

AQA Psychology A-Level

Topic 2: Memory Essay Plans

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Discuss the Multi-Store Model of Memory. Refer to research evidence in your answer. (16 MARKS)

AO1	<ul style="list-style-type: none"> • The multi-store model of memory was developed by Atkinson and Shiffrin (1968) to explain how memories are stored. The model begins with sensory register, it is here that sensory stimuli is detected by the senses and held. • The sensory register has unlimited capacity due to large amount of information the senses receive on a daily basis, but had a limited duration. • Most of this information receives no attention and doesn't enter into the short-term memory. The STM has limited capacity, and information will decay from here if it doesn't enter into LTM. • Maintenance rehearsal involves repeating information that people are trying to remember over and over again, and doing this prevents information from decaying and allows it to enter the LTM. • The LTM store has both unlimited capacity and duration, information here can be accessed by the STM for use by means of a process called retrieval.
AO3	<ol style="list-style-type: none"> 1. Beardsley (1997) found that the prefrontal cortex is active during the formation/usage of short-term memories. Squire (1992) found that the hippocampus is active during LTM, suggesting the model is correct in assuming there are separate stores for LTM and STM. 2. Scoville and Milner (1957) studied HM who had his hippocampus removed to treat his epilepsy. He was unable to form new long-term memories but could form short-term memories, suggesting that there is a store for long-term memories that is separate from that of the store for short-term memories. 3. The model has been criticised for implying that long term memory is comprised of a unitary store which has been found to be too simplistic. It has in fact been found that there are different types of long term memories eg. semantic- the knowledge of factual information, episodic- the knowledge of personal information and procedural- the memory of how to do things. 4. It has been suggested by Craik and Lockhart (1972) that deeper processing rather than maintenance rehearsal is responsible for information entering LTM. The multi-store model of memory believes that maintenance rehearsal is what prevents decay- but Craik and Lockhart believe that if LTM is to be considered a store that is longer-term and less prone to decay, then information that is stored there has to have been processed more deeply. This contradicts the assumptions made by the MM.



Discuss the Working Model of Memory. Include Strengths and limitations in your answer. (16 MARKS)

AO1	<ul style="list-style-type: none"> • The Working Model of Memory was Baddeley and Hitch (1974) as an alternative to Atkinson and Shiffrin's Multi Store Model of Memory. This was developed, as due to the dual task effect, they believed STM was not a unitary store. The dual task effect refers to how when simultaneously performing tasks that are similar, performance is impaired, but this is not the case when performing tasks that are different. • The model begins with the central executive which divides attention to tasks and controls the slave systems, the first of which is the Phonological loop, which has a limited capacity, deals with auditory information, and is further divided into the articulatory process (silently repeats information) and the phonological store (holds information). • Visuo-spatial sketchpad is the next of the 'slave systems' and is used to plan spatial tasks, Logie divided it into the visual cache (stores information about visual items) and inner scribe (stores the arrangement of objects) • Baddeley (2000) added the episodic buffer as he felt that the model needed a general store, which combines information from the other stores and sends it to LTM.
AO3	<ol style="list-style-type: none"> 1. A strength of the model is that it explains the dual task effect- when tasks are done that occupy the same part of STM, performance is impaired, indicating there are separate stores within STM. 2. Support for the model comes from Shallice & Warrington (1970) who studied a man known as KF, who after brain damage had greater impaired loss of auditory than visual information. This provides evidence for the existence of two separate stores for auditory and visual information in the short-term memory store. 3. A limitation of the model is that it has been criticised for being too simplistic, with Damasio and Eringer (1985) studying an individual who had a brain tumour removed and displayed contradictory symptoms related to his CE. The patient was able to perform reasoning tasks- indicating an intact CE, but took long on decision making tasks- indicating a damaged CE. This led them to believe the current model of the CE is too simplistic, thus undermining a key aspect of the model's structure, 4. The use of case studies of brain damaged individuals to support the model is criticised, as the trauma that causes the brain damage may actually be the cause of their cognitive changes. The brain damage and the trauma are also unable to be separated, so the cause of the changes cannot be determined. As these studies has been questioned, they are not able to provide evidence for the model, limiting its validity.



