

## **ABSTRACT**

The aim of the submitted diploma thesis is to complete a series of graded tasks from the manipulative environment of Parquet. Then apply these tasks to preschool and school children in the 1st year of elementary school. Not only observe how they cope with these activities, but also how they think, explain their actions, and how they communicate with each other. Observe myself, as a researcher, how do I work with children, how do I communicate with them and how do I submit them the tasks. Record my knowledge and learn from it. The theoretical part defines the individual stages for the preschool and pupils in terms of the development of psychology, they are constructive concepts of teaching mathematics with reference to the RVP ZV and RVP PV. Studied textbooks for the 1st and 2nd year of elementary school searched for activities from the environment of Parquet. Activities are selected that illustrate the typology of tasks. The relevant didactic games related to the Parquet environment are also described. For the practical part is chosen method of qualitative research on the basis of experiments in two research groups. The experiments are composed of individual activities, which are graded from the very basic creation of the parquet, specifying the rules of laying them down on the floor, to the final activity, where the children played the game Ubongo. The work adheres to the ideas of the constructivist concept of teaching mathematics. By the end of the thesis, the extent of the aims fulfilling is reflected.

## **KEYWORDS**

didactical game, geometrical substantial learning environment Parquet, constructivism, plane geometry, strategies