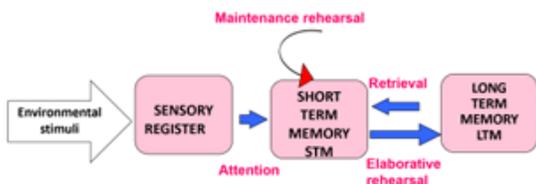




# YEAR 12 PSYCHOLOGY – TERM 3 - MEMORY $\Psi$

## The Multi-Store Model of Memory

- Atkinson and Shiffrin (1968)
- Memory is made up of 3 components: sensory register, STM & LTM
- Memories are formed sequentially and information passes from one component to the next.
- Each component has a specific type of coding, duration and capacity.



	Sensory Register	Short-Term Memory	Long-Term Memory
<b>Capacity</b>	Very large	Limited Jacobs: 7+/-2	Unlimited
<b>Duration</b>	Very limited (250 ms)	Limited Peterson and Peterson: 20 seconds)	Lifetime/years Bahrick
<b>Coding</b>	Unprocessed—all 5 senses	Baddeley: Acoustic	Baddeley: Semantic (meaning)

- ⊗ Brain scanning techniques support the existence of separate STM and LTM stores: **Beardsley**.
- ⊗ Case study evidence supports the distinction between STM and LTM: **Clive Wearing**
- ⊗ Evidence contradicts the idea that STM is a unitary store: **KF case study**. Furthermore, evidence also suggests that there are multiple types of LTM.
- ⊗ Alternative model of memory: stronger supporting evidence for WMM.

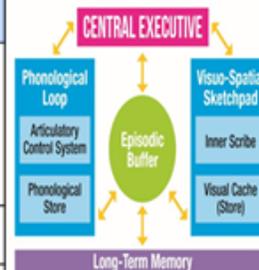
## EWT: Misleading information

- Leading questions: **Loftus and Palmer: experiment 1**: 45 PPs shown films of car accident and asked a specific question—verb manipulated: How fast were the cars going when they X each other?"
- Smashed = 40.5mph and contacted = 31.8mph. Shows accuracy of EWT affected by leading questions.
- **Loftus and Palmer: experiment 2**: 150 students "Did you see any broken glass" (there was none).
- 32% questioned with verb smashed said yes compared to 14% of participants questioned with the verb hit. Shows questions can distort memories.
- ⊗ Low ecological validity. eyewitnesses to real accidents have a stronger, emotional connection—may not be susceptible to leading questions in the same way.
- ⊗ lacks population validity: others may be more accurate in their judgement and less susceptible to misleading questions.
- ⊗ Application of their findings to the criminal justice system.
- Post event discussion: Gabbert et al: 71% of PPs who discussed an event before recall mistakenly recalled information and 60% said the girl was guilty despite not seeing her.
- ⊗ Low ecological validity: does not reflect everyday examples of crime.
- ⊗ High population validity: university students and older adults—little difference found
- ⊗ Further research required: was it post event discussion or conformity that explains findings?
- ⊗ Real world application: keep eyewitnesses apart.

## The Working Memory Model

- Baddeley and Hitch (1974)
- A model of STM
- Multi-component system, which consist of a central executive, phonological loop and visuo-spatial sketchpad.
- STM is an active system that allows us to work things through: two tasks can be carried out simultaneously in STM if they are being dealt with by different parts.

	Central Executive	Phonological Loop	Visuo-Spatial Sketchpad
<b>Function</b>	Control centre (boss) of the WMM; supervisory function and controls the slave systems	Temporary storage system for verbal information, held in speech-based form.	Temporary storage system for visual and spatial information.
<b>Capacity</b>	Limited capacity	Limited capacity	Limited capacity
<b>Coding</b>	Any sensory modality	Acoustic information	Visual and spatial information



- ⊗ Research evidence on dual task techniques supports the existence of multiple components within STM and supports the idea of a separate phonological loop and visuo-spatial sketchpad: **Baddeley and Hitch study**
- ⊗ The research into **KF case study** supports the WMM and the idea of two slave systems, the phonological loop and the visuo-spatial sketchpad, therefore providing support to the WMM and the idea of a multi-component STM system.
- ⊗ Lack of clarity about the central executive: too vague and simplistic: **Eslinger et al.**

## EWT: Anxiety

- **Weapon Focus Effect**: witness focus attention on the weapon—causes anxiety - leads to difficulties in recalling the other details accurately
- **Johnson and Scott: Lab experiment**: witnesses who saw a man holding a pen: 49% identified culprit compared to witnesses who saw man holding a knife: 33%. Shows anxiety reduces accuracy in EWT.
- ⊗ Further Low ecological validity and ethical issues broken
- ⊗ Reduced demand characterises
- ⊗ **Pickel**: Weapon focus is caused by surprise rather than anxiety.
- **Yuille and Cutshall: Real life shooting**; witnesses were very accurate 5 months later. Those who reported the highest levels of stress were the most accurate. Shows real life anxiety = positive effect on accuracy.
- ⊗ Doesn't account for individual differences (**Bothwell**).

