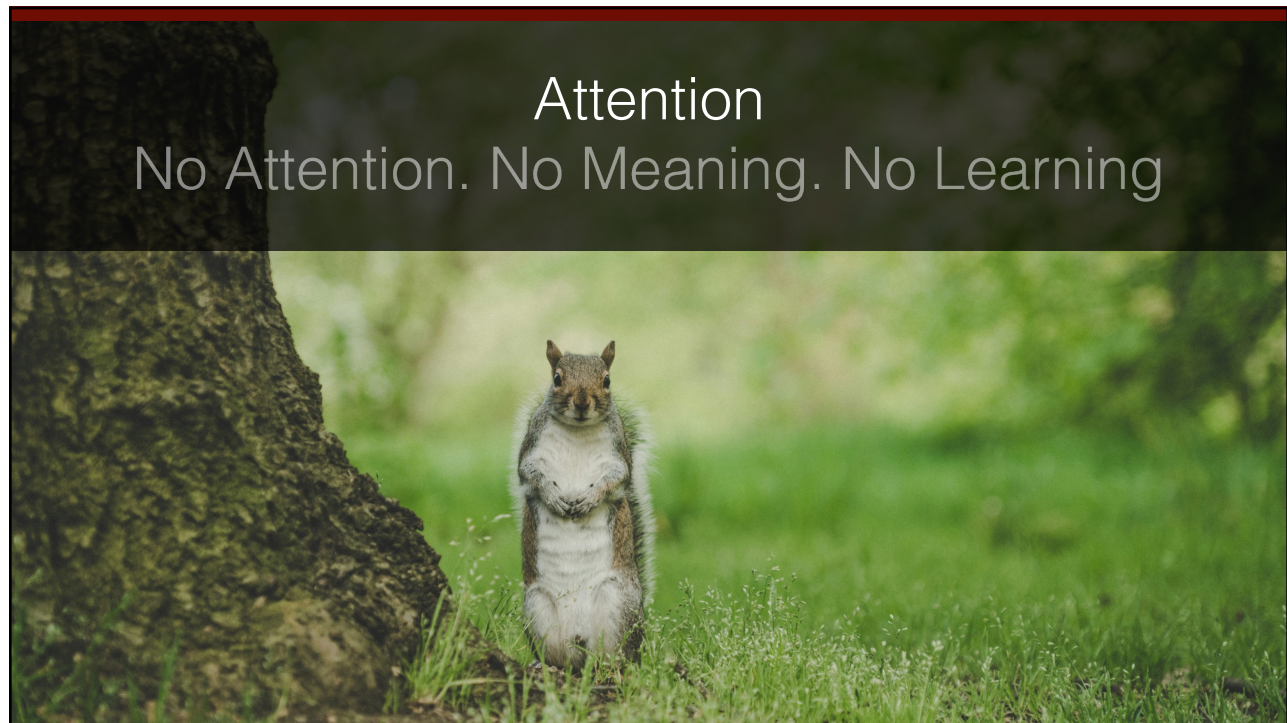3. Connect personally / socially / culturally / emotionally

Talk about it. Explain it to your cat.

9

↑Meaning → ↑Learning → ↑Performing

Let's dig deeper...

10

Attention
No Attention. No Meaning. No Learning

11

Attention-based Learning Strategies

1. **Reduce distractions:** mute/hide your phone, only open needed web tabs, find a "good" physical location to work.

2. **Monitor Comprehension:** assess every 10-15 minutes or the bottom of each page: "Does this make sense?"

3. **Maintain Focus:** take active notes, create your own examples, provide your own self-explanations. Plan a break.

4. **Take Breaks:** every 30 minutes or so, take a 5-minute thinking break, followed by planned re-engagement (re-set goals).

