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**Knowledge Rich Curriculum Plan**

A Level Psychology – Unit 2 Memory



| **Topic 1 – Models of Memory**  |
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|  | **Intended Knowledge:***Students will know that…* | **Tiered Vocabulary**  | **Prior Knowledge:***To know this, students, need to already know that…* | **Assessment**  |
| **LO1: Describe the multi-store model of memory (1 Lesson)** | * This model of memory was proposed by Atkinson & Shiffrin in 1968.
* Information comes in from the environment through the senses.
* This information is registered in the sensory store which has a large capacity and a duration of a fraction of a second, with information encoded in raw form.
* If this information is paid attention to, it will be passed to STM.
* STM has a capacity 5-9 7+/- 2 items, a duration 18-30 seconds and information is encoded acoustically.
* If this information is (repeated) it will be transferred to LTM.
* LTM has a duration capacity, a lifetime duration and information is encoded semantically.
 | **Capacity** The amount of information a memory store can hold. **Duration** The length of time a memory store can hold information for. **Encoding** The format information needs to be in before it can enter the memory store:Visual Encoding – stored in terms of what it looks like. Acoustic Encoding – stored in terms of what it sounds like. Semantic Encoding – stored in terms of what it means.  | ***Capacity -*** ***Duration -*** ***Encoding -*** ***Acoustic processing -*** ***Visual processing –******Semantic processing -*** |  |
| **LO2 – Evaluate the multi-store model of memory (1 Lesson)** | ***Supporting evidence for the MSM comes from the Serial position Curve.*** * Participants were given a random list of words to recall in any order.
* This is known as ‘free recall’
* Findings:
* Words at the beginning of the list retained well (primacy effect due to rehearsal)
* Words at the end of the list retained well (recency effect due to duration of STM )
* Words in the middle of the list were mostly forgotten.

***The MSM has the following strengths and weaknesses:**** It was the foundation for future research. This model was the first significant attempt to propose an explanation of the structure of memory – hugely influential and generated lots of research (advanced knowledge and understanding)
* KF Motorbike Accident and his STM was disrupted but LTM remained intact and shows that memory is separate as MSM suggests but is a case study.
* Rehearsal is not always needed - emotive information is often remembered well, even though not rehearsed and rehearsed information sometimes forgotten – suggests it is not an adequate explanation for information transfer to LTM.
* STM is not unitary - updated research shows that STM is multi-component and not one single store (WMM). There are alternative explanations.
* Research suggests that there are 3 types of LTM. (Episodic, Procedural, Semantic) and the MSM suggests that there is only one type of LTM.
 | **Rehearsal**:The sub vocal repetition of sounds. **Intact**. Not broken.**Unitary**One unit/store.  | **The MSM of Memory (AO1)** **The free recall technique.****Rehearsal.** **Types of LTM.** **Key AO3:*** Supporting Research
* Case Study Evidence
* Lab Study Evidence
* Influential.
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| **LO3 – Describe the Working Memory Model (1 Lesson)** | * This model of memory was proposed by Baddeley & Hitch in 1974.
* Disagreed that STM was unitary, and suggested it consisted of multi components which operated independently.
* Disagreed that the flow of information was one way, suggested it was multi-flow.
* Short term memory should be renamed ‘working' memory.
* Central Executive is one component - control of slave systems, directs attention, and makes decisions (most important)
* Visuo Spatial Sketchpad manipulates mental images in our mind and spatial processing tasks (e.g. navigation).
* Phonological Loop - acoustic processing (2 parts ACP – inner voice and PS inner ear).
* Episodic Buffer – integrates information from different sources and was only added in 2001.
 | **Spatial** Relating to space **Integrates** Combine (one thing) with another to make them whole/one. **Spatial Awareness** An awareness of the objects in the space around us, and an awareness of our body's position in that space. | That the MSM said that STM had a limited capacity could only deal with acoustic information and that information flowed one way. The difference between visual and spatial processing. |  |
| **LO4 - Evaluate the Working Memory Model (1 Lesson)** | ***Supporting evidence for the WMM comes from the Dual Task Study:**** Participants asked to complete 2 different tasks simultaneously
* Digit span task (PL)
* True/False statements (CE)
* Performance measured on both tasks.
* Findings:
* Participants could perform well on both tasks so slave systems must operate independently.

