

Abstract

The topic of this thesis concerns the interdisciplinary approach in teaching chemistry and biology at Czech grammar schools. Especially with two main questions: the determination of the level of integration that secondary school teachers prefer and how to promote an interdisciplinary approach at grammar schools.

The following main objectives were established: find out which level of integration of science subjects is preferred by Czech teachers for secondary schools level, identify the main obstacles of implementation of integration, find out the factors which can help with the integration of knowledge, create support for interdisciplinary approach at Czech grammar schools.

In order to achieve these objectives, a questionnaire survey among secondary school teachers and interviews with the academic staff of the Faculty of Science of Charles University were carried out. The results of the questionnaire survey showed that respondents prefer to preserve separate subjects with an emphasis on interdisciplinary relationships. The main restriction of integration is that similar topics in chemistry and biology are not taught in the same period, insufficient knowledge of the second subject or lack of learning materials. The main factor which can help with more frequent integration is learning materials. As for learning materials, the respondents prefer the manuals for practical tasks.

In response to these findings, materials for three interdisciplinary topics have been proposed. These materials were used for the teaching of grammar school pupils and students of the teaching of biology, as well. The results have shown that it is possible to use these learning materials for teaching at schools. Students of the teaching of biology consider these materials to be useful for their future practice at schools.