Describe and evaluate types of long term memory. (16 MARKS)

AO1	<ul style="list-style-type: none"> • It has been found that LTM exists in two different forms, procedural memories, which are concerned with knowing how to do things, and declarative memories which are concerned with knowing 'that', or in other words, the knowledge of information. • Declarative memories can be further divided into semantic memories- knowledge of factual information like the currency of a country. These begin as episodic memories as we learn through experience. Episodic memories, on the other hand are concerned with the knowledge of life events such as the first day of school. • The second form of long-term memories are procedural ones and these are concerned with knowing how to things like drive a car and eventually become automatic through repetition. These memories are implicit, unlike declarative memories which are explicit.
AO3	<ol style="list-style-type: none"> 1. Brain scans provide evidence for the existence of different types of Long term Memories. Tulving et al (1994) got their participants to complete memory tasks as their brains were being scanned using a PET scanner. It showed that episodic and semantic memories were both recalled from an area called the prefrontal cortex which is divided into left and right hemispheres. Left was active during a semantic task whereas the right side was active during the episodic task. 2. HM provides evidence for the distinction between procedural and declarative memories. HM was unable to form any new semantic or episodic memories but retained the ability to form new procedural memories. He was able to draw (procedural) but couldn't remember learning to do so (episodic). 3. Hodges and Patterson (1997) studied Alzheimer's patients and found that they were unable to form new semantic memories, but could form episodic ones. Irish et al (2011) found the opposite, suggesting that semantic memories can be formed independent of episodic memories. 4. Another type of LTM- priming has been suggested, which refers to how implicit memories can alter an individual's response to a stimulus, this has been found to be associated with the temporal lobe.



Describe and evaluate one explanation for forgetting. (16 MARKS)

AO1	<ul style="list-style-type: none">• An explanation for forgetting is interference, two types of interference have been identified. Retroactive interference was identified by Müller and Pilzecker (1900) this is when current attempts at learning interfere with the recollection of past learning. Participants were given a word list and recollection of the word list was impaired if they were asked to describe landscape paintings during the retention interval.• A second type of interference, proactive interference was studied by Underwood (1957). Proactive interference refers to when past learning interferes with attempts to learn something new. When participants learned word lists, they had better recollection of words encountered earlier in the list than those encountered later.
AO3	<ol style="list-style-type: none">1. Research that has been used to support this explanation has been criticised for being artificial- they involved scenarios nothing like real life memory situations. As a result, the findings cannot be applied to real life.2. However, a real life study was completed by Baddeley and Hitch (1977). Rugby players were asked to list the teams they'd played against that season. Those who had played in more games were not as able to recall the names as easily, as the greater number of intervening games provided greater interference. As this study involved real life memory situations, it is able to effectively provide support for the role of interference in forgetting.3. It has been found that interference is not able to explain memory loss in all situations. This is because it seems to affect memory when the information being remembered is similar according to Anderson (2000).4. Kane and Eagle (2000) found that those with greater working memory are less susceptible to the effects of proactive interference than those with smaller working memory span. This shows that interference doesn't affect everyone equally.



Discuss research into the effect of misleading information on eyewitness testimony. (16 MARKS)

