

Exercise walk-through

17.1

Memory systems, processes and forgetting: evidence and transfer

GRE · GRE Subject Test · GRE Psychology

Concepts 1

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The modal model orders stores by duration. Sensory memory holds a brief, nearly complete trace — iconic for vision, echoic for hearing — and a mask within 200–300 ms destroys it. Short-term or working memory holds a few chunks for seconds; Miller's classic estimate is 7 ± 2 chunks, and rehearsal keeps material active. Long-term memory is durable and effectively unlimited.

Working memory is more than a short store: Baddeley's model has a central executive with a phonological loop for speech-like material and a visuospatial sketchpad for images. Chunking recodes items into familiar units, expanding effective capacity without expanding the store.

Concepts 2

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Long-term memory divides by content and awareness. Episodic memory is personal events; semantic memory is facts and knowledge; procedural memory is skills. Implicit memory shows in performance without deliberate recall (priming, skills); explicit memory is deliberate recall or recognition. A person can show priming for material they cannot consciously recollect.

Forgetting has identifiable mechanisms. Proactive interference is old learning disrupting new; retroactive interference is new learning disrupting old. Retrieval failure follows encoding specificity: cues matching the encoding context restore recall. The serial position curve (primacy and recency) separates long-term from immediate-store contributions.

Check the transfer argument

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Preserved skill learning with poor episodic recall is consistent with distinguishing procedural/implicit from explicit episodic memory. Establish the tasks and repeated pattern before inferring a dissociation. Other task demands and measurement differences can contribute; one anecdote cannot locate a single brain system or prove complete independence.

Accept a different explanation when its evidence and limits are justified.

Exercises 2.1·2.2

2.1 A letter array masked 250 ms after presentation is poorly reported. The store revealed by this masking sensitivity is: [1]

A. semantic memory B. working memory C. sensory memory D. procedural memory E. episodic memory

2.2 After switching from one textbook to a similar new one, old definitions keep intruding on the new ones. This is: [1]

A. retroactive interference B. proactive interference C. encoding specificity D. spontaneous recovery E. priming

Exercises 2.1·2.2

2.1 A letter array masked 250 ms after presentation is poorly reported. The store revealed by this masking sensitivity is: [1]

A. semantic memory B. working memory C. sensory memory D. procedural memory E. episodic memory

2.1 Answer: C. The brief, mask-sensitive iconic trace is sensory memory. The other options do not satisfy the stated defining conditions.

2.2 After switching from one textbook to a similar new one, old definitions keep intruding on the new ones. This is: [1]

A. retroactive interference B. proactive interference C. encoding specificity D. spontaneous recovery E. priming

2.2 Answer: B. Old learning disrupting new is proactive interference; new disrupting old would be retroactive. Compare the exact process, design or evidence, rather than an associated keyword.

Exercises 2.3-3.1

2.3 Revisit the worked case. State one conclusion its evidence supports and one stronger conclusion it does not support. Explain the difference. [2]

3.1 A person improves at a motor task but cannot recall the training session. What distinction fits, and why is one case not proof of a fully isolated system? Give the interpretation, supporting reasoning, a relevant alternative or limitation, and an appropriate check. [4]

Exercises 2.3-3.1

2.3 Revisit the worked case. State one conclusion its evidence supports and one stronger conclusion it does not support. Explain the difference. [2]

2.3 Use the worked case evidence to support a bounded claim and explain why a causal, universal or stronger claim needs additional evidence. The claim must fit the specific design and observed process.

3.1 A person improves at a motor task but cannot recall the training session. What distinction fits, and why is one case not proof of a fully isolated system? Give the interpretation, supporting reasoning, a relevant alternative or limitation, and an appropriate check. [4]

3.1 Preserved skill learning with poor episodic recall is consistent with distinguishing procedural/implicit from explicit episodic memory. Establish the tasks and repeated pattern before inferring a dissociation. Other task demands and measurement differences can contribute; one anecdote cannot locate a single brain system or prove complete independence. Award B1 each (authored) for the interpretation, its reasoning, a relevant limitation/alternative and an appropriate check, up to four points. Accept a different justified answer satisfying these demands.