

This study investigates the effects of metacognitive training in mathematic word problem solving in the 4th grade of elementary school. Metacognition introduces tools for better coping with the demands of changing world by offering strategies for efficient learning or succesful problem solving etc. Metacognitive knowledge and regulation can be improved through classroom instructional practices.

Many pupils have difficulty solving math word problems because they often cannot decide what to do to solve the problem. Mathematical problem solving is a complex cognitive activity involving a number of processes and strategies, which creates an opportunity for intervention to improve metacognition. The metacognitive knowledge in turn helps the pupil to represent the mental model of the word problem and also guides process of problem solving towards the solution.

In the first part of this paper we present the theoretical resources for creating a metacognitive training and summarize strategies, that teachers can use to facilitate children's metacognitive development and promote the monitoring and regulation of their cognitive enterprises. In the practical part we describe the methodology and outcomes of the proposed training. The obstacles in implementing the training and recommendations on how regular classroom teachers might use the methods are discussed.

Key words

metacognition, metacognitive training, problem solving, self-regulation, monitoring, reflection