

Lecture Preview

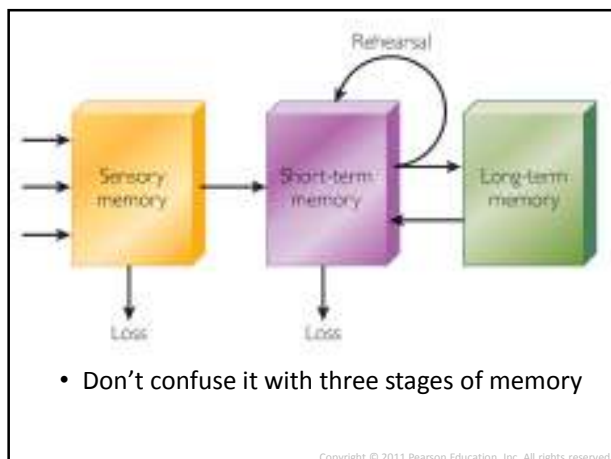
- How memory operates
- The three processes of memory
- Biological memories

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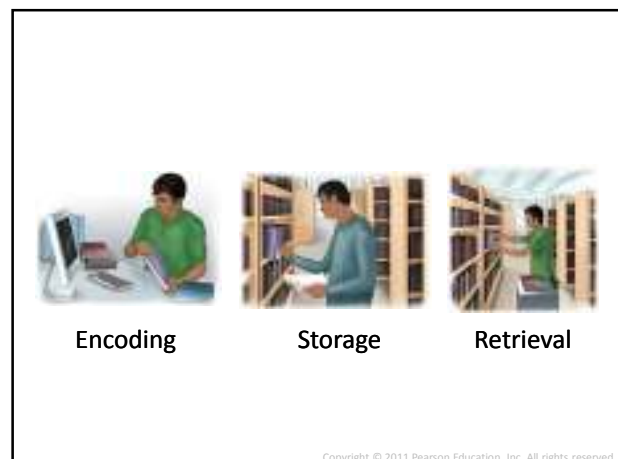
Three Processes of Memory

- **Encoding** is getting information into memory
- **Storage** is keeping information in memory
- **Retrieval** is the reactivation or reconstruction of information from memory

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Encoding

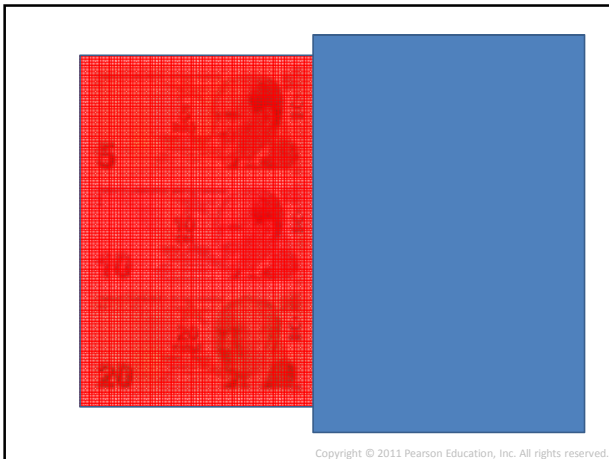
- To remember something, we must «encode» it into our memory
 - Many of our memory failures are failures of encoding
 - e.g. Book goes to trash but not to shelves

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Encoding

- To encode it, we must first *attend* to it
 - Forgetting names of people that you met at a party
 - Probably being nervous and distracted, you never encoded their names
- Most events we experience are never encoded in the first place
 - This is why the belief that «our brain records everything» is a myth
- The *next-in-line* effect and memory for common objects

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Encoding

- **Mnemonics** are learning aid that enhances recall
 - Fıstıkçı Şahap
 - Give more examples.
 - Which levels of processing?
- Two major features of mnemonics
 - They are applicable to almost anything
 - They depend on existing knowledge store

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Types of Mnemonics

- **Pegword method** (uses rhyming)
 - Find a pegword for each number
 - Rehearse elaboratively: associate pegwords and locations
- **Method of loci** (place imagery)
 - Think of a path that you can imagine vividly
 - Rehearse elaboratively: associate memory items and locations
- **Keyword method** (language learning, reminder words)
 - Think of a Turkish word that reminds you the English word
 - Rehearse elaboratively: associate Turkish and English words

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Storage

- Storage refers to process of keeping information in memory
 - A new book arrived to the library
 - «The psychology of dating»
 - Which section to put it?