12

1/14/26

13

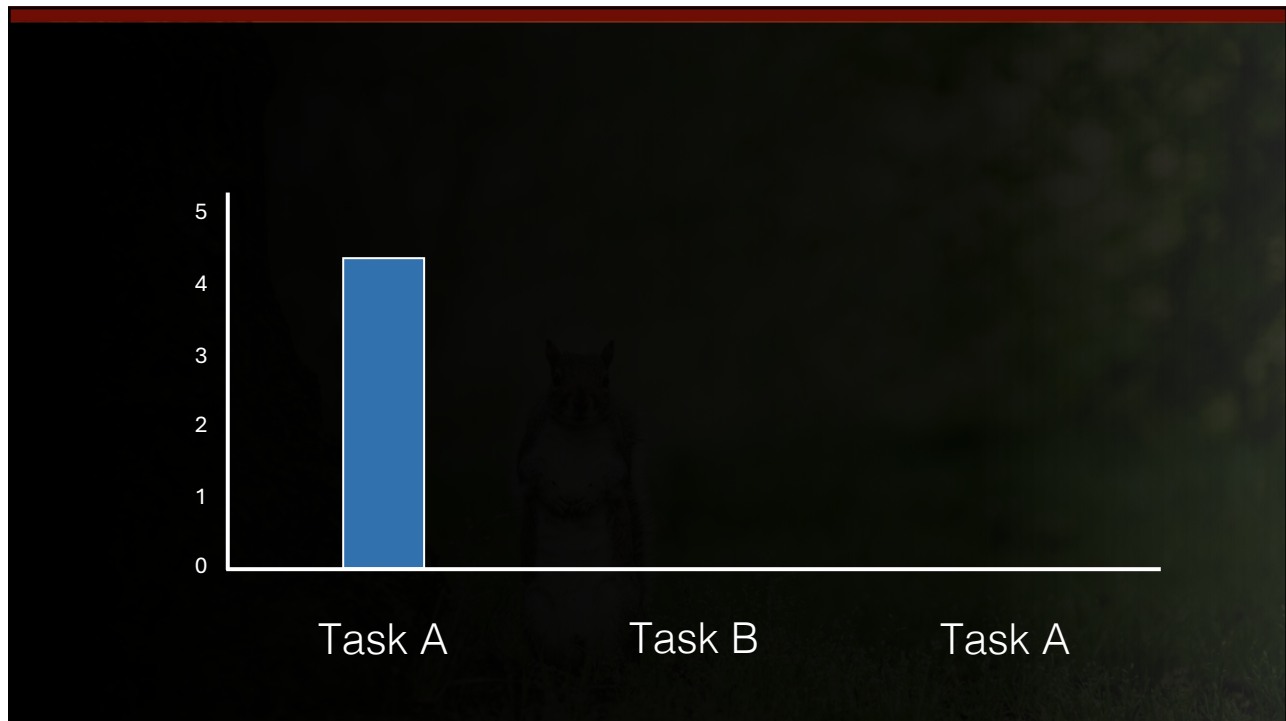

An Attention Caveat
Your brain has limits.

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Directions

15

Task A

1. What is the state of mind mentioned?

2. What is the companion mentioned in the passage?

3. How is the companion described?

4. Where else can you get that kind of companionship?

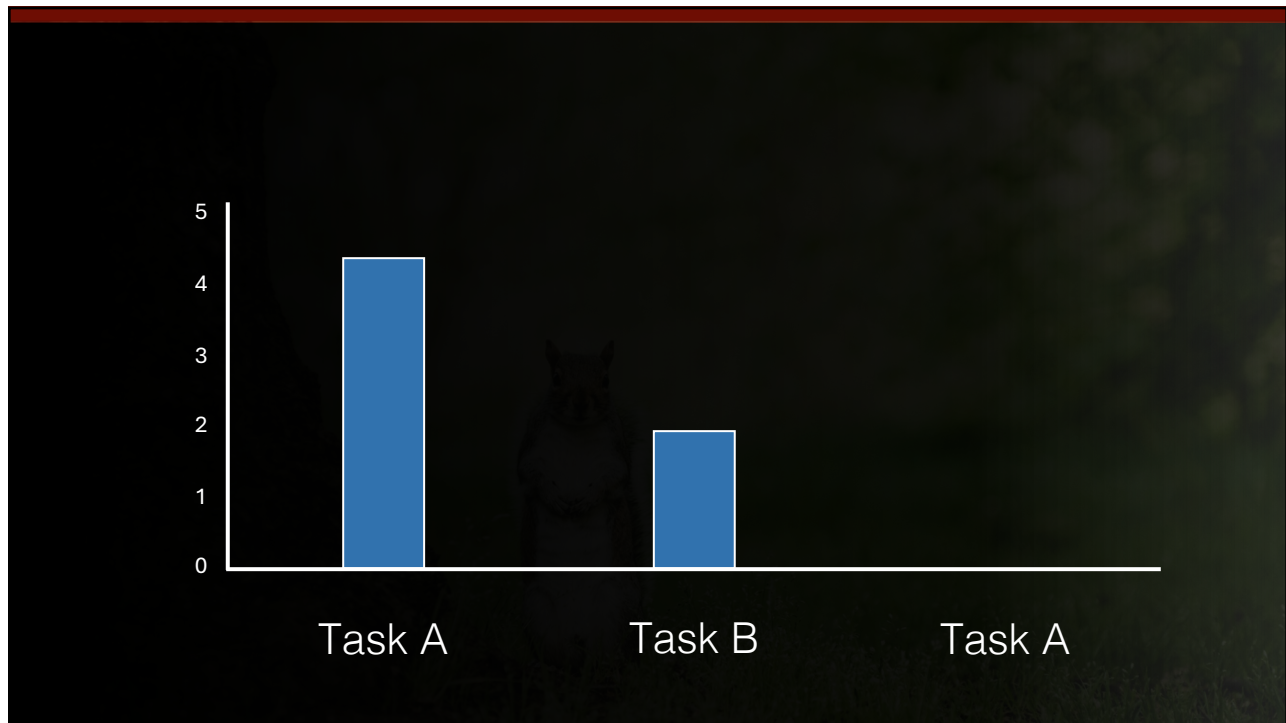5. What's the point of the passage?

