Improve Performance Through Better MicroLearning

The Secret Ingredient: Desirable Difficulties

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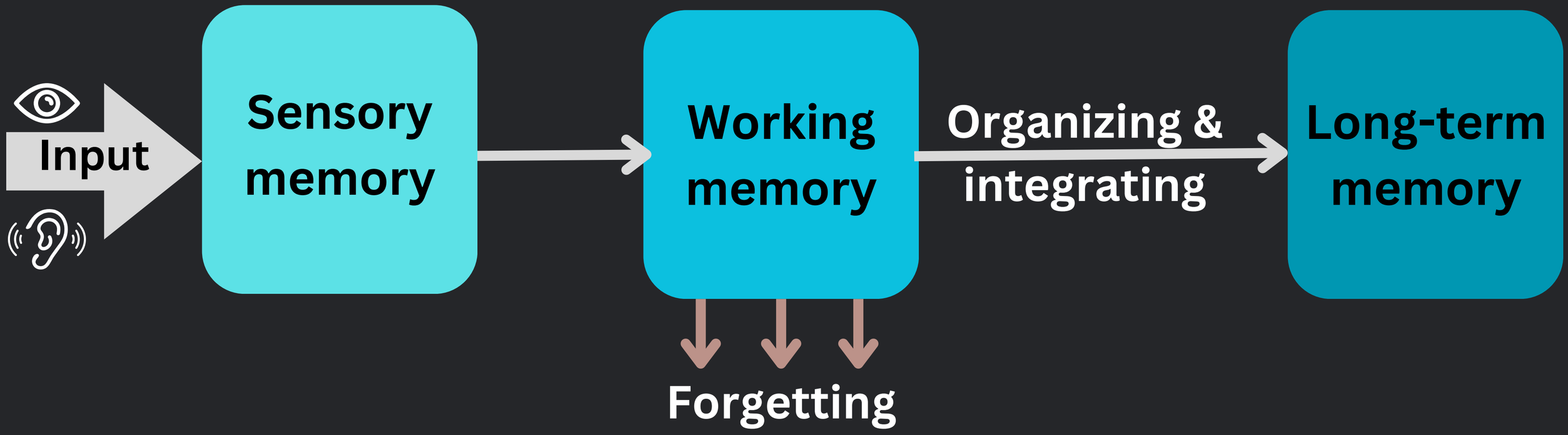
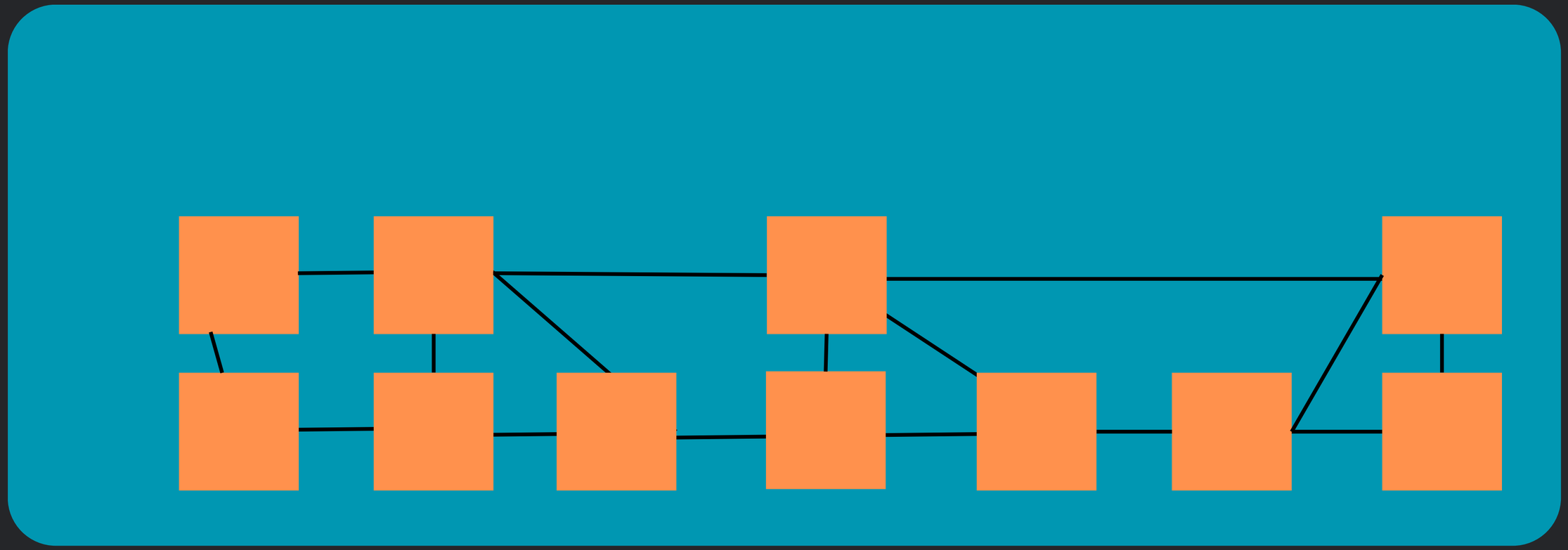
Our Memory System