## EWT: Cognitive Interview

- Improving EWT: 4 techniques
  1. Report everything: free recall.
  2. Context reinstatement: mentally recreate the situation. Context dependent forgetting.
  3. Changed perspective: other witness. Disrupts schema.
  4. Recall in reverse order: different chronological order. Prevents dishonesty and reporting schemas.
- Key study: Geiselman—pps interviewed using the CI recalled significantly more correct information than those using the standard interview.
- ⊗ Supporting evidence: **Kohnken et al**
- ⊗ Increases the amount of inaccurate information (**Kohnken**).
- ⊗ Real world application
- ⊗ Real world application—practical issues.

## Types of LTM

- All types of LTM are categorised as either explicit (declarative) or implicit (non declarative).
- Explicit memories: knowledge for events and facts (knowing that).
- Implicit memories: skilled behaviours (knowing how)

	Episodic	Semantic	Procedural
<b>Explicit or implicit</b>	Explicit	Explicit	Implicit
<b>Type of memory</b>	Personal experience	Knowledge	Performed tasks or skills
<b>Brain region</b>	Hippocampus	Temporal lobe	Cerebellum and motor cortex

- ⊗ Neuroimaging evidence supports there are different types of LTM: **Tulving et al.**
- ⊗ Case study evidence to support different types of LTM: **HM & PM.**
- ⊗ case study evidence needs to be treated with caution
- ⊗ Real world application: **Belleville et al**

## Forgetting: Interference

- Proactive: Past learning interferes with new learning. Key study: **Keppel and Underwood**.
- Retroactive interference: New learning interferes with past learning. Key study: **Baddeley and Hitch**.
- ⊗ Supporting evidence for retroactive interference: **McGeogh et al.**
- ⊗ Most of the research examining interference is carried out in a laboratory: the findings do not represent everyday examples of interference and are limited in their application to human memory.
- ⊗ Limited real world application.
- ⊗ Evidence suggests that some people are less affected by proactive interference than others: **Kane and Engle**.

## Forgetting: Retrieval failure

- Context dependent: Memory recall is better when the environment is the same as where it was learnt. Key study: **Godden and Baddeley**
- State dependent: Memory recall is better when your mental state is the same as when you learnt it: Key study: **Carter and Cassaday**
- ⊗ Research support: **Godwin (1969) and Darley (1973)** support emotional physiological state at time of encoding is important at the time of retrieval.
- ⊗ Real world application: exams—study by **Smith** and the cognitive interview.
- ⊗ Information we learn is related to a lot more than cues e.g. meaningful material.
- ⊗ Issues determining cause and effect



Use the digital text book to extend knowledge and complete quizzes: [Illuminate.digital](https://illuminate.digital)

BOOK 1: Username: sfortpitt Password: STUDENT

BOOK 2: Username: srobert2 Password: Student2

1. Outline one research study into the coding of short-term memory (STM). In your answer include what the researchers did and what they found. (4 marks)
2. Outline one research study into the coding of long-term memory (LTM). In your answer include what the researchers did and what they found. (4 marks)
3. Outline one research study into the capacity of short-term memory (STM). In your answer include what the researchers did and what they found. (4 marks)
4. Outline one way in which psychologists have investigated the duration of short-term memory (STM). In your answer, refer to the stimulus materials used, what the participants were asked to do and how duration was measured. (4 marks)
5. The multi-store model proposes that there are two major memory stores: short-term memory (STM) and long-term memory (LTM). Outline two differences between STM and LTM. (2 marks + 2 marks)
6. Briefly outline the main features of the multi-store model of memory. (4 marks)
7. Many psychologists believe that there are different types of long-term memory. Describe research into different types of long-term memory. In your answer, refer to what the researchers did and what they found. (6 marks)
8. In relation to the working memory model, explain what is meant by the terms phonological loop and visuo-spatial sketchpad. (2 marks + 2 marks)
9. Explain one strength of the working memory model. (2 marks)
10. Evaluate the working memory model. (10 marks)
11. Two students were discussing revision strategies in the college canteen. One said, 'I always make sure I revise similar subjects at different times'. The other replied, 'Yes, so do I. I get biology and chemistry mixed up if I revise them on the same day'. Discuss interference as an explanation for forgetting. Refer to the students' conversation in your answer. (16 marks)
12. Outline two limitations of the retrieval failure explanation for forgetting. (4 marks)
13. Explain what is meant by the term eyewitness testimony. Refer to an example in your answer. (3 marks)
14. Explain what is meant by the term misleading information. (3 marks)
15. Explain what is meant by the term leading question. (2 marks)
16. Describe what research has shown about anxiety and eyewitness testimony. (4 marks)
17. Evaluate anxiety as a factor affecting the accuracy of eyewitness testimony. (10 marks)
18. One day outside a large sixth-form college, two cars travelling at high speed came to a sudden stop. A man got out of one car with a gun and shot the driver of the other car through the windscreen. This was seen by a large number of students, teachers and passers-by. Two months later, a student decided to investigate the accuracy of the eyewitnesses' memories for the incident. Outline how the student could have investigated this event using a cognitive interview. Include two examples of what the witnesses would have been asked to do. (6 marks)