

THE INCLUSION OF STUDENTS' MENTAL ACTIVITY INTO THE EDUCATIONAL PROCESS

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Psychologists classify different types of memory based on various features like the method of memorization, the duration of information retention and the nature of the predominant mental activity. As per the method of memorization, psychologists distinguish the following types of memory as involuntary and voluntary. Involuntary memory means adopting information without special memorization techniques, while voluntary memory involves purposeful memorization using special techniques. The effectiveness of memorization depends on the methods and goals of memorization (McLeod, 2023).

Memory is a complex process that allows us to store and retrieve information. It can be divided into different types based on the duration of retention (Schunk, 2012). Sensory memory lasts only 0.2-0.5 seconds and is responsible for helping us navigate our environment. Short-term memory allows to remember one-time information for a short period, usually from a few seconds to a minute. Long-term memory is when we store knowledge for a longer period, allowing us to recall information from days or even years ago (Ventura-Bort, Löw, Wendt, Moltó, Poy, Dolcos, Hamm, Weymar, 2016). Finally, operative memory is necessary for performing activities in each given period, allowing us to stay focused and complete tasks efficiently. Understanding the different types of memory can help us better manage and improve our ability to retain information (Smith, Bulkin, 2014).

According to the nature of the predominant mental activity, scientists offered the following classification of types of memory: motor memory, musical memory, emotional memory, figurative memory and verbal-logical memory (Shohamy, Wagner, 2008). As a teacher, it is crucial to highlight different aspects of memory, including emotional memory, figurative memory, and verbal-logical memory.

Emotional memory stores experiences and feelings related to past events, and it can be evoked by the teacher to provoke an appropriate reaction, determine one's attitude, and make associations (Buchanan, 2007). By emphasizing these types of memory, students can better retain information and create their own decisions and conclusions about the material they are learning (Zarrindast, Khakpai, 2020). First, what causes emotions is remembered better. Secondly, really experienced events are difficult to forget, and this type of memory gives the experienced individual a deeply

personal character and is characterized by special stability (Tyng, Amin, Saad, Malik, 2017).

Figurative memory manifested in the form of the memorization of images, ideas about objects, phenomena, and their properties. Images, and ideas about memorable objects, and phenomena, being associated with words, are fixed in them and thanks to this acquire a relatively stable character. Language is a means of a person's awareness of his/her sensory experience, where knowledge of the external world comes from (Shin, Masís-Obando, Dáve, Norman, 2021). An important task of the teacher is to constantly enrich the visual memory of students so that their knowledge is based on factual, visual and figurative content. Special mnemonic images are eidetic (from the Greek “εμφάνιση, εικόνα” – appearance, image), which are vividly preserved in the memory without changes from a few minutes to a few hours, and sometimes up to several years. Figurative memory is not passive copying of objects and phenomena of reality, but a special activity aimed at solving a cognitive task.

The content of verbal-logical memory is concepts, judgments, and conclusions that reflect objects and phenomena in their true connections and relationships, in general properties. It is inextricably linked with thinking and language and is the most important in the assimilation of knowledge in the process of educational activity (Coveney, Switzer, Corrigan, Redmond, 2013). Verbal-logical memory is formed in the process of mental development of a person based on imagery. Its characteristic features are the accuracy of reproduction and significant dependence on the will. The accuracy of verbal reproduction is ensured not only by repetition but also by volume: the shorter the material, the fewer errors during reproduction. The peculiarities of this memory are also revealed in memorizing only the content of the material. In the process of selection, the text is transformed into more general concepts. Reproduction of such material is a transition from generalized concepts to specific ones. Gradually, thanks to the connection of memory with thinking and language, verbal-logical memory develops (Marian, Fausey, 2006).

Thus, the challenges the modern teachers face are not only to organize the educational process but also help students create an independent, individual approach and attitude towards learning (Marian, Kaushanskaya, 2007). They should encourage students to determine their weaknesses and strengths for successful implementation into the educational process in order to motivate them for self-education. By doing this, they can facilitate in students the development of the strong foundation of all types of memory and achievement their academic goals.

References

Buchanan, T. W. (2007). Retrieval of emotional memories. *Psychological bulletin*, 133(5), 761–779. <https://doi.org/10.1037/0033-2909.133.5.761>

Coveney, A. P., Switzer, T., Corrigan, M. A., & Redmond, H. P. (2013). Context dependent memory in two learning environments: the tutorial room and the operating theatre. *Medical education*, 13, 118. <https://doi.org/10.1186/1472-6920-13-118>

Marian, V., & Fausey, C. M. (2006). Language-Dependent Memory in Bilingual Learning. *Applied Cognitive Psychology*, 20(8), 1025–1047. <https://doi.org/10.1002/acp.1242>

Marian, V., & Kaushanskaya, M. (2007). Language context guides memory content. *Psychonomic bulletin & review*, 14(5), 925–933. <https://doi.org/10.3758/bf03194123>

McLeod, S. (2023, June 15). Context And State-Dependent Memory (O. G. Evans, Ed.). *Simply Psychology*. Retrieved July 16, 2023, from <https://www.simplypsychology.org/context-and-state-dependent-memory.html>

Schunk, D. H. (2012). Major brain structures [Illustration]. Wordpress. <https://fredjmr.wordpress.com/2020/07/07/the-neuroscience-of-learning-part-2-major-brain-structures/>

Shin, Y. S., Masís-Obando, R., Keshavarzian, N., Dáve, R., & Norman, K. A. (2021). Context-dependent memory effects in two immersive virtual reality environments: On Mars and underwater. *Psychonomic bulletin & review*, 28(2), 574–582. <https://doi.org/10.3758/s13423-020-01835-3>

Shohamy, D., & Wagner, A. D. (2008). Integrating memories in the human brain: hippocampal midbrain encoding of overlapping events. *Neuron*, 60(2), 378–389. <https://doi.org/10.1016/j.neuron.2008.09.023>

Smith, D. M., & Bulkin, D. A. (2014). The form and function of hippocampal context representations. *Neuroscience and biobehavioural reviews*, 40, 52–61. <https://doi.org/10.1016/j.neubiorev.2014.01.005>

Tyng, C. M., Amin, H. U., Saad, M. N. M., & Malik, A. S. (2017). The Influences of Emotion on Learning and Memory. *Frontiers in psychology*, 8, 1454. <https://doi.org/10.3389/fpsyg.2017.01454>

Ventura-Bort, C., Löw, A., Wendt, J., Moltó, J., Poy, R., Dolcos, F., Hamm, A. O., & Weymar, M. (2016). Binding neutral information to emotional contexts: Brain dynamics of long-term recognition memory. *Cognitive, affective & behavioural neuroscience*, 16(2), 234–247. <https://doi.org/10.3758/s13415-015-0385-0>

Zarrindast, M. R., & Khakpai, F. (2020). State-dependent memory and its modulation by different brain areas and neurotransmitters. *EXCLI journal*, 19, 1081–1099. <https://doi.org/10.17179/excli2020-261211>