# 2.3 Types of Long-Term Memory: Episodic, Semantic and Procedural

AQA 7182 · about 50 minutes · Write-in edition

Total Marks

Name: _____ Date: ____ / ____ / _____

**Answer ALL questions.**

**1** Describe semantic memory as a type of long-term memory using the example of knowing the capital city of France. State how it differs from episodic memory.

**(Total for Question 1 is 2 marks)**

**2** A teacher asks a pupil to name the author of a poem they studied last year and to recite the exact classroom discussion that led to that discovery. Which type or types of long-term memory are needed for each task? Explain your answer referring to the pupil's knowledge and experience.

**(Total for Question 2 is 3 marks)**

**3** Explain one limitation of using single case studies like HM or Clive Wearing to argue that episodic, semantic and procedural memory are separate. Relate your point to generalisability or causation.

**(Total for Question 3 is 2 marks)**

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**4** Priya is learning to ride a bicycle. After initial practice she can ride automatically without thinking about each pedalling action, but she cannot precisely recall the first time she rode. Which type of long-term memory is illustrated by Priya's ability to ride and by her inability to recall the first lesson? Explain your answer.

**(Total for Question 4 is 2 marks)**

**5** Identify two ways in which semantic memory can develop from episodic memory, and give a brief example for each way showing the transition from a personal experience to general knowledge.

**(Total for Question 5 is 3 marks)**

**6** Outline three practical applications that arise from distinguishing episodic, semantic and procedural memory. For each application explain briefly how the memory distinction informs practice.

**(Total for Question 6 is 6 marks)**

**7** Discuss the different types of long-term memory: episodic, semantic and procedural. In your answer, refer to theoretical distinctions, supporting evidence including case studies such as HM or Clive Wearing, and evaluate the strengths and limitations of treating long-term memory as subdivided in this way.

**(Total for Question 7 is 16 marks)**

**8** A patient with hippocampal damage can still learn new tasks such as mirror drawing but cannot remember meeting the doctor who taught them. Describe how this pattern supports Tulving's division of long-term memory into episodic, semantic and procedural components, and name at least one brain-related point made in the literature about localisation.

**(Total for Question 8 is 4 marks)**

# Mark scheme · 2.3 Types of Long-Term Memory: Episodic, Semantic and Procedural

## Question 1

states that semantic memory stores factual knowledge, concepts and meanings, not tied to a specific personal event oe — **B1**

gives the example that knowing 'Paris is the capital of France' is semantic knowledge and not linked to a single episode oe — **B1**

**Answer: Semantic memory stores general knowledge and facts, for example the information that Paris is the capital of France. This knowledge is not linked to a specific personal experience, unlike episodic memory.**

## Question 2

identifies that naming the author requires semantic memory (fact knowledge) oe — **M1**

identifies that reciting the exact classroom discussion requires episodic memory (a specific personal event with contextual detail) oe — **A1**

explains why each applies, e.g. author name is general knowledge, discussion recall needs conscious recollection of time/place and participants oe — **A1**

**Answer: Naming the author uses semantic memory because it is factual knowledge about the poem. Reciting the classroom discussion uses episodic memory because it requires recalling a specific past event with its context, who said what and where it happened.**

## Question 3

identifies a limitation such as limited generalisability or inability to infer causal mechanisms from single cases oe — **M1**

explains consequence, e.g. brain damage cases are unique so findings may not apply to the wider population and other factors may have caused the pattern of impairment oe — **A1**

**Answer: One limitation is limited generalisability: single cases like HM are unique and may not represent typical brain-behaviour relationships, so we cannot be sure the dissociations apply to most people or that the observed deficits are caused only by the same underlying mechanisms.**

## Question 4

identifies Priya's ability to ride as procedural memory (skill performed automatically) oe — **B1**

identifies inability to recall the first lesson as failure or weak episodic memory (no conscious recollection of the specific event) oe — **B1**

**Answer: Riding the bicycle is an example of procedural memory because it is a motor skill performed automatically. Not recalling the first lesson concerns episodic memory, since episodic memory involves conscious recollection of the specific initial event.**

## Question 5

identifies a way such as repeated recall and abstraction from episodes leading to general facts oe — **M1**

gives an example, e.g. repeated visits to museums lead someone to learn general facts about art movements rather than remembering a single visit oe — **A1**

identifies a second way such as consolidation over time where specific episodes lose contextual detail and form semantic knowledge oe — **A1**

**Answer: One way is repeated recall and abstraction: after several family holidays to Rome a person extracts general facts about Roman history, turning episode details into semantic knowledge. A second way is consolidation over time, where memory for a particular lecture becomes general knowledge about a topic as the contextual details fade, leaving a fact rather than the original episode.**