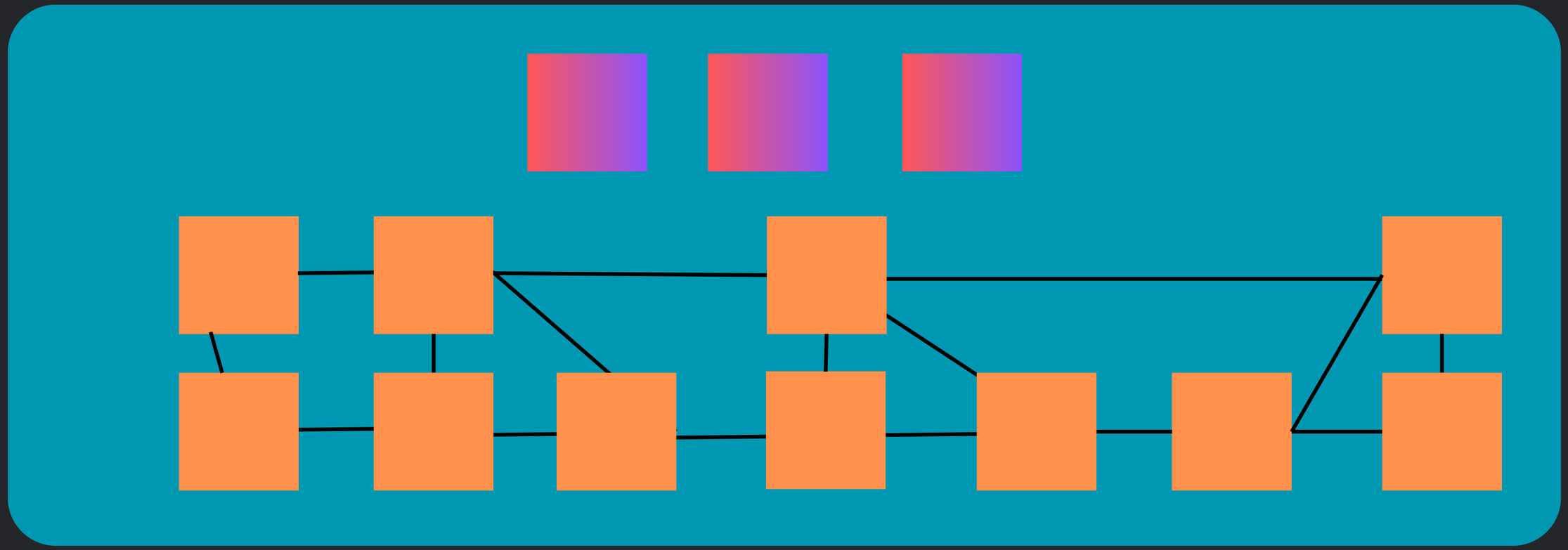


Long-term Memory



Prior Knowledge

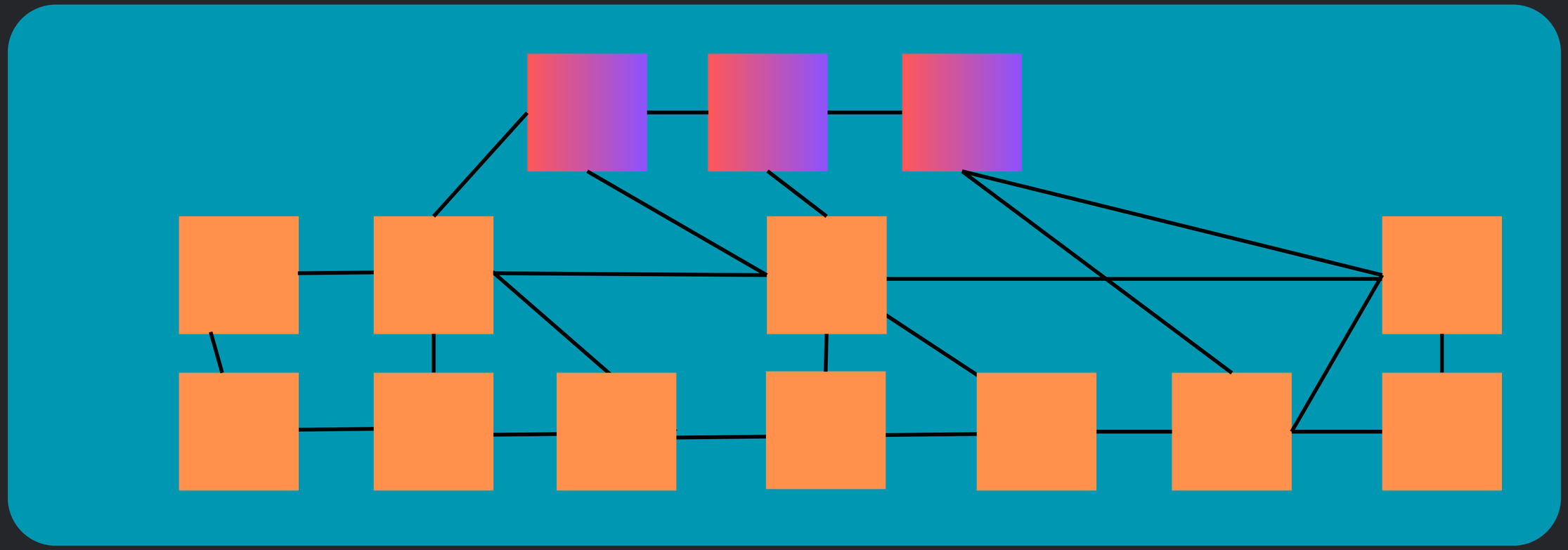
Long-term Memory



Prior Knowledge

New Knowledge

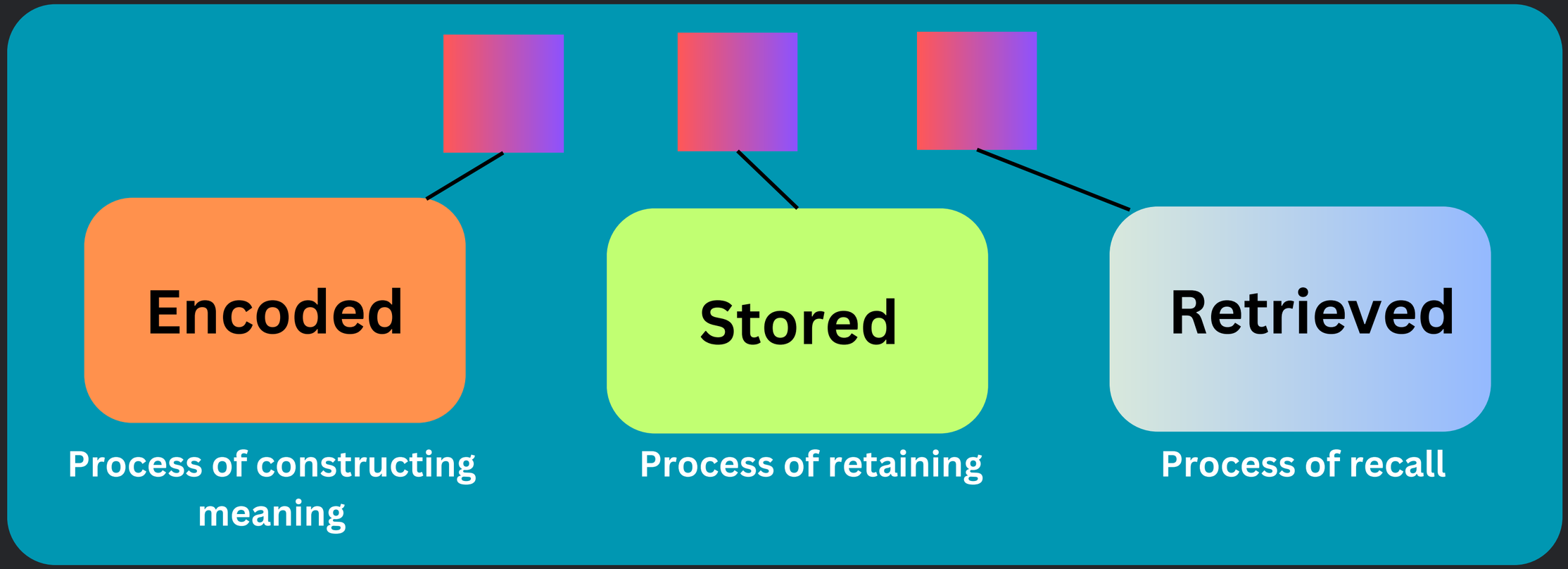
Long-term Memory



Prior Knowledge

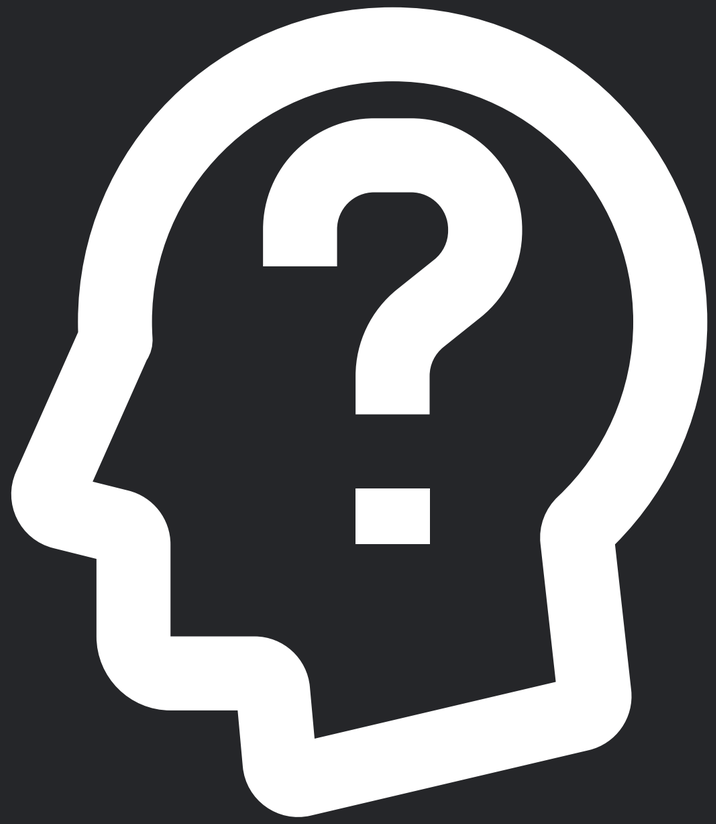
New Knowledge

Long-term Memory



New Knowledge

Forgetting



The New Theory of Disuse

Storage Strength

How well the information is encoded and stored during the learning process

Long-term memory

Retrieval Strength

How easily one can retrieve information from the memory when needed

Learning

refers to the lasting changes in behavior or knowledge that help you remember and apply what you have learned.

Performance

refers to the act of showing what you have learned or can do in a specific area. It is something that can be seen and measured right after you have learned or practiced something.

Learning ≠ Performance

Long-term memory

Storage Strength

How well the information is encoded and stored during the learning process