***The WMM has the following strengths and weaknesses:**** KF suffered brain damage from a motorcycle accident that damaged his short-term memory. KF's impairment was mainly for verbal information - his memory for visual information was largely unaffected.
* The working memory model explains a lot more than the multistore model. It makes sense of a range of tasks - verbal reasoning, comprehension, reading, problem-solving and visual and spatial processing - it has explanatory power.
* There is little direct evidence for how the central executive works and what it does. Considering this is supposed to be most important part of working memory, this is a problem for the model.
* Working memory only involves STM, so it is not a comprehensive model of memory (as it does not include SM or LTM).
* The visuospatial sketchpad (VSS) implies that all spatial information was first visual (they are linked). However, Lieberman points out that blind people have excellent spatial awareness, although they have never had any visual information.
 | **Independently**Free from outside control. **Interdependently** The dependence of two or more things on each other.  | Concept of a slave system PL deals with acoustic information and CE deals with decision making. Operating independently versus interpedently. Digit Span TaskK**ey AO3:*** Supporting Research
* Case Study Evidence
* Lab Study Evidence
* Explanatory power
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| **LO5 - Describe the different types of Long-Term Memory (1 Lesson) Methods:****Self-Report Techniques****Questionnaires** | There are three different types of long-term memory. **Episodic Memory**An explicit form of LTM and provides an autobiographical record of personal experiences. These memories are timestamped. Examples would be a Wedding Day.**Semantic Memory**An explicit form of LTM and contains all the knowledge a person knows about the world. This type of memory has been described as a cross between a dictionary & an encyclopaedia. Example would be the colours of the rainbow. **Procedural Memory**An implicit form of LTM and contains the memory of how to perform different actions/skills. Many of these types of LTM are learned in early life for example how to ride a bike. | **1. Conscious** Having knowledge of something.**2. Unconscious** Doing something or existing without realizing.**3. Autobiographical** Dealing with one's own experiences or life history | Implicit versus explicit recall Concept of timestamping Concepts of autobiography, dictionaries and encyclopaedia. |  |
| **LO6 - Evaluate the Different Types of Long-Term Memory (1 Lesson)** | **Supporting evidence for the different types of LTM comes from Tulving (1994).** * Gave participant's various long-term memory tasks to complete.
* At the same time scanned the activity in their brains using a PET scanner.

Findings:* Episodic and Semantic LTMs both recalled from the prefrontal cortex.
* The left prefrontal cortex was involved in recalling semantic memories
* The right was involved in recalling episodic memories.

