Optimizing for Learning

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👋, I’m Logan!
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Emily Griffin
@emilywithcurls
story time!
expert intuition
expert intuition is NOT magic.
expert intuition

is achievable.
“one of the most powerful context-sensitive incredibly adaptive anomaly-detecting and responding agents in the world”

- John Allspaw, “Monitoring Considerations”
preparation

gaining knowledge

mental models

learning together
preparation

gaining knowledge

mental models

learning together
the nature of the field
problem solving is easier with constraints
Dickerson Hierarchy Of Site Reliability

Google SRE Handbook
hierarchies of learning
Robert Gagné’s hierarchy of learning
1. Signal learning
2. Stimulus-response learning
3. Chaining
4. Verbal association
5. Discrimination learning
6. Concept learning
7. Rule learning
8. Problem solving
1. Signal learning
2. Stimulus-response learning
3. Chaining
4. Verbal association
5. Discrimination learning
6. Concept learning
7. **Rule learning**
8. Problem solving
preparation

gaining knowledge

mental models

learning together
students reading a textbook over and over

Is this learning
low-stakes testing
to learn, retrieve
don’t google it ... yet!
to learn, struggle
delayed retrieval and interleaving
Session 1
memory palaces
Can you give me some silk for this wall?

DID YOU ASK FOR SOME SILK FOR THE WALL?

Yeah, I need some silk for the wall.

Here's the silk for the wall.

TCP
preparation
gaining knowledge
mental models
learning together
mental models
The Frillfin Goby
storytellers
how do we build mental models?
events
↓
patterns
↓
structure
observability
reflection
incident reviews
beyond singular mental models
preparation

gaining knowledge

mental models

learning together
mnemonic convergence
cultural memory
BUZZFEED SURVIVES SANDY OUTAGE WITH INSTANT AMAZON UPGRADE
growth mindset
“Emphasizing natural intelligence takes it out of the child’s control, and it provides no good recipe for responding to failure”

- Carol Dweck
psychological safety
psychological safety

faster incident response
In summary: Prepare!

- Use Constraint Satisfaction Problems
- Lean on the hierarchies of learning
In summary: Study!

- Low-stakes test
- Practice retrieval
- Delay and interleaving
- Use the Leitner Boxes
- Build memory palaces
In summary: Abstract!

- Build Frillfin Goby-level mental models
- Events -> Patterns -> Structure
- Observe and reflect
- Experience different types of systems
In summary: Learn together!

- Embrace cultural memory
- Have a growth mindset
- Build psychologically safe workspaces
Thanks!
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