16

17

Task B

1. What does the author urge us to do in the passage?

2. What was the original name of the drink mentioned?

3. What was the subsequent name of the drink mentioned?

4. How many actual liquids are mentioned in the passage?

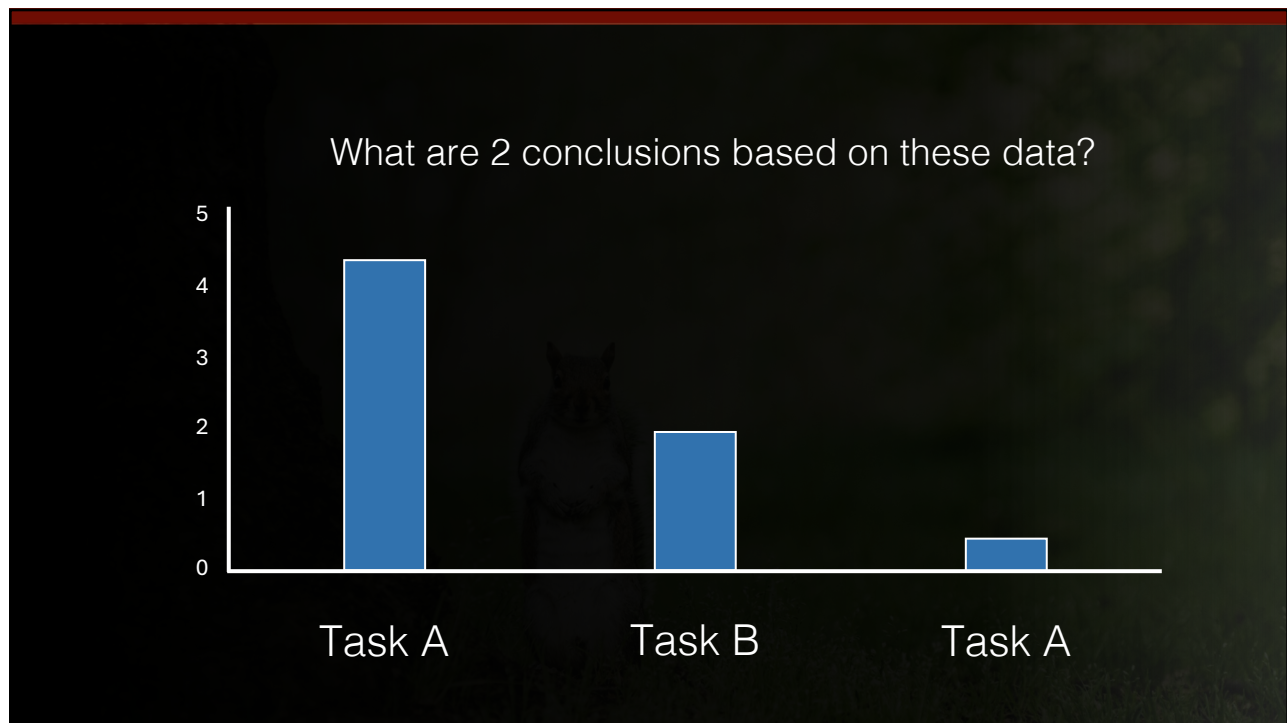5. What was distilled in the passage?
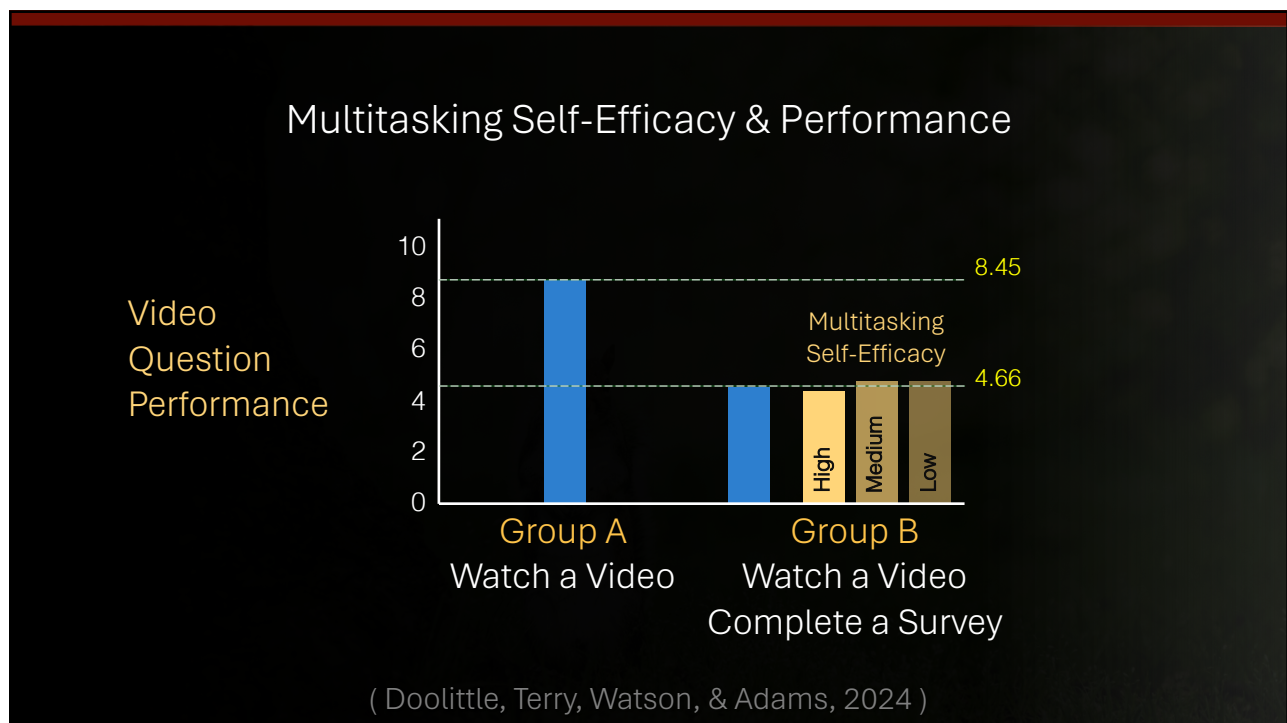
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Task C

1. What is a good name like?

2. Why is good name good?

3. What types of odors are "more durable?"

4. Odors are more durable than what?

5. What is the general point of the passage?

20

What are 2 conclusions based on these data?