***Different types of LTM has the following strengths and weaknesses:**** Case Study Clive Wearing: Semantic and procedural memories largely unaffected but episodic memories severely disrupted. For example, Clive could remember how to play the piano but not that his daughter got married. This is a case study.
* Belleville (2006) demonstrated that episodic memories could be improved in older people who had mild cognitive impairment. The trained participants performed better on a test of episodic memory than a control group
* Research into the different types of LTM have typically been conducted on individual patients. For example, the research into Clive Wearing and HM are highly detailed and provide a lot of information but are fundamentally isolated cases of one individual’s long-term memory damage.
* Cohen & Squire suggest that episodic and semantic memories are stored together in one LTM store that they call declarative memory. This consists of memories that can be consciously recalled. Procedural memories are called non-declarative.
 | **Cortex:****Pre-Frontal Cortex** **Left and Right Hemisphere** | Three Types of LTM:Episodic MemoryAn explicit form of LTM and provides an autobiographical record of personal experiences. These memories are timestamped. Semantic MemoryAn explicit form of LTM and contains all the knowledge a person knows about the world. This type of memory has been described as a cross between a dictionary & an encyclopaedia. Procedural MemoryAn implicit form of LTM and contains the memory of how to perform different actions/skills. Many of these types of LTM are learned in early life. **Key AO3:*** Supporting Research
* Case Study Evidence
* Lab Study Evidence
* Scanning evidence
* Practical Applications.
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| **Topic 2 – Theories of Forgetting**  |
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| **LO** | **Intended Knowledge:***Students will know that…* | **Tiered Vocabulary**  | **Prior Knowledge:***In order to know this students, need to already know that…* | **Assessment**  |
| **LO7 – Describe Interference Theory of Forgetting** | * Interference theory of forgetting was proposed by Baddeley in 1999.
* Interference theory states that forgetting occurs because memories interfere with and disrupt one another, in other words forgetting occurs because of interference from other memories
* Memory can be disrupted or interfered with by what we have previously learned or by what we will learn in the future.
* This idea suggests that information in long term memory may become confused or combined with other information during encoding thus distorting or disrupting memories.
* There are two ways in which interference can cause forgetting:
* **Retroactive Interference -** Occurs when you forget something you have already learnt because you are learning something new. In other words, new learning interferes with older learning.
* **Proactive Interference -** Occurs when you cannot learn a new task because of old learning. Something you have already learnt is interfering with your ability to learn something new.
* *Proactive and retroactive Interference is thought to be more likely to occur where the memories are similar, for example: confusing old and new telephone numbers.*
 | **Tier 2:****Interference** When something hinders or obstructs something else.  | Students may already have experienced proactive or retroactive interference. ***Activate prior learning by sharing examples of when this may have happened. For example, when updated mobile phone number or changed passwords.***  | CFU Task – Examples of Interference. End of Topic Test (Topic 2)  |
| **LO8 – Evaluate Interference Theory of Forgetting** | ***The key Study which supports interference theory comes from Underwood & Postman (1960) – The 2 List Study**** The aim of this study was to investigate retroactive interference.
* This study used a laboratory experiment.
* Participants were divided into two groups – group 1 and group 2.
* Group 1 were asked to learn a list of word pairs (list A) and then learn a second list of word pairs (list B).
* Group 2 were asked to learn List A only.
* Both groups were then asked to recall as many words as they could remember from list A.
* The study found that Group 2 could remember more of the words from the list A than group 1
* This study shows us that new learning will cause old learning to be lost, disrupted, or confused. This is an example of retroactive interference.
* This research supports the interference theory of forgetting.

***Students will know that Interference Theory of forgetting has the following strengths:**** McGeoch & McDonald gave participants a list of 10 adjectives to learn. After a retention interval they had to learn a second list of words (List B). If list B was a list of synonyms, average recall of list A was 12%. If it was numbers recall was 37%.
* Baddeley & Hitch asked Rugby players to recall the names of teams they had played that season. Those who had played the most games recalled the least.
* Most people can think of times when interference in both directions has occurred.

***Students will know that Interference Theory of forgetting has the following limitations:**** The retention intervals given to participants in research investigating interference theory are too short and do not reflect what would happen in the real world
* Some psychologists have pointed our that he effects of interference are only temporary and the information can eventually be learnt.
* This theory only can explain lack of recall when information in a similar format prevents recall.
 | **Tier 2****Synonyms** A word that means exactly or nearly the same as another word in the English Language (for example shut and closed).**Tier 3****Retention Interval**A time gap between a participant being exposed to some information and then them being tested on it.  | There are two ways in which interference can cause forgetting:Retroactive Interference - Occurs when you forget something you have already learnt because you are learning something new. In other words, new learning interferes with older learning. Proactive Interference - Occurs when you cannot learn a new task because of old learning. Something you have already learnt is interfering with your ability to learn something new.**Key AO3:*** Supporting Research
* External validity
* Mundane Realism.
 | AO3 Retrieval Challenge.  |
| **LO9 – Describe Retrieval Failure Theory of Forgetting** | * This theory was proposed by Tulving (1974)
* Information in LTM is only accessible if the appropriate cues are present.
* This is because of the **Encoding Specificity Principle**: when information is encoded into LTM it is associated with a specific cue.
* This cue neds to be presented when that memory is recalled or retrieved. Forgetting occurs because we do not have access to the appropriate cue.

