17.1 Memory systems, processes and forgetting: evidence and transfer

Name: _____ Class: _____ Date: _____ **Total: 8 marks**

KEY WORDS working memory • proactive interference

Objective

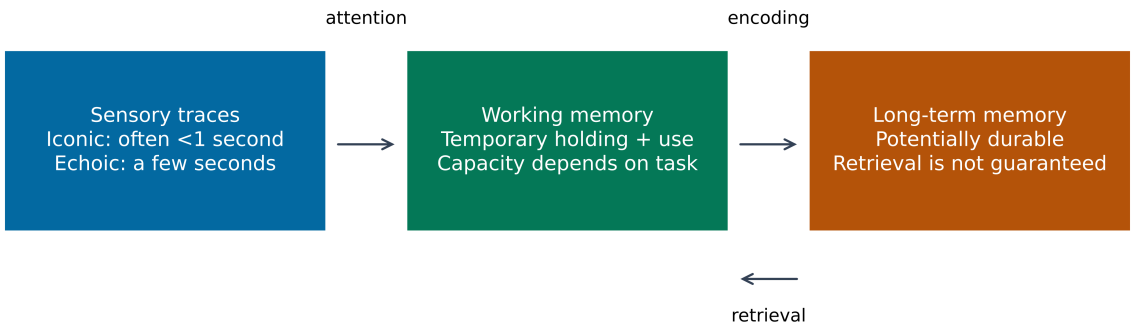
Order the memory stores by duration and capacity; Distinguish memory types by content and awareness; Explain forgetting through interference and retrieval failure. Original practice and authored marking guidance.

1 Key knowledge and worked examples

working memory : The limited active system holding and manipulating a few chunks for seconds. **proactive interference** : Older learning disrupting the retention of newer material.

Sensory stores briefly retain modality-specific input. Working memory maintains and processes a limited amount; chunking changes the effective units. Long-term explicit memory includes episodic events and semantic knowledge; implicit effects include skills and priming. Forgetting may involve interference or retrieval failure, so a failed free-recall test cannot uniquely identify decay. The familiar seven-plus-or-minus-two span is a historical estimate under particular tasks, not a universal working-memory capacity.

Memory functions: approximate times, task-dependent limits



Worked case. Old account passwords make a new password harder to recall. Later the new password disrupts recall of the old one. Name each direction.

> Old interfering with new is proactive interference; new interfering with old is retroactive interference. Name the target and the interfering material before applying the label. The case does not show that either memory has been erased.

2 Practice

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

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 Exam-style questions

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]

Solutions

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 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.

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 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.