21

Multitasking Self-Efficacy & Performance

Video
Question
Performance

8.45

Multitasking
Self-Efficacy

4.66

Group A
Watch a Video

Group B
Watch a Video
Complete a Survey

(Doolittle, Terry, Watson, & Adams, 2024)

22

Multitasking Findings

1. Multitasking (or task switching) during class,
   leads to poorer learning and performance.

2. Sitting close to a student who is multitasking,
   leads to poorer learning and performance for the observer.

3. Students who believe they can multitask,
   can't.

4. Students who believe they can multitask,
   tend to multitask more often.

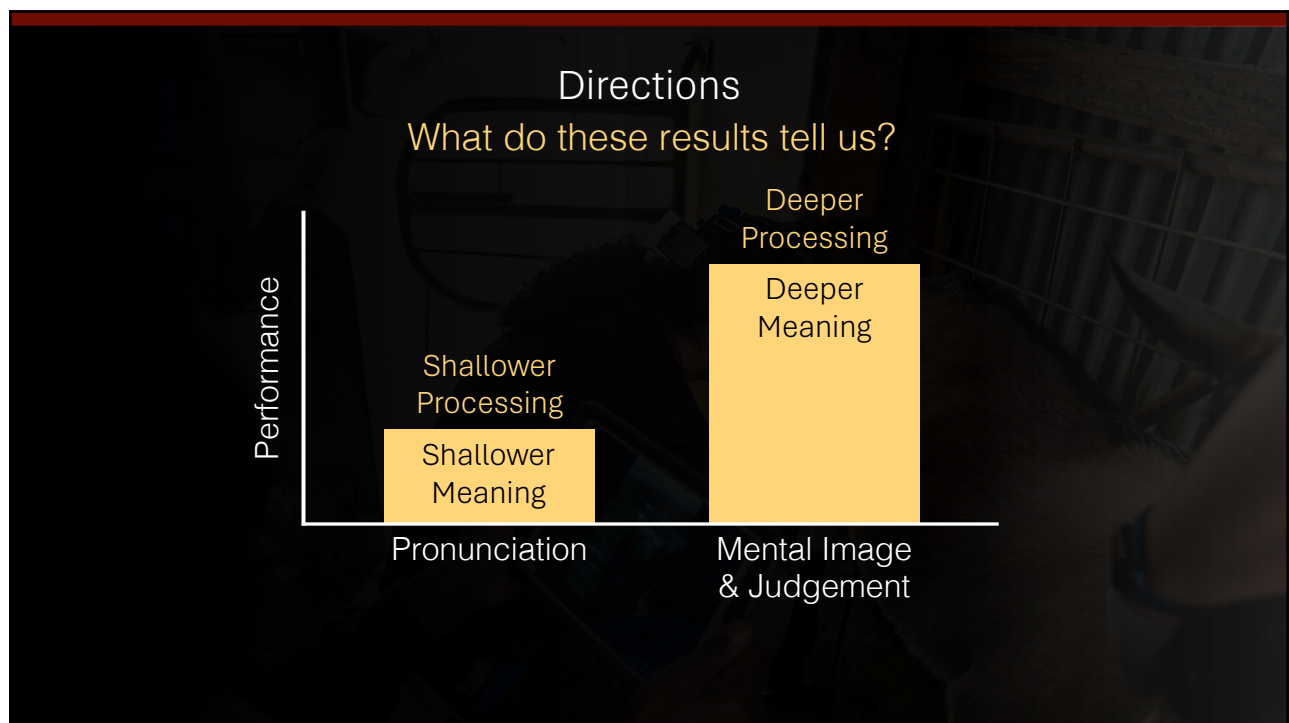   (Aben et al., 2012; Chun et al., 2016; van Ede & Nobre, 2023; Wulf, 2013)

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Processing
What we process, we learn.
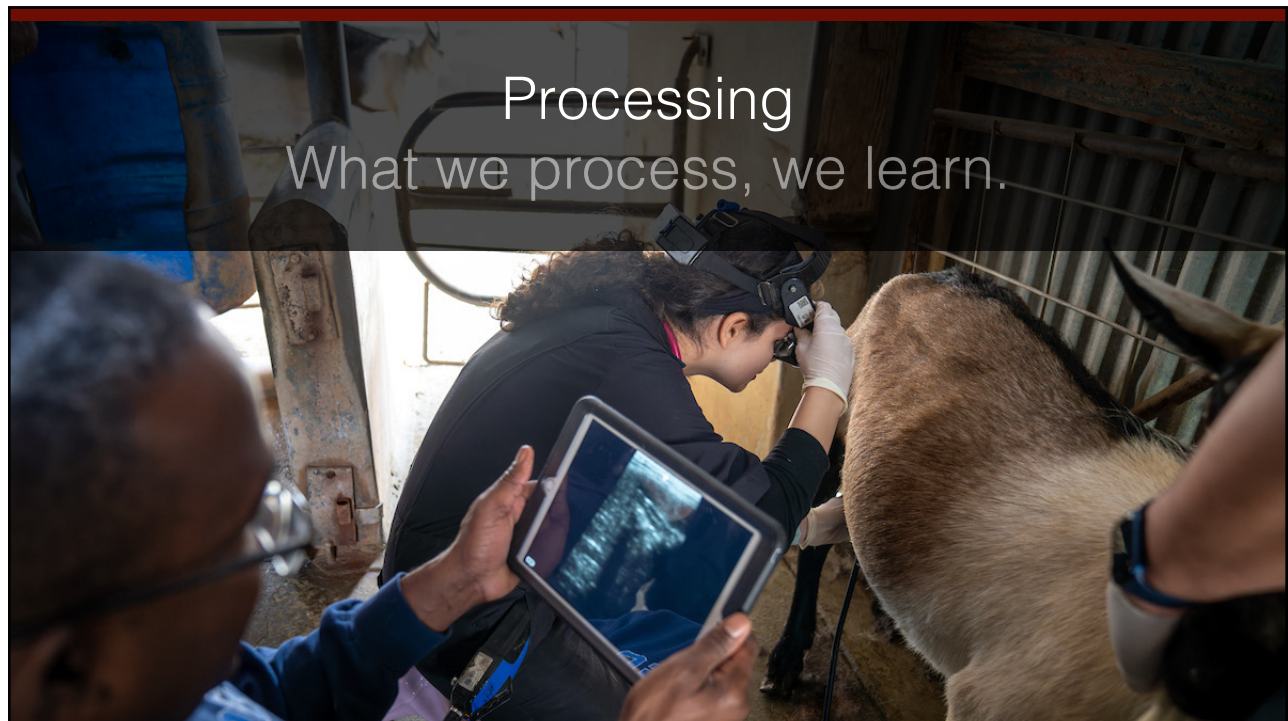
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What we process

we learn.