There are 2 types of retrieval failure which causes forgetting. **Context Dependent Forgetting:**Cues are related to the situation or environment we were in when we first learnt the information (e.g. the weather)**State Dependent Forgetting:**Cues are related to the emotional or psychological state we were in when we first learnt the information (e.g. our mood) | **Specific** Clearly defined or identified**.** **Context** The situation or circumstances in which an event occurs.**Retrieval Cue** A signal that prompts us to remember something. **Encoding** The process of converting information in working memory to knowledge in long-term memory.**State**Psychological mood or mental condition. | Difference between availability and accessibility. The concept of a 'cue'The concept of Encoding:The format information needs to be in before it can enter the memory store: |  |
| **LO10 – Evaluate Retrieval Failure Theory of Forgetting** | ***Supporting evidence for retrieval failure theory of forgetting comes from Godden & Baddeley (1969)*** * Participants consisted of 13 males and 5 females who were trained divers and split into two groups:
* Group 1 learned a list of words on land.
* Group 2 learned the same list of words 20 feet under water.
* Both groups were then asked to recall the list of words on land and under water.

Findings:Participants forgot more words from the list when they had to recall them in a different situation as they learnt them due to context dependent forgetting. ***Retrieval Failure theory of forgetting has the following strengths and weaknesses:**** Tulving asked participants to learn 48 words belonging to 12 categories. Participants either had to recall as many words as they could (free recall) or they were given cues in the form of categories (cued recall). In the free recall condition, the average recall was 40%, whereas in the cued recall condition participants recalled 60% of the words.
* Abernethy (1940) tested students on course content each week. Some students were tested in their usual teaching room by their usual teacher, whereas others were tested in a different room by a different teacher. Those tested by a different teacher in a different room has the worst recall.
* Goodwin et al. (1969) asked male volunteers to remember a list of words when they were either drunk or sober and then recall the list 24 hours later either drunk or sober. Participants could recall more information when they were in the same psychological state as when the information was learned.
* Most of the research into retrieval failure in forgetting has been carried out in a laboratory using lists of words, a situation which is likely to occur infrequently in everyday life (lacks EV and MR)
* Many people say they can't remember much about their childhood/school days but returning to the house in which they spent their childhood or attending a school reunion often provides retrieval cues which triggers a flood of memories (external validity)
 |  | There are 2 types of retrieval failure which causes forgetting. **Context Dependent Forgetting:**Cues are related to the situation or environment we were in when we first learnt the information (e.g. the weather)**State Dependent Forgetting:**Cues are related to the emotional or psychological state we were in when we first learnt the information (e.g. our mood)**Key AO3:*** Supporting Research
* Lab study evidence
* Practical Applications
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| **Topic 3 – Eye Witness Testimony**  |
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| **LO** | **Intended Knowledge:***Students will know that…* | **Tiered Vocabulary**  | **Prior Knowledge:***In order to know this students, need to already know that…* | **Assessment**  |
| **LO11 - Describe how anxiety affects the accuracy of EWT (1 Lesson)g** | **There are 2 contrasting explanations.** 1. Anxiety makes the accuracy of EWT less reliable:* Witnessing a crime is a highly stressful event.
* This will cause the witness to focus on the central details of the crime (weapon).
* This means they will struggle to remember peripheral details (such as hair colour).
* This is known as the Weapon Focus Phenomenon

