

## Abstract:

This diploma thesis focuses on the education of genetics to grammar schools and students' comprehension of genetics. This abstract scientific discipline is considered difficult to learn so I decided to prepare educational materials with the aim to improve students' understanding of the topic. The main aim of the thesis was to prepare and test a didactic game focused on Mendelian inheritance and compare the effectivity of this kind of interactive education compared with the classical explanatory style of education. Other aims included evaluating the influence of other variables; comparing the difficulty of individual terms in genetics and the connection within chosen triplet of terms; and identifying the most common misconceptions.

The data was collected in four classes of upper graders at two grammar schools by newly prepared questionnaire focused on demographic and knowledge.

The results showed that the didactic game was as efficient as the classical explanatory method at creating short term knowledge. Students had a bigger problem with explaining the connection among the terms than defining the individual terms. The most complicated term reported by the students was chromosome. It was the only term in which there wasn't any improvement between pre-test and post-test.

Part of this thesis is also the design of a didactic game and instructions for teachers who would like to play this game with their students.

## Key words:

Didactic game, Mendelian inheritance, genetics, biology teaching, misconception