

Abstract

The presented diploma thesis belongs to studies that deals with map skills. This thesis focuses on thematic maps – namely the choropleth map and proportional symbol map – and research correlation between map skills and mathematical skills. The main aim is to research correlation between these two variables using didactic test. This thesis also researches the effect of success in a given mathematical skill in the mathematical part of the test on success rate in questions that examine that skill in the map part of the test.

In the theoretical part of the thesis, the mathematical skills that are needed while working with maps were defined and analysed. Given that various mathematical skills are needed while working with various cartographic expression methods, detailed list of these skill has been developed for the four most widely used cartographic methods – flow map, area class map, choropleth map and proportional symbol map.

The main part of the thesis is devoted to general testing of map and mathematical skills among pupils in the ninth grade of elementary schools and corresponding class of grammar schools. In the first part the test verified reading, analysing and interpretation of choropleth map and proportional symbol map, in the second part the mathematical skills used while working with these maps were tested. The correlation between mathematical skills and map skills has proven. The dependency has been slightly stronger among girls rather than boys. Dependency of the success in map questions verifying partial mathematical skill on the success of this skill in the mathematical part of the test were proven in nine out of eleven surveyed mathematical skills.

Key words

map skills, mathematical skills, geography education, mathematics, choropleth map, proportional symbol map