Memory Knowledge Organiser

Psychology @ chaseterraceacademy

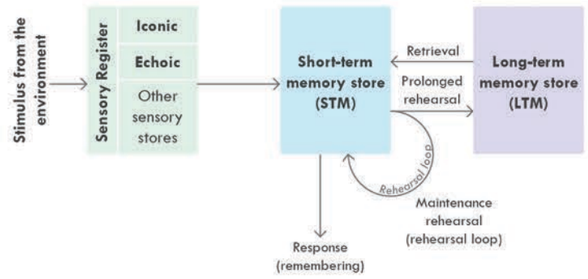
Multi-store Model (1969)

• Sensory register holds info relating to the 5 senses.

• If attention is focused, information is passed onto the STM. Maintenance rehearsal is needed to move information into LTM, otherwise it decays (or is displaced).

✅ Lots of evidence for separate stores. Brain damage case studies show separate stores (Clive and HM).

❌ Reductionist / unitary stores challenged by WMM and Tulving. LTM involves more than repitition (elaborative rehearsal).



Working Memory Model (1974)

• Challenged MSM, stating that STM has stores within it because we can see and listen at the same effectively, but struggle to listen or see 2 items at once.

• Central executive - directs information to the correct 'slave systems'.

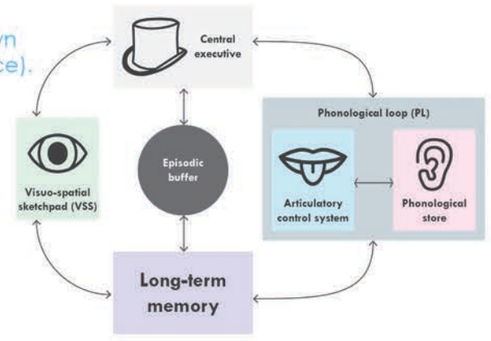
• Phonological loop - limited capacity, auditory store which breaks down into phonological store (inner ear) and articulatory processes (inner voice).

• Visuo-spatial sketchpad- subdivided into inner scribe & visual cache. 3-4 items.

• Episodic buffer - added in 2000. Collates all information together and passes it onto LTM.

✅ Dual -task performance and case studies of brain damage (KF).

❌ Central executive is vague and limited / reductionist. Problems with case studies.



Forgetting

Interference

Retroactive - new learning interferes with past learning. **Proactive** - past learning interferes with new learning.

✅ Real -word application to advertising. Supporting research (McDonald - 6 chicken nuggets! And rugby players study).

❌ Artifical research / theory lacks ecological validity (information in real-life has meaning attached).

Retrieval Failure

Based on Encoding Specificity Principle (ESP).

Context dependent forgetting occurs when the environment at learning does not match environment at recall.

State dependent foregetting occurs when the mental state at learning does not match the mental state at recall.

✅ Real world application (mental reinstatement) / supporting research (deep sea divers study for context dependent and antihistimines for state dependent).

❌ Circular theory (difficult to falsify). Recall vs recognition.

Differences in STM & LTM

	Sensory Register A temporary store	STM	LTM A permanent store
Capacity = amount	Large – Eg. Each eye has 100 million cells each storing visual data.	7 items +/- 2. [Jacobs, 1887] (Miller, 1956)	Unlimited
Coding = format	Based on senses. 2 most common: Iconic (Visual is stored visually) Echoic (sound is stored acoustically)	Acoustic (Sound) [Baddeley, 1966]	Semantic (meaning) [Baddeley, 1966]
Duration = timeframe	Limited – If no attention given, spontaneous decay takes place and it fades away quickly.	Limited (18 - 30 seconds without rehearsal) [Peterson, 1959]	Unlimited [Bahrick , 1975]

Types Of LTM

• **Episodic**– Personal experiences, time-stamped, conscious recall
• **Semantic**– facts and knowledge, shared with others, conscious recall
• **Procedural** – action based skills & tasks e.g. riding a bike, unconscious recall.

✅ Brain scans show memories in different places. HM case study.

❌ Case studies are limited. Brain scans have limitiations, post mortem needed. Real life applictions for memory disorders. Three types of LTM or 2? I.e. declarative (knowing what) vs non-declarative (knowing how).

Eyewitness Testimony

Anxiety

Weapon focus effect

Ppts asked to sit in a waiting room where they heard an argument. A man runs out with either a pen covered in grease or a knife in blood. They were asked to identify the man.

• 49% identifed the man in the pen condition, 33% identifed the man in the knife condition.

• Anxiety can have a negative effect by drawing people to specific details of the crime and away from features of the criminal.

✅ Yerkes - Dodson Curve - too much anxiety will impair recall accuracy.

❌ In real -life crimes, witnesses are likely to remember 75% of detail up to 15 months after the crime.

Leading Questions

Loftus and palmer (1974)

• 45 ppts shown 7 films of different traffic accidents and were asked to describe the accident.

• "How fast were the cars going when they *x* each other..... ?"

• Smashed = 40.8mph / collided = 39.3mph / hit = 34mph / contacted = 31.8mph.

• "Was there any broken glass ?" Those who were given the stronger verbs were twice as likely to say yes.

✅ Real life application- police interviews. Supporting research.

❌ Artifcial test- lacks ecological validity (emotion) Reponse bias vs substitution.

Post Event Discussion

• Memory can be altered or contaminated by co -witnesses if they're interviewed together, interviewed multiple times or able to discuss what they saw.

• 71% of ppts who discussed an event before recall mistakenly recalled information (vs 0%).

✅ Real world application- police can use this knowledge when questioning witnesses.

❌ Individual differences- children are more influenced by repeat questioning / interviewing.

Improving EWT: The Cognitive Interview

A police technique for interviewing witnesses to reduce inaccurate information from leading questions.

1. Mental reinstatement – mentally recreate context of crime (close eyes, imagine weather etc).
2. Report everything – free recall.
3. Change narrative order – reverse order of recall to challenge schema (e.g. end to beginning).
4. Change perspective – other witness POV to challenge schema.

✅ Supporting research - effective and increases accuracy (81%) / increases quantity of recall.

❌ Increases the amount of incorrect information (61%). Time consuming for police. Artifcial supporting research. Different police regions use slightly different techniques (Thames Valley don't use change perspective, so difficult to judge effectiveness.