2. Anxiety makes the accuracy of EWT more reliable:* Witnessing a crime is a highly stressful event.
* Triggers the stress response and the release of adrenaline (fight or flight)
* Adrenaline gives us a surge of energy, and increases alertness.
* This means the witness notices more details accurately.
 | **Eye Witness Testimony** A legal term referring to an account given by people of an event (crime) they have witnessed.**Peripheral** Relating to or situated (located) on the edge (periphery) of something.**Anxiety** An emotion characterised by feelings of tension, worried thoughts and physical changes like increased blood pressure. | Peripheral refers to the edge of something. The fight or flight response is an automatic response to a stress response where adrenaline is released and give us energy. (Biopsychology)  | )  |
| **LO12 - Evaluate the effects of anxiety on accuracy of EWT (1 Lesson)** | ***Supporting evidence for the weapon focus phenomenon Loftus (1977):**** Participants sat outside a room and asked to complete a form.
* They are exposed to either:
* Low Anxiety - A low key discussion about equipment failure, man walks out holding a pen
* High Anxiety - A heated exchange, crashing furniture, man walks out with a letter opener and blood on his hands.
* Shown 50 photographs and they must correctly identify the man who walked out the room.
* Findings:
* Low anxiety correctly identified 49%
* High anxiety correctly identified 33%.

***This theory has the following strengths and weaknesses:**** Analysis of 58 real life robberies, interviewed victims (high anxiety) and bystanders (low anxiety). EWT accurate for both groups up to 15 months after the event, but victims could remember the most.
* A meta-analysis of 21 studies investigating the effects of anxiety and EWT and the results were inconclusive.
* An alternative explanation is the Yerkes Dodson Curve, moderate levels of anxiety create optimum conditions for accurate testimony.
* A thief walks into a hairdressers carrying different items that were classed as high/low threat and high/low surprise. (raw chicken, scissors) Recall less accurate in high surprise condition, so it may be surprise rather than anxiety which causes these findings.
 | **Curvilinear Relationship:**A Curvilinear Relationship is a type of relationship between two variables where as one variable increases, so does the other variable, but only up to a certain point, after which, as one variable continues to increase, the other decreases. | The difference between a linear and curvilinear relationship (Research methods – correlational research)A letter opener is a sharp object which could be viewed as a 'weapon'.**Key AO3:*** Supporting Research
* Lab study evidence
* Meta-Analysis
 | AO3 Retrieval Challenge.  |
| **LO13 - Describe how misleading information affects accuracy of EWT (1 Lesson)** | **Misleading information is Incorrect information provided after the event which causes the witness to believe something that isn’t true.** There are 2 types of misleading information. 1. Leading Questions – a question which is phrased in a way that leads to a certain answer (how old was the young man?) 2. Post Event Discussion – victims discuss the event with other witnesses, friends or family and this discussion alters their memory for the event. Misleading information reduces the accuracy of EWT due to:Memory Conformity – changing your testimony to be right/liked.Use of schemas to ‘reconstruct’ your testimony when there are gaps in recollection. | **Misleading**Give someone the wrong idea or impression. **Reconstruct** Build or form (something) again after it has been damaged or destroyed.**Post** A ‘prefix’ meaning afterwards, following, or later.**Schema** An organised network stored in long term memory which contains knowledge about people, events, places and situations. | Conformity is a change in behaviour due to be liked (NSI) or to be right (ISI). The concept of a schema - an organised 'package' of information stored in the LTM which contains knowledge. The idea of **reconstructive memories** - when we have gaps in memory we use the knowledge in our schemas to 're-build' the memory and fill in the gaps. |  |
| **LO14 - Evaluate the effects of misleading information on accuracy of EWT (1 Lesson)** | ***Supporting evidence for the effect of leading questions comes from Loftus (1974)*** * Participants watched a video of car crash
* Then asked a series of questions about what they had seen.
* All questions are the same except for one.
* How fast were the cars going when they contacted/bumped/hit/collided/smashed into each other?
* Findings:
* Average estimate was 32mph for contacted and over 40 mph for smashed.
* Those who were asked the smashed questions were more likely to say they had seen broken glass when there was none.

