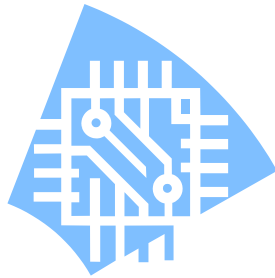


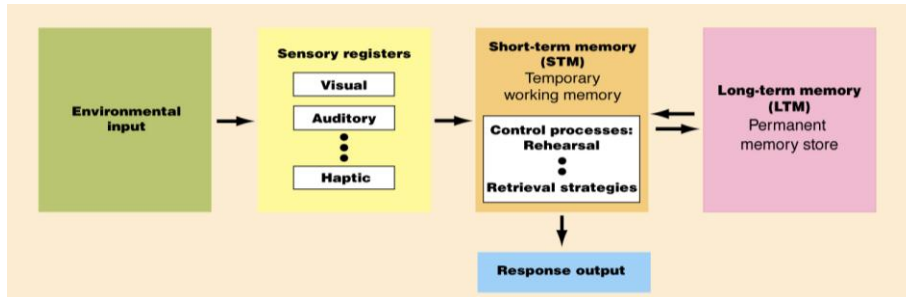
Cognitive Approaches to Learning



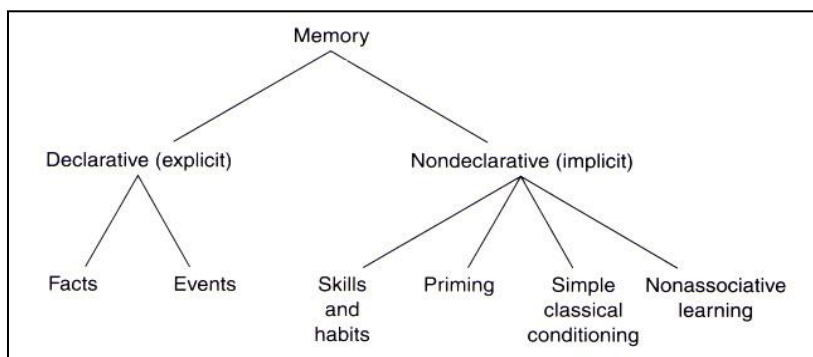
Memory's Beginnings

- Atkinson and Shiffrin (1968)
 - » Encoding
 - *Converting information into a form that can be entered into memory*
 - » Storage
 - *Retaining information over varying periods of time*
 - » Retrieval
 - *Locating and accessing specific information when it is needed at later times*

The Standard Memory Model



Squire's Taxonomy of Long-Term Memory



- » Unknown capacity (huge)
- » Unknown amount of time (unlimited)

Explicit Versus Implicit Memory

- Explicit
 - » *Declarative*
 - » *LTM knowledge that can be retrieved and then reflected on consciously.*
- Implicit
 - » *Nondeclarative, Procedural*
 - » *Knowledge that can influence thought and behavior without any necessary involvement of conscious awareness.*

Episodic vs. Semantic Memory

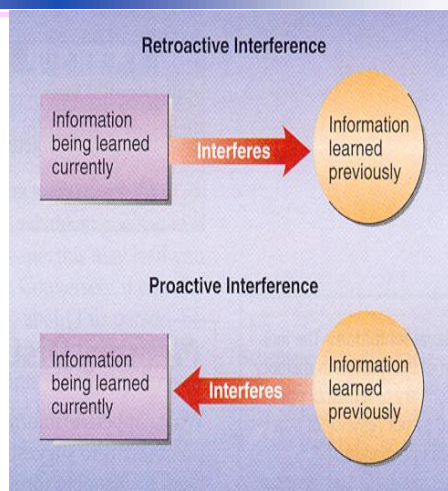
- Episodic (Autobiographical)
 - » *Stores personally experienced events*
 - (e.g., your 10th birthday)
 - » *Flashbulb Memories*
 - Vivid memories of what we were doing at the time of an emotion provoking event.
 - The research is mixed...
- Semantic
 - » *Stores general world knowledge*
 - (e.g., concepts, categories, facts)

Availability Versus Accessibility

- Availability
The memory trace exists / was encoded into long term memory.
- Accessibility
Degree to which the memory trace can be retrieved now.

Forgetting

- Retroactive Interference
 - » New info interferes with old info (e.g., a busy signal erases memory of a phone number).
- Proactive Interference
 - » Old info interferes with new info (e.g., walking today to where you parked your car yesterday).



Retrieval Failure

- *When a memory is lost in the system versus lost from the system.*
 - » *Occurs when the information is available, but not accessible.*
- **Tip of the Tongue States**
 - » *When a person is temporarily unable to remember some shred of information that they know is stored in LTM*

Retrieving Information from Memory

- **Retrieval Cues**
 - » *Stimuli that are associated with information stored in memory and aid in recall when recall is not spontaneous*
- **Context-Dependant Recall**
 - » *Material learned in one environment or context is easier to remember in a similar environment or context*
- **State-Dependent Recall**
 - » *It is often easier to recall material stored in LTM when our internal state is similar to that which existed when the information was first entered into memory*

The Levels-of-Processing Model

- Proposed originally by Fergus Craik and Robert Lockhart (1972).
- Suggests that memory is not specifically stored in three or more stores but instead varies along a continuous dimension in terms of depth of encoding
 - » Semantic Processing
 - » Acoustic Processing
 - » Physical Processing
 - » Self-reference effect

Levels of Processing

- Shallow Processing
 - » Verbally repeating a word
- Medium Processing
 - » Semantic
- Deep Processing
 - » Self-Reference

Organizational Schemes

- Memorization occurs with structure in some meaningful relationship
- Mnemonics
 - » *A technique or device that uses familiar associations to enhance the storage and the recall of information in memory*
- Propositional Networks (a.k.a. Concept Maps)

A Propositional Network

