

## ABSTRACT

The topic of this diploma thesis is Laboratory work in the teaching of biology as a means of developing selected key competences of pupils. The thesis consists of a theoretical and a practical part. The theoretical part is divided into five chapters. The first chapter summarizes the issue of curriculum documents of the Czech Republic. The second chapter is devoted to teaching methods with a more detailed description of the methods used in the empirical part of the work. The remaining chapters are focused on the topic of the musculoskeletal system and describe individual types of its dysfunctions.

The main goal of the empirical part of the work is to create a proposal for a laboratory exercise with the theme: Dysfunction of the musculoskeletal system. This laboratory work is designed in such a way as to develop the selected key competences of the pupils and at the same time make it possible to find out whether the pupils possess the selected key competences. The presence of the appropriate specific skills of pupils is determined by the method of a questionnaire investigation intended for teachers participating in the research. The second part of the empirical work evaluates the own laboratory measurements of 85 pupils and enables an indicative determination of the percentage representation of individual dysfunctions of the locomotor system in secondary school pupils. The results of the work show the lowest frequency of acquisition of skills corresponding to communication competence. The analysis of the measured data of the locomotor apparatus then found a physiological state without the presence of any of its dysfunctions in 20 % of the participating pupils.

Keywords: Laboratory work, key competences, musculoskeletal dysfunction, posture, activate methods