



## **Working Memory Trainings: Effects on Primary School Achievements**

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This article presents current overview of research on the effectiveness of working memory training in primary school children with the special reference to the transfer effects on the educational achievements. Working memory can be described as an ability to actively retain information in mind during short periods of time. According to the model advanced by Baddeley [1], WM consists of four components. Three of them: phonological loop, visuo-spatial sketchpad, and episodic buffer, are mainly responsible for a short-term storage of information. The last component, called central executive, is a supervisory system that monitors and coordinates others and enables integrating and processing of information. Many psychological studies present a wide variety of relations between WM and other cognitive skills, especially higher cognitive processes, like fluid intelligence. There is also some evidence that WM capacity is strongly associated with children's school performance, especially in the domain of reading comprehension and mathematics. These two domains are crucial for the development of skills and knowledge so there is an urgent requirement on the field of educational practice for efficient methods of WM stimulation that could enable children to overcome learning difficulties in the very beginning of the process of education. A survey of research on effects of WM training suggests that it is possible to improve WM and that the effect of this improvement impacts higher cognitive processes. Therefore WM training can give positive results that can be transferred to other cognitive skills and achievements. However, these conclusions should be considered with caution due to some methodological imperfections in most of research in this area.