Abstract

In my thesis I concentrated on mathematical problem solving by pupils at elementary school. I lead interviews with six 3rd grade children, during which they were instructed to solve the problems as well as to share their stream of thoughts concerning their solving strategies with me. I tried to understand the ways how they solve the problems and where their mistakes stem from. My attention focused on the ways the problems were formulated and what specific words may have either helped or distracted the children while the problem solving. The special attention was paid to contextual information which children use during the solving of word problems – its attractivness as well as the way it is served to them. The information about the childrens’ school results and the difference between word problems from my set and the regular ones I gained from an interview with the school teacher of the children from my research group. The research showed that the difference between intuitive and analytical way of thinking had the most crucial impact on the strategies the children chose during the word problem solving. The occurence of non-standard context as a motivator was proved, however it was not so in the case of it in a role of a cognitive help. This impact was not proved surely. Concerning the length of the contextual information it was again influenced by the prevalence of intuitive or analytical way of thinking, and the different result brought the children focused solely on key words. The effect of the collateral guidance while problem solving was of a great significance.

Key words

mathematics, word problems, strategies, context