***This theory has the following strengths and weaknesses:**** Help improve the criminal justice system with the development of the Cognitive Interview (mistaken EWT is the primary cause of wrongful convictions of innocent people).
* Advertisements shown to participants who had been to Disneyland with Bugs Bunny and Aerial in. Participants were then asked if they had ever met the characters when they visited Disneyland, and P’s said yes even though Aerial didn’t exist at the time of the visit and Bugs Bunny is not a Disney character.
* Participants watched a video of a red purse being stolen from a handbag. They then read a testimony written a professor claiming the purse was brown. Participants were then asked the colour was the purse – all answered correctly (Red) and shows that we can resist blatantly incorrect misinformation.
* Much of this research has been conducted in labs with tasks that have low mundane realism, other research suggests that if participants are told that the videos are of real crimes, and their testimony would be used in a court of law, it becomes much more accurate.
 | **Blatantly:**Obvious**Verb**:A word used to describe an action, state, or occurrence | The cognitive interview is a range of Interview techniques (using memory retrieval aids) which aims to enhance the accuracy of EWT.**Key AO3:*** Supporting Research
* Challenging Research
* Lab study evidence
* Practical Applications
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| **LO15 - Describe the use of the Cognitive Interview (1 Lesson)** | The cognitive interview is a range of Interview techniques (using memory retrieval aids) which aims to enhance the accuracy of EWT. There are 4 key instructions:1. Every Detail – recall every detail no matter how trivial or insignificant. This provides cues for further details (cue dependent retrieval).
2. Context – place yourself back into the original situation, what was it like? This provides cues for further details (cue dependent retrieval).
3. Different Order – change the chronological sequence of the testimony. This prevents the witness for using schemas so improves accuracy.
4. Different Perspectives – tell the event from somebody else point of view. This prevents the witness for using schemas so improves accuracy.
 | **Chronological** A record of events following the order in which they occurred.**Perspective** A point of view, a way of looking at something**.**  | The cognitive interview is conducted by the police. The concept of a schema - an organised 'package' of information stored in the LTM which contains knowledge. The idea of reconstructive memories - when we have gaps in memory we use the knowledge in our schemas to 're-build' the memory and fill in the gaps.Information in LTM is only accessible if the appropriate cues are present.This is because of the **Encoding Specificity Principle**: when information is encoded into LTM it is associated with a specific cue. This cue neds to be presented when that memory is recalled or retrieved. Forgetting occurs because we do not have access to the appropriate cue.  |  |
| **LO16 - Evaluate the effectiveness of the Cognitive Interview (1 Lesson)** | ***Supporting evidence for the effectiveness of the Cognitive Interview comes from Geisleman (1989):**** 89 Ps shown a police training video of a violent crime.
* Interviewed 48 hours later using either the Cognitive Interview or the Standard Interview
* Recorded the number of correct facts each witness recalled.
* Also recorded the number of errors each witness made.
* Findings:
* Cognitive interview recalled 41 correct facts compared to 29 in standard interview.
* No significant different in the number of errors made.

***The cognitive interview has the following strengths and weaknesses:**** A meta-analysis of 27 studies comparing the effectiveness of the CI to the S! and found that the CI was far superior.
* CI cannot be used with young children (important with certain crimes). Struggle to understand the instructions – DCs – asked question twice, desire to please the adult. Birthday Party – children aged 5-9 watch a video, interviewed using CI/SI – CI recalled more – lacks MR.
* There are 4 different instructions, and interviewer must build a rapport with the witness, this is a problem when there is often an urgent nature to solving crime.
* Specialist training is needed to conduct CI effectively, most forces have only been able to provide around 2 hours which means that this may not be carried out effectively.
 | **Confabulate**To make something up, to fabricate something. | The cognitive interview is a range of Interview techniques (using memory retrieval aids) which aims to enhance the accuracy of EWT.**Key AO3:*** Supporting Research
* Challenging Research
* Lab study evidence
* Implications for the Economy (training/funding for police)
* Demand characteristics and children.
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