

Human memory essay example

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For a long time, humans have attempted to grasp the working of human memory system without much success. While memory is a crucial aspect of human life, it is one of the most elusive and mysterious human attributes. Conventionally, human memory is like filing a cabinet full of folders. Each folder has a title and contains distinct information from other folders. Others relate human memory to a super-fast computer with a vast capacity and tremendous speed. Still, these explanations go only an inch deep to explain the workings of human memory. Scholars agree that human memory is far more complex than meet the eye. This paper explores and evaluates the models used in the study of human memory. The paper looks at the basic memory model and the working memory model. While delving into the two models, the paper explains the structure and function of the sensory, short term and long-term memory using previous researches and explaining the concepts while using the theories that attempt to explain the act of forgetting.

Human memory refers to the human ability to encode, store, retain, and procedurally recall information and experiences on the human brain (Baddeley, 1997, p, 4). Mastin (2010) reports that the study of, memory has changed and developed overtime with a number of developments reflected in the research conducted. Contemporarily, there has been burgeoning of interest in natural studies of cognition. Some scholars have argued for emphasizing the continuity of linking memory and other aspects of cognition. Scholars call this distributed memory, and it ensures that if one part of the brain is damaged, some parts of the brain will remain.

STM is a system for storing information for a brief period. It is a temporary storage department of incoming information (Atkinson & Shiffrin, 1968). Mastin (2010) reports that STM catalyses the process of recalling information being processed at any time. The STM holds a small amount of information in an active and readily available state for a period of about 10- 15 seconds and not more than one minute. The STM has a small capacity due to its function of remembering a list of random and current things. Due to its functions, the STM does not allow for repetition or reinforcement. The memory span for average humans for the STM is between 5 to 9 items according to Miller's Law. Another name for the Short Term Memory is the Working Memory. However, the working memory refers to the theoretical structure and process that are useful in the storage and encoding of information for the Short Term Memory to be functional (Baddeley, 1997). The sensory memory refers to the ability of the brain to retain impressions of sensory information after the end of the original stimuli. The sensory memory is the shortest element of memory and acts as a buffer for the stimuli acquired from the five senses of sight, hearing, smell, taste, and touch.

Several theories have been put across to explain how the short memory works. Peterson & Peterson (1959) of America's Indiana University debated the origin of forgetting pertaining to short-term memory. The researchers questioned if forgetting in the short run accrued from decay or interference with information flow. According to their inference, the short-term lifespan of information is 20 seconds, and if this lapses then the information decays and thus forgetfulness comes (Baddeley, 1997, p. 32).

According to several scholars, the small capacity of the short-term memory is a function of the evolutionary survival strategy of paying attention only to

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critical things (Baddeley, 1997). Still, Baddeley (1997) agrees that a process called chunking can increase the capacity of the short-term memory.

Chunking refers to the organization of materials into distinct smaller groups for effective management (p. 30).

In human memory, encoding refers to the process that allows for the presupposed items of interest to be converted into a creation that can be saved within the brain and recalled later from the short-term memory.

Conrad (1964) concluded that encoding in the STM is based on acoustic. This means that sounds play a significant role in encoding in the short-term memory. Brandimonte et al (1992) affirmed that stimuli recording in the short-term memory during learning interfere with the ability to generate veridical mental images for the long-term memory. Baine (1986) reports that encoding is believed to proceed from one end of the continuum where processing is shallow, and stimulus is less active to a deeper end in terms of activity of the stimulus and processing activity. Encoding could be understood adequately in terms of encoding alone and must be judged based on how the encoding matches with subsequent retrieval demand.

The long-term memory is intended for the storage of information for a long period. The long-term memory stores information indefinitely. Scholars agree that forgetting could be a function of the piling up of information hence making it difficult for the accessing or retrieving of the information. The idea of forgetting can thus be an illusion. According to Mastin (2010), short-term memories can qualify to become long-term memory through the process of consolidation. While the short-term memory relies on sound and association to retrieve information, long term memory retrieves information on the meaning and association.

Long-term memory has limitless capacity. The long-term memory stores a large amount of information kept on diverse issues such as personal memories, general knowledge, plans, and areas of expertise. The long-term memory also has the capacity to revive and modify information. This is possible because of LTM's level of sophistication in terms of capacity, duration, and encoding. The LTM capability to function better than the STM accrues from the flexibility of the brain and the limitless absorption of the brain.

Miller (1956), came up with the theory of the “magic number seven,” the theory argues that short-term memory is limited to a specified number of chunks of information. For the LTM memory, Miller argued that while long-term memory has a limitless store. Atkinson and Shiffrin (1968), argued for the dual-store memory, which resides in the short-term for a limited time while strengthening associations in long-term memory. Information presented to the memory enters through the short-term memory. However, due to the limited space, old information creates space for the new information. When information is revitalized in the short-term memory, the long-term memory strengthens the same information in the storage.