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Storage

- How we store our experiences in memory depends on our interpretations and expectations of them
- **Schemas** are organized knowledge structure or mental model that we've stored in memory
 - What happens when you go to a restaurant?

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Storage

- Schemas give us frames of reference and allow us to interpret new situations
- Useful, but tend to *oversimplify* information
- Strong example of why the paradox of memory exists

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Storage

- Schemas give us frames of reference and allow us to interpret new situations
 - Eğer balonlar patlarsa, ses yeterince yüksek olmaz çünkü herşey 4. kattan çok uzakta kalır. Evin yalıtımı iyi olduğu için cam kapalı kalırsa ses içeri girmez. Her şeyin doğru düzgün işlemesi elektrik akımının sürekli olmasına bağlı. Kablolar koparsa bu büyük bir problem olur. Başka bir problem de enstrümanın telleri kopabilir. Bu durumda mesajın bir eşliği olmayacak. Bütün bunlar bize gösteriyor ki en iyi sonuç kısa mesaden alınacak. İşler yüz yüze olduğunda problem çıkma olasılığı daha az.

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Figure 7.12 The Value of Schemas. After reading the passage in the text on this page, turn the page upside down, and take a look at the drawing. Now reread the passage. This drawing makes the point that, without schemas, much of what we read is incomprehensible. (Source: Adapted from Bransford & Johnson, 1972)



PEARSON Psychology: from inquiry to understanding, Second Edition
Scott O. Lilienfeld • Steven Jay Lynn • Laura L. Namy • Nancy J. Woolf

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Storage

- Schemas give us frames of reference and allow us to interpret new situations
- Strong example of why the paradox of memory exists
 - Memory reconstruction is achieved with reference to schemas
 - Bartlett (1932) Schemas and remembering stories

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Retrieval

- Many types of forgetting are failures of retrieval
 - Unable to finding the book that we are looking for in the library
- Using **retrieval cues** can help to access information in long-term memory
- Measuring memory makes use of the “3 Rs”

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Measuring Memory

- **Recall** - generating previously remembered information
- **Recognition** - selecting previously remembered information from an array of options
- **Relearning** - “savings”; how much more quickly we reacquire something learned before

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Video

- MultiMedia Library
- Explore
 - Encoding, Storage, and Retrieval in Memory
 - Key Processes in Stages of Memory
 - <http://www.mathxl.com/info/mmlib.aspx?bookcode=Lilienfeld2e>

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Hints derived from memory research

MEMORY CONCEPT	POINTER
1) Distributed vs massed study	Spread your study time out
2) Testing effect	Frequently test yourself on the material you read
3) Elaborative rehearsal	Connect new knowledge with existing knowledge instead of memorizing
4) Levels of processing	Work to process ideas deeply and meaningfully
5) Mnemonic devices	The more cues you can connect from your knowledge to new material, the better

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Video

- MultiMedia Library
- Video
 - [IT-Video Cramming](http://www.mathxl.com/info/mmlib.aspx?bookcode=Lilienfeld2e)
 - <http://www.mathxl.com/info/mmlib.aspx?bookcode=Lilienfeld2e>

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Encoding Specificity

- We are more likely to remember something when the conditions present at the time we encoded it are also present at retrieval
- Two kinds: **context-dependent learning** and **state-dependent learning**

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Context-Dependent Learning

- Superior retrieval when the external context of the original memories matches the retrieval context



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State-Dependent Learning

- Superior retrieval of memories when the organism is in the same physiological or psychological state as it was during encoding
 - Alcoholics often need to get drunk to locate items
- mood-dependent learning
 - Easier to remember bad unpleasant memories than pleasant ones when we're sad.
- the retrospective bias
 - Our current psychological state can distort memories
 - Clinical depression and harsh parental treatment

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