## Question 6

identifies a practical application such as cognitive rehabilitation for brain injury patients oe — **M1**

explains how the distinction informs practice, e.g. therapy can focus on training procedural skills separately while using environmental cues to support episodic recall oe — **A1**

identifies a second application such as educational methods that separate factual learning and skill practice oe — **M1**

explains how this informs practice, e.g. teaching can use repeated practice for procedural skills and rehearsal/semantic organisation for factual knowledge oe — **A1**

offers an additional linked benefit or example, e.g. using technology to cue episodic recall or structuring curricula to move from episodic examples to abstract semantic rules oe — **M1**

explains the benefit, e.g. cueing supports daily functioning in memory-impaired patients and abstraction supports transfer in education oe — **A1**

**Answer: One application is cognitive rehabilitation: clinicians can train preserved procedural skills to support independence while using prompts and structured routines to compensate for episodic deficits. A second is education: teachers can separate practice of skills (procedural) from teaching factual knowledge (semantic), for example using drills to build automatic procedures and concept maps to organise semantic knowledge.**

## Question 7

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| **Level 4** Knowledge of the types of long-term memory is detailed and accurate. Discussion is thorough and balanced, integrating theoretical distinctions with empirical evidence including case studies. Evaluation addresses methodological issues, alternative explanations and real-world relevance. Answer is well focused, coherent and uses specialist terminology effectively. | **13-16** |
| **Level 3** Knowledge is clear with most relevant points included. Discussion includes both supporting evidence and some evaluation, but may be less thorough or less well integrated. Reference to case study evidence and theory is present and applied. The answer is organised and uses appropriate terminology. | **9-12** |
| **Level 2** Knowledge of memory types is present but limited or partially inaccurate. Discussion is superficial with few evaluative points. Case study or empirical evidence may be mentioned but not integrated. Answer lacks full development and specialist terms are used inconsistently. | **5-8** |
| **Level 1** Very limited knowledge and understanding. Discussion is brief or list-like with little or no evaluation. Little or no relevant evidence is used. Specialist terminology is largely absent or misused. | **1-4** |
| **Level 0** No creditable content. | **0** |

**Indicative content:**

- AO1: Definitions of the three types: episodic memory stores personal events with time and place context and requires conscious recollection; semantic memory stores facts, concepts and word meanings, divorced from a specific learning episode; procedural memory stores skills and actions, often performed automatically without conscious recall.
- AO1: Tulving's theoretical proposal that LTM is not unitary but contains distinct subsystems with different functions and retrieval characteristics.
- AO1: Neuropsychological evidence such as HM and Clive Wearing showing preserved procedural abilities alongside severe impairment of episodic memory, and sometimes semantic deficits, supporting functional dissociation.
- AO3: Strengths include converging evidence from case studies, experimental dissociations and neuroimaging suggesting different neural substrates for episodic versus procedural memory, making the subdivision useful for theory and clinical practice.
- AO3: Limitations include problems of generalisability from single case studies, methodological issues such as small samples and lack of control, and evidence that episodic and semantic memory interact and can transform into one another over time, challenging strict modularity.
- AO3: Alternative explanations and nuance: some researchers argue for interactions between systems or hierarchical relationships, and that semantic memory may derive from repeated episodic memories, so the boundaries are not absolute.
- AO3: Practical implications and applications, for example rehabilitation following brain injury where understanding preserved procedural memory can guide therapy, and educational strategies that separate skill practice from factual learning.
- AO3: Evaluation of evidence quality: case studies are detailed but low in external validity; experimental and neuroimaging studies add support but can be correlational and do not prove causation. Consideration of lifespan and cultural factors may affect the expression of different memory types.

## Question 8

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| describes the dissociation: procedural learning intact while episodic recall of meeting the doctor is impaired oe | **M1** |
| explains this supports separate systems because a single memory store would not predict preserved skill learning alongside loss of event memory oe | **A1** |
| states a brain-related point: the hippocampus is commonly implicated in episodic memory consolidation while procedural memory relies more on subcortical structures such as the basal ganglia and cerebellum oe | **M1** |
| explains the localisation point: damage to hippocampal regions can impair episodic and some semantic memory while sparing procedural abilities that depend on other neural circuits oe | **A1** |

**Answer: The pattern is a classic dissociation: the patient can acquire procedural skills like mirror drawing but lacks episodic recall of meeting the teacher, supporting Tulving's idea of separate memory systems. Neuropsychological evidence links episodic memory to the hippocampus and medial temporal lobe, whereas procedural memory depends more on subcortical circuits such as the basal ganglia and cerebellum, so hippocampal damage can spare procedural learning.**