27

Cognitively
(thinking)

Behaviorally
(doing)

What we process,
we learn.

Affectively
(emoting)

Socially
(interacting)

28

Concept-based Learning/Strengthening Strategies

1. **Retrieval Practice**
   Retrieving knowledge > Rereading, Reviewing, Reexperiencing

2. **Spacing Practice**
   Distributed retrieval > Single-session retrieval (cramming)

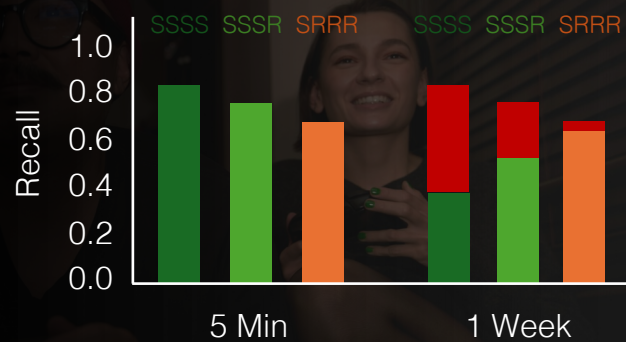3. **Generative Practice**
   Meaning-based retrieval > Rote retrieval

   Ask yourself questions. Explain things while you drive/walk.

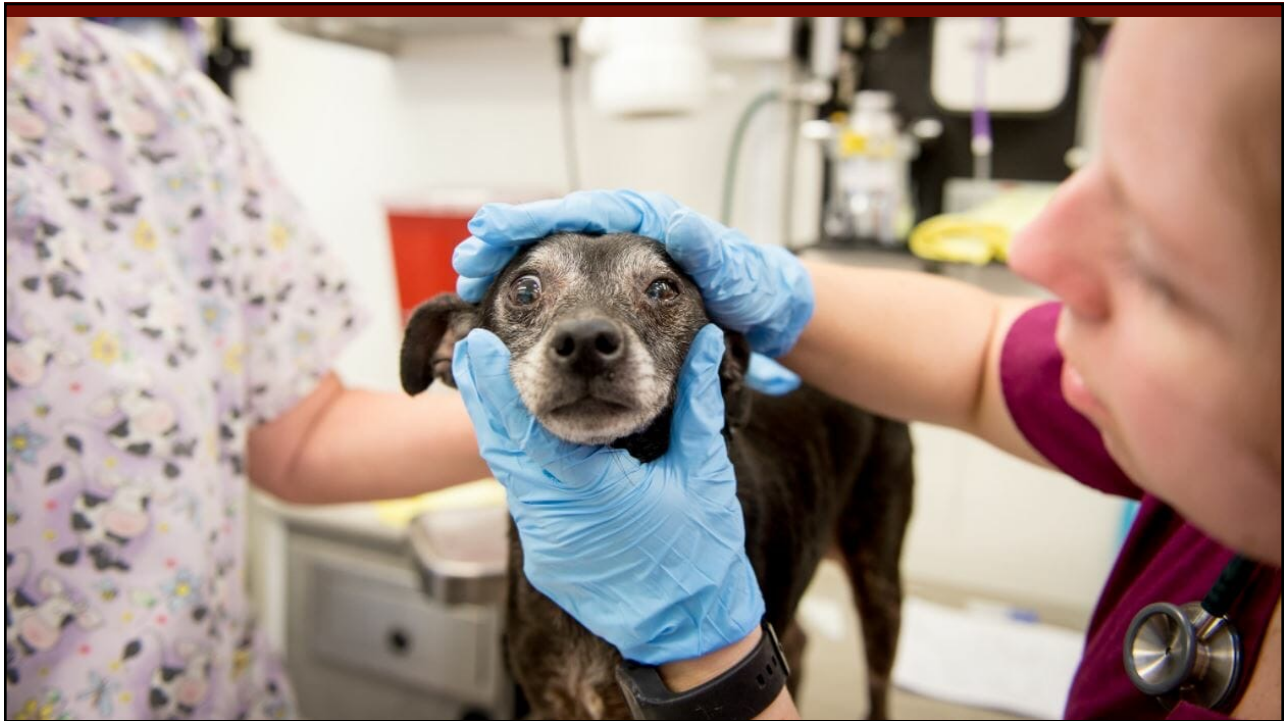   Draw diagrams in your notes or on a white board.

