Biological and psychological basis of learning and memory

Psychology

Learning and Memory Learning and Memory Memory can be referred to as the procedure by which information is first en d, stored and then retrieved when need be in psychological terms. The relation between learning and memory can be described as an interdependent one as one cannot function without the other (Middleton & Brown, 2005). Learning in itself can be described as the process of acquiring and storing new information/knowledge in ones mind. Needless to say, one would not be able to store this new information if their memory was not functioning efficiently thus the need for the correlation of the two. In order for one to learn, the mind undergoes a form of information processing that can be said to occur in three stages, these are:

Encoding – This is whereby the new information is received, processed and combined.

Storage – In this stage the mind forms a permanent record of the new information received.

Retrieval – This occurs when an individual needs to remember the information they have learnt. It can also be referred to as recollection (Schwabe & Wolf, 2010).

These three stages of the mind can be said to be the main or basic components of the learning process. Information can be stored by an individual without them necessarily understanding the meaning of the information they have stored and thus it cannot be said that learning is dependent on memory alone, but it is one of the main components (Conrad, 2010). Without a functional memory, one might be able to understand something when it is taught to them, but they will be unable to recollect it

after a period of time and thus as stated earlier, memory and learning go hand in hand.

With regard to this, it should be stated that there are three main types of memory, namely sensory, short-term, and long-term memory. The last of these (that is long-term memory) is what is put to use during the learning process as the information acquired is meant to be stored for long term purposes. Sensory memory is only able to keep a hold of the information that is acquired for only a few seconds after it is perceived (Middleton & Brown, 2005). It comes into play when an individual is exposed to information for the shortest period and thus the mind does not have enough time to absorb it wholly for any longer than a few seconds. Short-term memory also allows an individual to remember information for only a short period of time, a bit longer than sensory memory without any rehearsal on the individual's part. Long-term memory on the other hand is able to store large amounts of information for longer as opposed to its two predecessors (Conrad, 2010). Information is usually transferred to the long-term memory storage after a number of rehearsals depending on the particular individual. These rehearsals are what can be referred to as studying in terms of learning, and that is why individuals are encouraged to go over the things that they have read during exam periods. Studies have shown that information stored in the long-term memory is not easily forgotten by an individual (Conrad, 2010). A good example is a case where a person suffering from amnesia after an accident and could not even remember his name found that he still knew how to play the piano. This can be attributed to the fact that he must have practiced it daily, and thus this knowledge was embedded in his long-term

memory (Schwabe & Wolf, 2010). In conclusion, the relationship between the memory and learning cannot be severed and it can be found that the better a memory a person has, the easier the learning process is for them.

Reference

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