

The Impact of Working Memory Training on Mathematical Performance: Evidence from High, Medium, and Low levels of Achievement Motivation

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Abstract

The aim of this research is to find out how working memory training affects the mathematical performance of primary school pupils with high, medium and low levels of achievement motivation. The participants were divided into groups with high, medium, and low levels of motivation, and control groups underwent four weeks of working memory training. The assessments were done before and after the training to measure their working memory as well as their mathematical performance. As a result, the study disclosed valuable gains in respect of working memory among those with average and below par levels of achievement motivation. A significant development in mathematics was observed especially among students with low level of achievement motivation. According to the findings, it can be concluded that by giving some additional training on working memory skills cognitive abilities for students with low level of achievement motivation could be bettered hence, then improving mathematical performance. The research stresses on the importance of considering individual motivation levels when designing interventions to improve academic performances through cognitive trainings. Targeting working memory and its effect on mathematics is essential in order to gain insights regarding tailored cognitive interventions which may benefit students with different levels of achievement motivation in primary education.

Keywords: Working memory training, Mathematical performance, Achievement motivation, Primary school students