A01	<ul style="list-style-type: none"> • Loftus and Palmer conducted research into the effects of misleading information on eyewitness information. • In Loftus and Palmer's (1974) study, participants were shown traffic incidents and had to answer questions after viewing them including a critical question: • 'How fast were the cars going when they hit each other'. The word hit was substituted with contacted, collided, bumped and smashed. Those asked with 'hit' reported speeds 10 mph slower than those asked with smashed. • In another study, they were shown a traffic incident and asked the same questions. Later, they were asked if they saw any broken glass. There wasn't any, but those asked the speed question with aggressive adjectives were likely to report some. • This showed how leading questions can potentially alter the memory witnesses have of events.
A03	<ul style="list-style-type: none"> • Gabbert (2003) found that when participants viewed an incident separately from their partner and were allowed to discuss what they'd seen, 71% of them mistakenly included information from their partner in their EWT. this showed how post event discussion can also impact the accuracy of EWT. • LaRooy (2005) found that repeat interviewing- especially of children increases the likelihood of interviewees including information given to them by the interviewer in their EWT. • The opposite was found by Schacter, this is because elderly people often forget the sources of their information and so are more likely to include information from post event discussion in their EWT. • Yuille and Cutshall (1986) found that the effect of misleading information on EWT is not as great in real life. Witnesses to a bank robbery were able accurately recall the events of the robbery 4 months post incident, despite leading questions. • Studies on EWT have led to DNA testing being used to exonerate individuals wrongly convicted due to EWT, demonstrating the real-world relevance of such studies.



Discuss research into the effect of anxiety on eyewitness testimony. (16 MARKS)

<p>AO1</p>	<ul style="list-style-type: none"> • Anxiety has been shown to lower the accuracy of EWT. • With the weapons focus effect (when a weapon draws attention away from the person holding it) being demonstrated in a study by Johnson & Scott (1979). • Participants heard an argument and then saw a man run past holding a grease covered pen (low anxiety) or knife covered in blood (high anxiety). • In the low anxiety situation identification of the man was 49% accurate but only 33% in the high anxiety scenario, showing how the presence of a weapon draws attention away from the person holding it. • Christianson & Hubinette (1993) found that increased anxiety can increase the accuracy of EWT. High-anxiety witnesses to a bank robbery (bank tellers) were able to remember the events of the robbery more accurately than low anxiety witnesses. • The Yerkes-Dodson effect explains how anxiety affects EWT- too much or too little anxiety reduces the accuracy of EWT.
<p>AO3</p>	<ol style="list-style-type: none"> 1. Pickel believed the weapon focus effect was due to surprise, not anxiety. Participants were least accurate in identifying a man they saw run into hair salon when he was carrying a high surprise object (whole raw chicken) than high threat (handgun). 2. Anxiety has been found not to uniformly affect the accuracy of EWT in all witnesses. It was found by Halford and Milne (2005) that victims of violent crimes were more accurate in their EWT than those of non-violent ones, implying anxiety doesn't uniformly affect EWT. 3. Bothwell tested participants for emotional sensitivity, then tested the effect anxiety had on their EWT. Despite experiencing the same stressors, more stable participants showed increased accuracy when stress increased, compared to less stable ones. 4. Lab studies have been criticised for not generating enough anxiety, but Deffenbacher found that although this is true, they produce more accurate EWT than witnesses of real-life crime, contradicting the belief that anxiety causes more accurate EWT.



Discuss the cognitive interview as a means of improving the accuracy of memory. (16 MARKS)

AO1	<p>The cognitive interview was developed by Geiselman (1984) to increase the amount of accurate information provided by witnesses. The interview consists of four components:</p> <ul style="list-style-type: none">○ Mental reinstatement of events- done to provide contextual and emotional cues that make memories more accessible.○ Report everything- even irrelevant information, may trigger the recall of another one, or allow small pieces of information to be pieced together.○ Change the order- done to remove any schemas that may impact EWT.○ Change perspective- done again to minimise effects of schemas.
AO3	<ol style="list-style-type: none">1. The CI was found by Köhnken (1999) to increase both the amount of correct information by 81%, and the amount of incorrect information, by 61%. This shows that information collected by the CI may be inaccurate and so must be used with caution.2. Kebbell and Wagstaff interviewed police officers and found out why use of the CI isn't widespread: it is time consuming, and training to use it is also both time consuming and pricey.3. Milne and Bull (2002) found that the most effective components of the interview may be the 'report everything' and mental reinstatement' components. When participants were interviewed using these, results were the same as when the entire interview is conducted.4. The CI is good at encouraging elderly people to provide information without reservation- they often may be more hesitant due to negative conceptions about their memory. Mello and Fisher compared the use of the interview on 72 and 22 year old males and it was found to have the greatest positive impact on the older group.