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Roediger & Karpike 2006)

	5 Minutes	1 Week
S S S S		
S S S R		
S R R R		

30

31

Procedure-based Learning/Strengthening Strategies

1. **Steps**
    Acquisition of step-by-step

2. **Purposeful Practice**
    Goal directed and self-guided, w/self-monitored feedback

3. **Deliberate Practice**
    Expert directed and guided, w/expert feedback, on specific aspect

4. **Practice**
    Repetition w/o goals, feedback, or intent to improve.
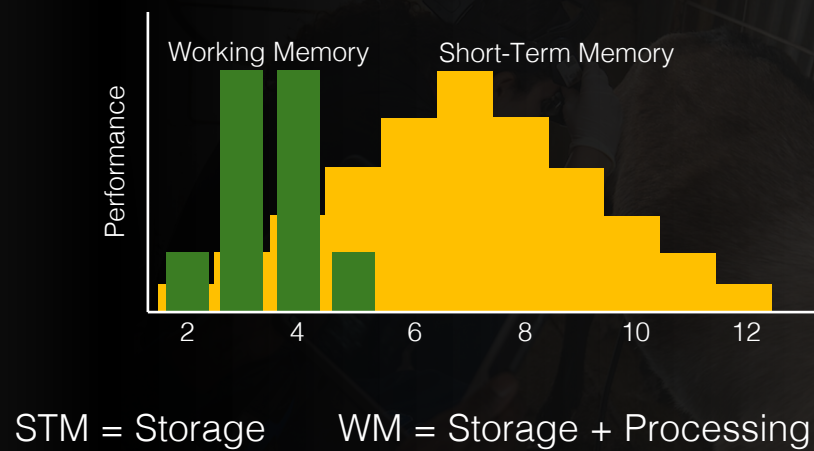
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A Processing Caveat
Your brain has limits.

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Working Memory

Working memory is the crucible of thought

1. Maintaining Current Goals for Processing

2. Store Immediate Experiences

3. Access Long-Term Memory, as needed

4. Process Experiences and Memory

5. (in the presence of distractions)

- Capacity: Small   (3-ish)
- Duration: Short
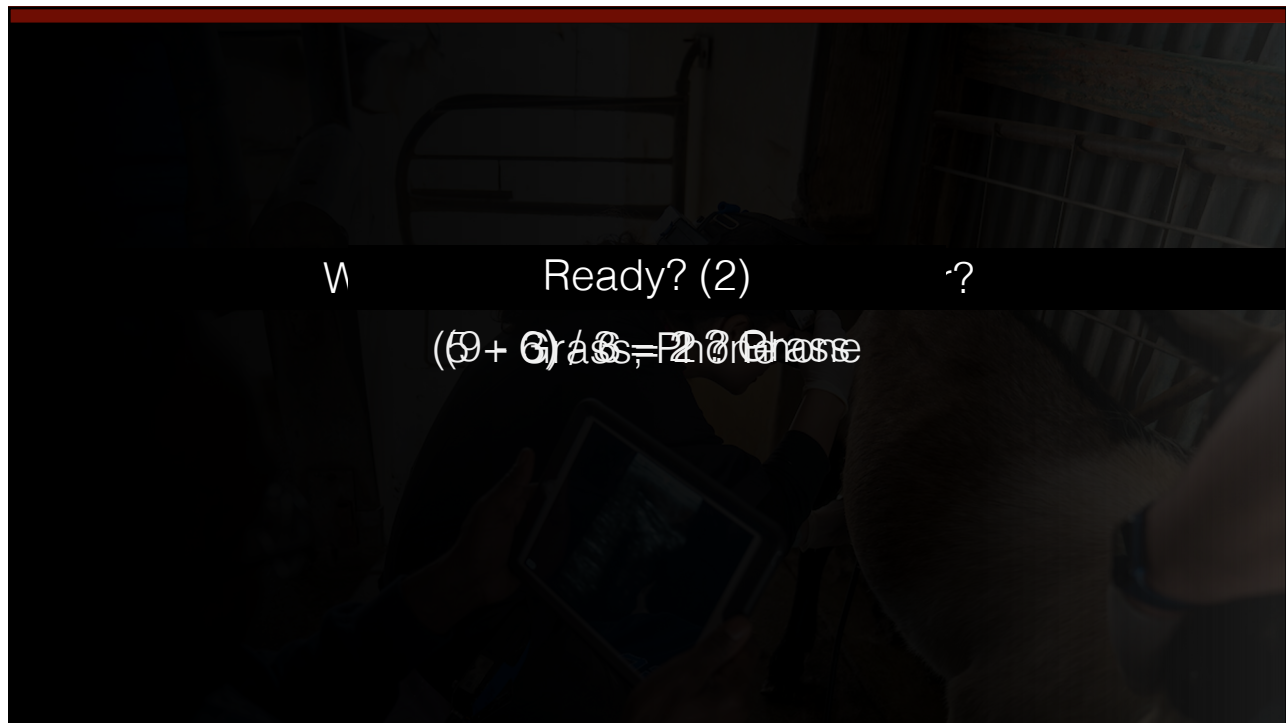
34