Retrieval Strength

How easily one can retrieve information from the memory when needed

What does this mean?

Retrieval leads to better storage

Performance can enhance learning

One-time and/or immediate performance does not equate to long-term learning

Forgetting creates a new higher potential of learning (and in turn performance)

Bjork reminds us,

Our intuitions about memory are often faulty and how the act of forgetting information can lead to a better retention of information in the long term. This has important implications in the field of education, where quick performance improvements are often counterproductive for the ultimate goal of long-term retention of information.

Desirable Difficulties

Desirable Difficulties

- Term coined in 1994 by Robert Bjork
- Conditions intentionally incorporated into the learning process
- Tap into the potential offered by the act of forgetting
- Desirable because they enhance long-term retention and transfer of knowledge
- Difficulties because they pose challenges by slowing down the process of performance
- Not a surprise that they are often ignored, unappreciated and left out of the learning design process

One-time and/or immediate performance does not equate to long-term learning

Performance can lead to learning which leads to enhanced performance but not without...

#challenge

How to integrate DDs in training?

Five Ways to Integrate Desirable Difficulties

Spacing

Retrieval

Interleaving

Contextual Interference

Reduced Feedback

Desirable Difficulties in MicroLearning

Design a series of short learning modules and spread them out over days or weeks

Mix up the content covering various related topics

Embed low-stakes quizzes, forms, polls, discussions

Use case-based learning to change up the contexts

Combine retrieval with review (i.e. quiz before recap)

IMPORTANT

Build Your Learner's Metacognitive Awareness

"Help Your Learners Understand How They Learn Best"

Thank you!

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