

Abstract

The topic of genetics has long been evaluated as one of the most challenging topics in the teaching of biology. The individual concepts of genetics are often very abstract and difficult to grasp, which leads to the creation of a number of misconceptions. Therefore, as part of my diploma thesis, I decided to create interactive teaching material that could better understand the process of protein formation in our body (proteosynthesis). The result is a game that guides the student through the creation of an enzyme that further stimulates the production of melanin and the creation of a tan on the skin. Thanks to this scenario, the game helps to understand the individual events on the way from DNA to a functional protein, helps to correctly locate and connect them within the cell. The game was later tested on four-year and eight-year high school students using knowledge tests, where students who had the game included in their lessons achieved better results than those who did not play it.

Key words: education app, transcription, translation, melanine, genetics, phenotype, genotype, molecular biology, education, biology education