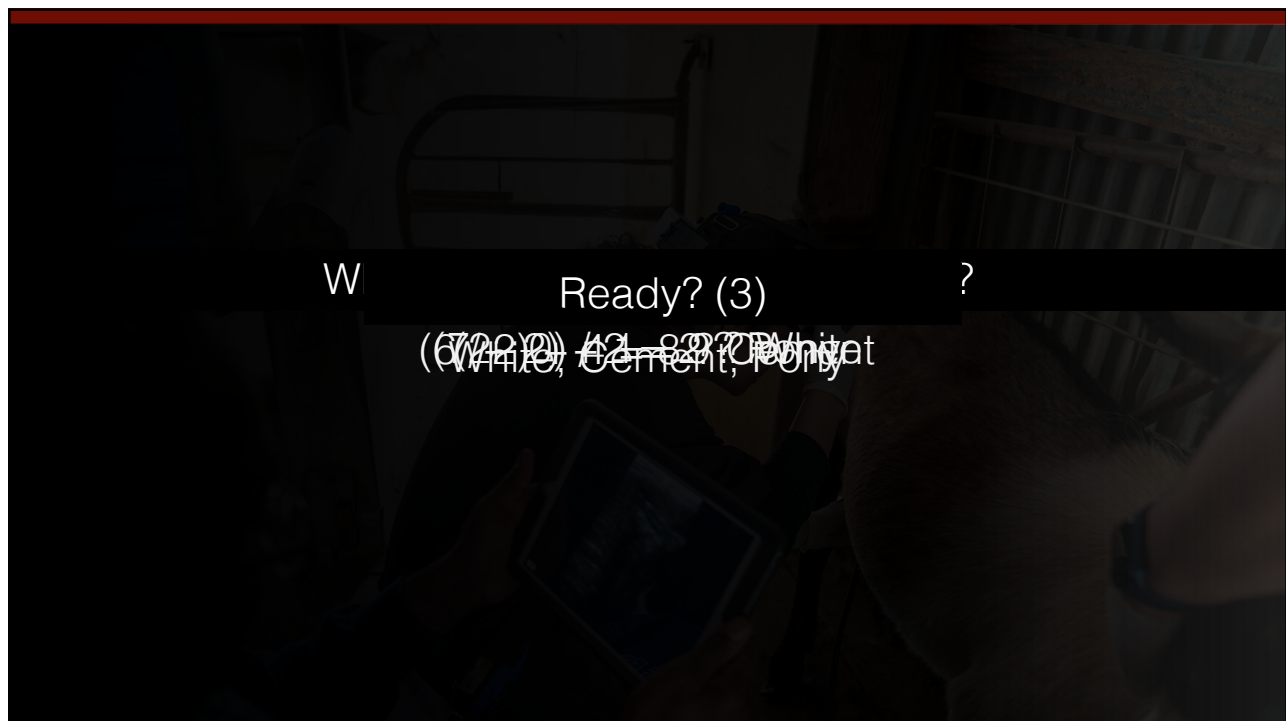# Short-Term Memory & Working Memory

Working Memory   Short-Term Memory

Performance

2   4   6   8   10   12

STM = Storage   WM = Storage + Processing

35

Working Memory Capacity

W   Activity Directions   ?