Baddeley and Hitch (1974) proposed a different theory that challenged Atkinson-Shiffrin memory model. Baddeley and Hitch argued that the short-term memory has components that play different roles each with an executive controller that supervise the information that enters and exits the items. Under this system, the components include phonological loop, the visual-spatial sketchpad, and the episodic buffer. Cohen and Squire (1980) compared declarative and procedural knowledge pertaining to Long-term memory. According to Cohen and Squire, procedural knowledge comprises <https://assignbuster.com/human-memory-essay-example-essay-samples-2/>

the knowing of how to do things of practical skills such as riding a bike, driving a car, or fixing a broken chair. This is separate from automatic skills that mean conscious actions such as brushing teeth or washing face that do not require any skills. Declarative knowledge involves the process of knowing that “ this includes aspects such as recalling information that requires conscious thoughts such as the number of continents in the world, Zuma is the president of South Africa, China is the fastest growing economy and many others. Still, the knowledge that we have in semantic and episodic memories take different routes depending on how they are used. For example, one can have semantic memory for one thing and episodic memory for another (McLeod, 2010).

The multi store model is also called Atkinson –Shiffrin model. It has the niche of being broken down into sub models of the memory thus creating what is called the multi-memory. This model proposes that the human brain has three stages involving the sensory model, short-term memory, and the Long-term memory. The multi store model describes the flow of information in the brain through a system that takes different forms. If information is sensed through sense organs, then it enters the sensory memory. When this information is attended, it is then transferred to the short-term memory, and when the information is rehearsed, and then it goes to the long-term memory.

Atkinson –Shiffrin model (1968) has the strengths of supporting the existence of different memory styles through the definition of encoding, duration, and capacity that differs on the different methods. The model can also be attributed to the increased research in the field of memory study. For <https://assignbuster.com/human-memory-essay-example-essay-samples-2/>

example, this method was proven by the HM case (McLeod, 2007). Still, the multi store model do not escape criticism for its oversimplification of the workings of the brain. New studies have suggested that long term memory and short term memory are complicated than previously thought.

Basing on the Multiple store model, Baddeley and Hitch (1974) came up with an alternative model of what the short-term memory otherwise called the working memory model. Baddeley argued that multiple store model was far too accessible to explain the working of the memory. Instead, the two researchers argued for the working memory, which is not unitary store. The working model consists of a central executive that coordinates and controls the working of the two systems in the memory. These two systems include the phonological loop and the visual-spatial sketchpad. The work of the visual sketchpad is to store and process information using spatial form. The phonological loop is part of the working memory that deals with the spoken and written work in the brain. This part of the brain helps in recalling things like phone numbers.

Forgetting is the opposite of memory. In the long term memory, forgetting occurs when information decays and fails to reach the LTM. However, sometimes information reaches the LTM, but it disappears before it is stored in the LTM. Sometime forgetting occurs when information is not used for a long period. This means that the brain is psychologically prepared to erase information that is not usable. However, forgetting does not mean that information is entirely out of the store. Forgetting can also be caused by distractions caused by the environment or the errors such as association such believing that information that is absent is available. Other scholars <https://assignbuster.com/human-memory-essay-example-essay-samples-2/>

have argued that forgetting can also be intentional. This means that an individual can insinuate forgetting to erase the feelings or the events.

Brown and Kulik (1977) explored the flashbulb memories. This theory suggests that dramatic events can imprint powerful images in people's memories. Brown and Bulk argued that flashbulb theories was instrumental in investigating the murder of J. F Kennedy by suggesting that human memory do not forget dramatic events. Flashbulb theory presents the argument that human memory is a highly detailed snapshot of moments and circumstances. Flashbulb memories allow individuals to remember finer details events and are resistant to forgetting. However, because flashbulb do not document like real cameras, there is a possibility that information could be impaired. According to Brown and Kulik, flashbulb memories are distinct from ordinary memories for details held and method of storage since they use emotional aspects to store information.

Another emotional memory component was suggested by Feud (1961). This is called repression theory that argues that emotionally threatening materials can be kept from consciousness by motivated forgetfulness.

Scholars agree that trauma can cause problems of memory. Still, scholars fail to agree if repression can be a cure for trauma. In his research, Feud believed that repression was caused by hypnotic states in life. Repressed memory has been used widely for people undergoing therapeutic treatments from traumatic experiences.

Usually, when we think of memory, we think of the long-term memory without considering the importance of the short-term memory in the existence of the long-term memory. There is the need to realize that the <https://assignbuster.com/human-memory-essay-example-essay-samples-2/>

long-term memory cannot function without the presence of short term and long-term memory. In the paper, we have discussed different forms of memories while highlighting the fundamental theories that shape the workings of memories and how they relate to one another. All, this paper has attempted to explore the working of human memory using different research works.

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