

Abstract

The thesis is focused on the teaching of variable expressions at the eighth grade of elementary school and is divided into the theoretical, preparatory and experimental part.

The theoretical part contains a short description of the objectives of the teaching of variable expressions. This section is complemented by the selected results of international comparative research and the classification of mistakes which pupils make in connection with the topic. An important part is the analysis of selected textbooks according to the teaching of variable expressions at the primary schools takes place.

In the preparatory part there are presented the selected tasks of generalization which are recommended by the curriculum materials, but are not included in the textbooks. Component of the preparatory part is the presentation of algebra tiles environment.

The core of the thesis is the experimental part aiming to compare the results of teaching of variable expressions in two differently taught groups. The first group was taught according to the textbook. In the second group the teaching was based on patterns of algebra tiles. The research of teaching results is focused on pupils' difficulties and the most frequent mistakes. The results indicated that the environment of algebra tiles helps to reduce number of mistakes of manipulation with expression which are caused by instructional teaching according to the textbooks. On the other hand teaching of algebra tiles takes more time.

In the final summary of the findings the possible causes of the most frequent mistakes are given related to the used form of teaching.

Keywords:

Variable expressions, manipulation with expressions, algebra expressions, algebra tiles, education, mistakes