(8 + 3) × 2, = 5? Star

Operation Span Task (OSPAN)
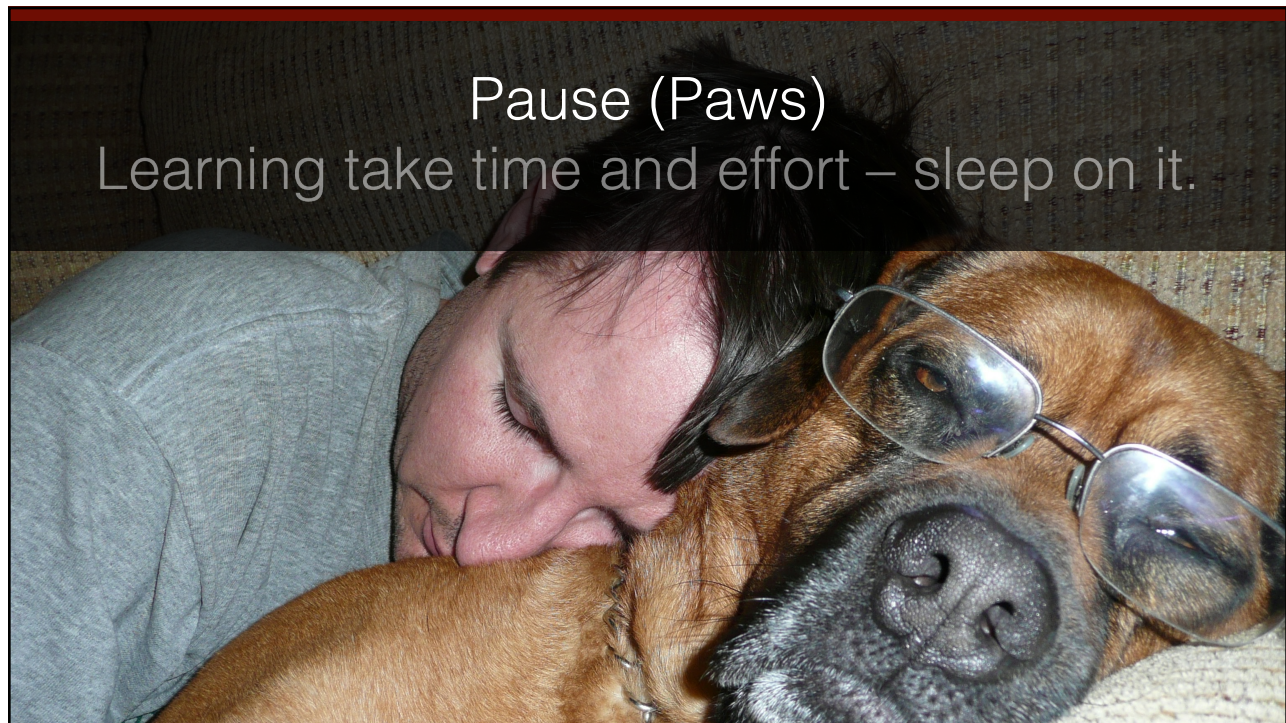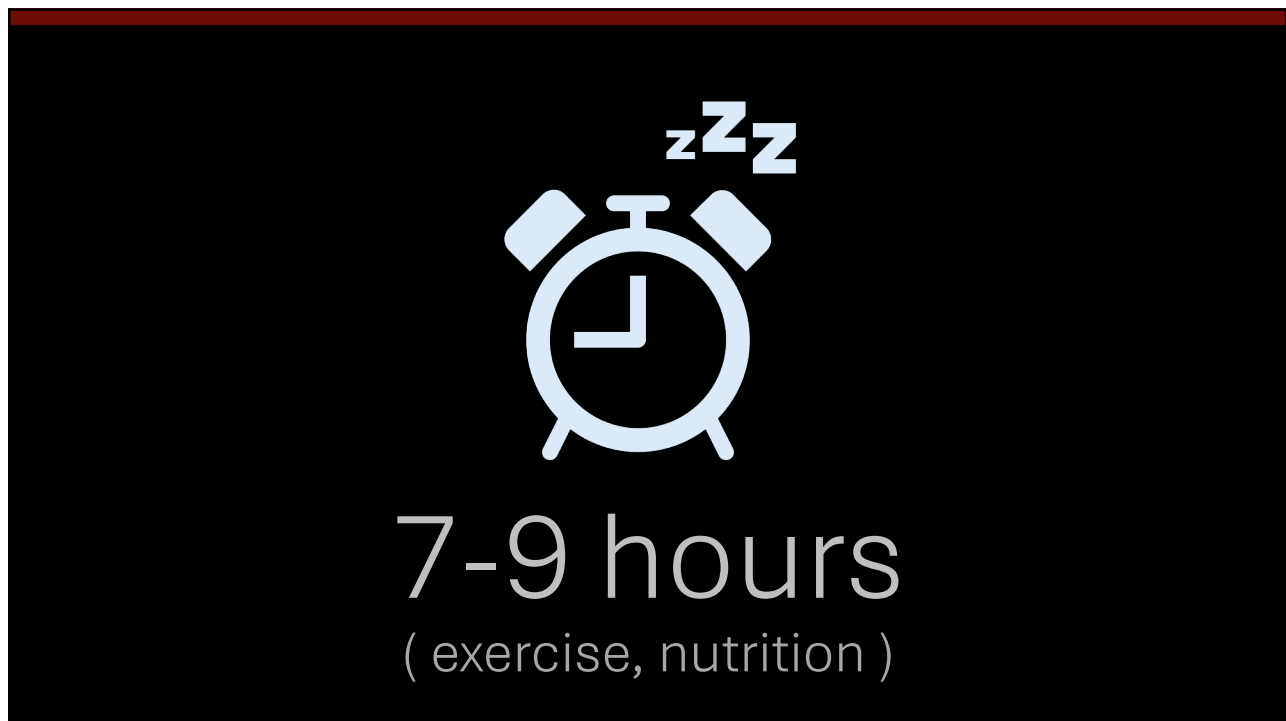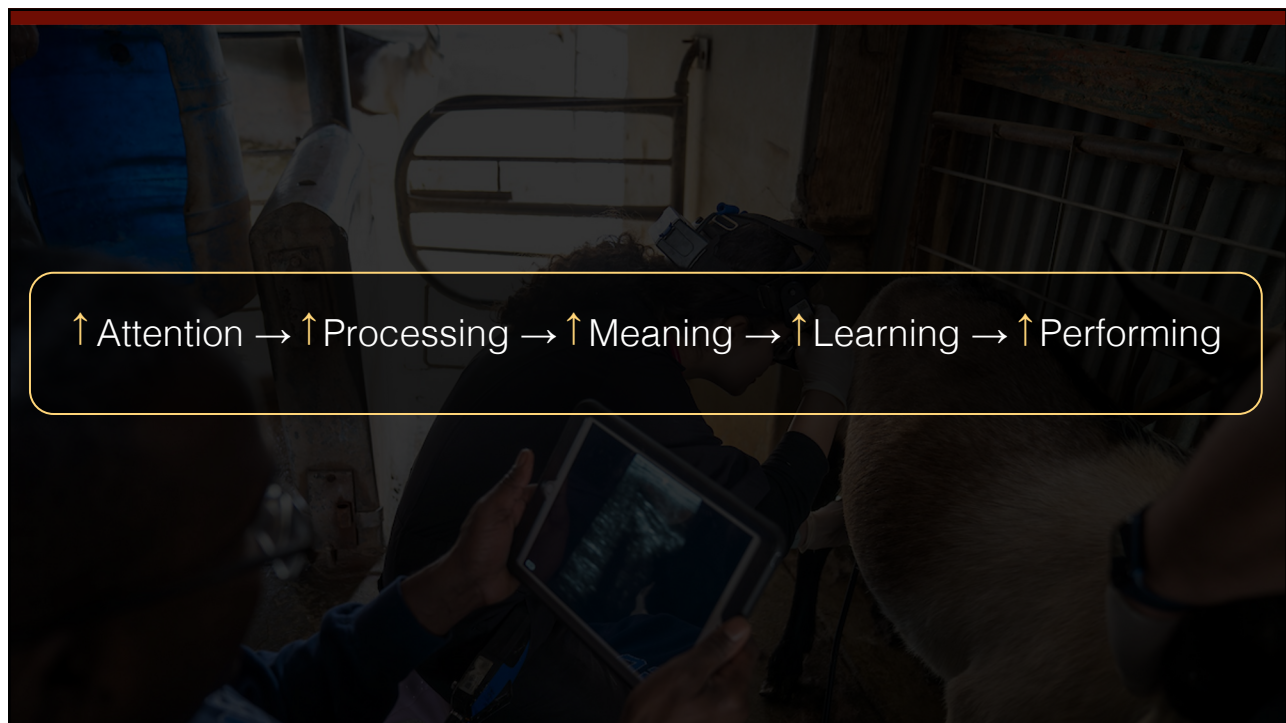
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PRACTICE
&
EXPERIENCE

40

20

Pause (Paws)
Learning take time and effort – sleep on it.

41

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7-9 hours
(exercise, nutrition)

42

A Review
Learning is Messy.

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↑ Attention → ↑ Processing → ↑ Meaning → ↑ Learning → ↑ Performing

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