The First International Talent Management Congress

Shefa Neuroscience Research Center, Tehran, Iran, 15-17 December, 2015

*The Neuroscience Journal of Shefaye Khatam*

Volume 3, No. 3, Suppl. 2

## Poster Presentation

# The Roles of Long-Term Memory on the Organization of the Knowledge for Educators

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***Published:*** ***15 December, 2015***

***Abstract***

Modern neuroscientific research help to solve the impotent challenge in curriculum design and teaching for enhancing students' ability to organize information in a way that makes it efficient in response to an appropriate context such as problem solving and critical thinking via knowing about the mechanism of different type of memories especially long term memory. At first, we should to clarify the difference between short-term memory (working memory) in modern usage and long-term memory. Working memory is dynamic and last short time (seconds to minutes). Working memory outfits information from long-term memory to administer when necessary. In fact it organize information for an especial purpose: e.g., application to a task, problem solving, and communication. Long-term memory is the information we have committed to long-term storage for retrieval at a later time. Long-term memory is more stable and can persist for a lifetime. Working memory is mediated by the frontal lobes, which are reciprocally connected (forward and backward) by nerve fibers to other parts of the brain such as occipital lobe (stored visual memory) and, the temporal lobes where verbal and conceptual knowledge is partially stored, and the somatosensory cortex where sensations of touch and body sensations are located. The nerve fiber interconnections permit the frontal lobes to access information stored as memories within each of these brain centers. The frontal lobes put on organizational control over the access and processing of stored information. There are other major nerve tracts interconnecting between frontal lobes and deeper region of the brain known as the limbic system. It has multiple function. It regulates new information to be stored in long term memory. Also limbic system mediates our emotional or affective responses. Since the frontal lobe can access and moderate our emotional sensations during information processing. We will refer to this as affective functions. It seems that these complex networks dynamically organize information as a memory to increase the networking of information during recall and its application.

***Keywords:*** Memory, Frontal Lobes, Limbic System.

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