

ABSTRACT

This diploma thesis focuses on verifying the proposed inquiry-based activity and comparing its effectiveness with a traditionally conceived theme for experimental activity of pupils with the same topic. The theoretical part of the thesis focuses on the role of experimental activities in Czech schools, their options, helpful equipment and generally inquiry-based teaching. The practical part of the thesis is focused on the verification of the proposed research activity in comparison with traditionally conceived experimental activity. The traditionally conceived activity was taken from the website of the company Vernier, the research activity was created by modifying these tasks. The proposed research activity consists of two logically connected tasks. The aim of this thesis was to design and verify research activity based on experimental activities and to compare the internal motivation of pupils in performing research-oriented and classically conceived activities. The pupils worked in groups that were created based on the pupils' preferred themes. For comparison purposes, the groups were divided into two research halves and each half used a different approach. The Intrinsic Motivation Inventory (IMI) and group conversation were used to evaluate the affective area. The benefit in the cognitive area was verified by comparing the pretest with the posttest.

The results of the experimental activity with the pupils confirmed that their internal motivation for the inquiry-based activity is higher than their internal motivation for the classical activity. The pupils gained more knowledge of the activity they approached in a inquiry-based manner. The results are positive, but the experimental part was performed on a small sample of pupils, more students would need to be involved in order to gather more accurate information.