The multi-store model

The Multi- Store Model (MSM)Atkinson and Shiffrin (1968) produced one of the best known memory models it is the multi-store model (MSM).

The MSM supports that we have separate stores for Long Term Memory (LTM) and Short Term Memory (STM). The information enters the Sensory Memory which has a duration of 1/2 to 2 seconds, if the information is attended to it moves to the STM(Gross, R. 2010).

The information is stored in the STM for a duration of 15-30 seconds and only moves to the LTM if rehearsal takes place. The information can remain in the LTM for an unlimited amount of time. If rehearsal does not take place, then the information is forgotten from the STM through the process of displacement or decay (Gross, R. 2010). Two strengths to support the MSM are the study of brain damaged patients for example, the H. M case study, he was unable to make LTM but his STM was unaffected (McLeod, S.

2008). This suggests that there are separate LTM and STM stores thus supporting the MSM. Another strength of the MSM is the study carried out by Glanzer and Cunitz (1966) the Serial Position Effect. This study says that the probability of recalling a word depends on its position in a list. In the study one group of participants recalled the last words better (recency effect) this is an example of STM.

The other group recalled the first words better (primary effect) this is an example of LTM. The middle words (asymptote) were recalled the least (Gross, R. 2010). This supports that there are separate stores for the STM and LTM thus also supporting the MSM. The weaknesses of the MSM are the model suggests that rehearsal helps to transfer the information to the LTM.

However, there are many things we do not need to rehearse but are still in the LTM (e.

g. riding a bike) and also, some things we do rehearse (e. g.

revision for exams) we are sometimes unable to remember(McLeod, S. 2007). This suggests that rehearsal is not as necessary as Atkinson and Shiffrin (1968) state it is in the MSM.

Another strong weakness in the model is as follows, Baddeley and Hitch (1974) looked more deeply at STM. The model was called the Working Memory Model. This model suggested that we have an inner voice, inner ear, inner eye and the central executive that controls them (McLeod, S. 2008). This suggests that the STM is not just one process and does not support the MSM.

Eyewitness Testimony (EWT) Research into memory and forgetting can be applied in a real life setting, for example Eyewitness Testimony (EWT). Eyewitness Testimony is a legal term. It refers to an account given by people of an event they have witnessed. In a court of law the jury will heavily depend on EWT and generally accept it as a reliable source.

However there is a substantial body of evidence to suggest that EWT is unreliable. It is likely that faulty EWT has led to wrongful convictions every year. Bartlett (1932) theory of Reconstructive Memory is crucial to understanding the reliability of EWT as he suggested that recall is subject to personal interpretation dependent on already existing knowledge (schemas) (McLeod 2009). An example of this is research carried out by Bartlett (1932)

Serial reproduction and The War of the Ghosts. English participants heard an unfamiliar North American folk tale called The War of the Ghosts. The style of words and ideas would not have appeared in a stereotypical Western story so would be difficult to memorize.

Twenty hours later participants were asked to recall as much as possible, then to retell the story many times after this. Bartlett found that the story was retold shorter and in a language more suited to the participant (Gross 2010). Also the story became more cliched – any peculiar or individual interpretations tended to be dropped (Gross 2010).

This was supported by Hunter (1964) who found very similar findings in carrying out the same research (McLeod (2009). This suggests that memories are not recorded exactly like taking a photo for example, but are weaved together with existing knowledge and experiences (schemas) to form a reconstructed memory. Once the memory has been reconstructed the original version of events cannot be recalled and the individual will be completely unaware of any change (Gross 2010). Thus clearly indicating that memories are anything but reliable, records of events. They are individual recollections which have been shaped & constructed according to personal beliefs and expectations.

This suggests that the reliability of EWT can be discredited due to inaccuracy (McLeod 2009). (Loftus & Palmer 1974) tested the effect of changing single words in critical questions regarding to the estimation of speed, this was called Leading Questions (Gross 2010). The Participants were shown a 30 – second clip of two cars crashing into one and another. They were then asked

some questions. One group was asked, About how fast were the cars going when they hit For the other participants the word hit was replaced by smashed, collided, bumped or contacted (Gross 2010).

? Each word has a different connotation with regards to speed and force of impact. The findings in the results were that the participants that heard the word hit gave an estimation average of 34. 0mph.

For the word smashed the estimation of speed given was 40. 8mph, the word collided 39. 3mph, the word bumped 38. 8mph and the word contacted received an estimated speed of 31. 8mph (Gross 2010). This implies that by using a more dramatic word the participant felt the cars were traveling at a faster speed. A week later to test this further Loftus and Palmer (1974) included a follow – up experiment.

The participants that originally heard the words smashed or hit were asked if they remembered any glass (even though there was none on the clip) (Gross 2010). If smashed had altered the participants memory of the crash into believing the accident was more serious than it was, then would the participants remember things that didn??™t actually happen in the clip, but were consistent with an accident occurring at high speed (e. g.

broken glass). Out of the 50 smashed participants, 16 (32%) reported broken glass was seen. Out of the 50 hit participants only 7 (14%) proclaimed to have seen glass (Gross 2010). Thus suggesting that simply changing a word in a question can misconstrue the witness??™s testimony because the participant has reconstructed a memory. This supports Bartlett (1932) reconstructive memory/schema theory.

However there are weaknesses to this research for example realism, as the video clip does not have the same emotional impact as witnessing a real-life accident and so the research lacks ecological validity (McLeod 2010).? Also due to concerns of unreliability of EWT researchers attempted to find methods for improving retrieval. One example of this was Geiselman et al. (1985) The Cognitive Interview (CI). The (CI) technique is a questioning technique used by the police to enhance retrieval of information from the witness??™s memory (Gross 2010). The interview technique is based on four instructions.

Firstly the interviewer tries to mentally reinstate the environmental and personal context of the crime for the witnesses by asking about general activities and feelings on the day. For example sights, sounds, feelings and emotions (McLeod 2010). Then witnesses are asked to report every detail, even if the detail is not considered relevant to the witness. This detail considered irrelevant or unimportant to the witness may act as a trigger for key information about the event (McLeod 2010). Then the witnesses are asked to report the incident from a different perspective, describing what other witnesses or criminals may have seen (Gross 2010). The witness was now asked to recall the event in a different narrative order. Geiselman et al.

(1985) proposed that due to the recency effect, people tend to recall more recent events more clearly than others so the witnesses should be encouraged to work backwards from the end to the beginning (McLeod 2010). An example of this research was carried out by Geiselman (1985). The participants viewed a film of a violent crime and, after 48 hours, were interviewed by a policeman using one of three methods: the (CI), a standard

interview used by the Los Angeles Police, or an interview using hypnosis. The number of facts accurately recalled and the number of errors made were recorded (Gross 2010). The average number of correctly recalled facts for the (CI) was 41. 2, for hypnosis it was 38. 0 and for the standard interview it was 29.

4. There was no significant difference in the number of errors in each condition (Gross 2010). There are weaknesses to the (CI) for example; (CI) can be time consuming for both training and the interview process. It requires rapport – building as well as free and cued – recall (Hammond et al. 2006). However over all (CI) has been proven to be a valuable means of enhancing EWT and is still used within law enforcement (Gross 2010).? ? ?