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Content and Language Integrated Learning (CLIL) in Science Education

MultiplikatorInnenprojekt

Kurzfassung

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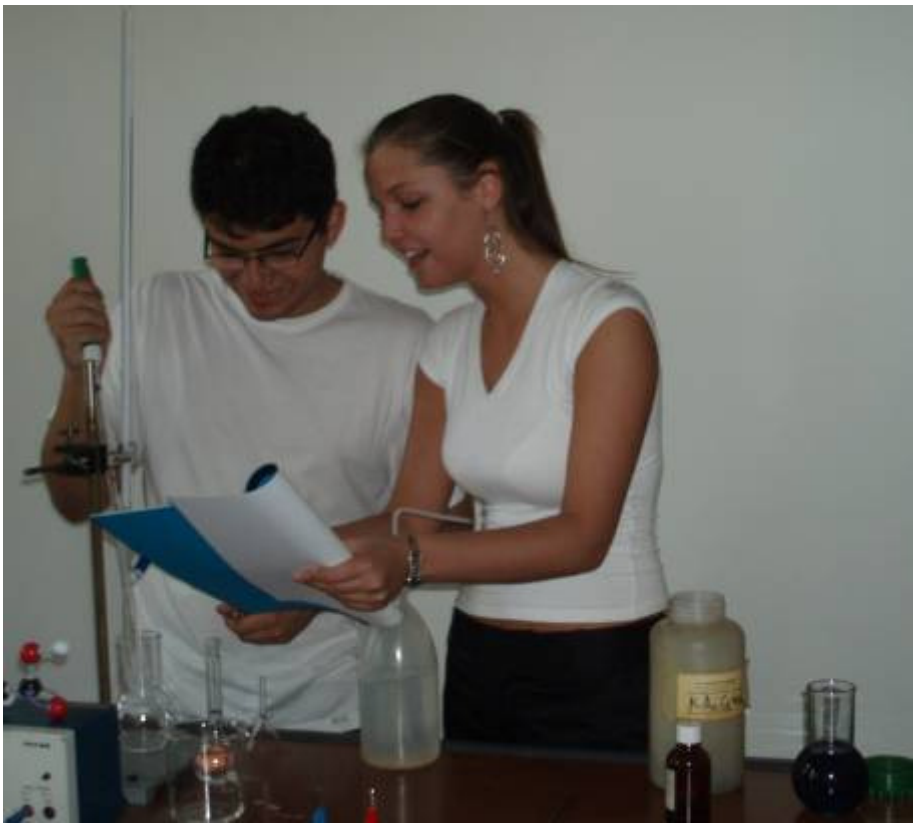
Austrian pupils often regard Physics as complicated, Chemistry as incomprehensible and (molecular) Biology as overly complex. Why then should Science teachers add to these difficulties by employing a foreign language in their lessons?

The underlying idea is the following:
In understanding the semantics of science language perception is crucial but frequently neither pupils nor even their teachers are aware of that fact.

However, when employing a foreign language Science teachers will pay enhanced attention to linguistic aspects. They will choose methods and materials with care so that students' comprehension of the scientific meaning of the topic in question is granted.
On the other hand learners will perceive the foreign language both as a barrier and a challenge and will focus on language understanding (even without realizing that this seems to be the optimum course towards understanding of content and meaning). Moreover pupils will avoid the trap of confusing technical expressions with every-day-terms.
An additional advantage of using CLIL in the Science classroom lies in the fact that this will entail a diversifying of lessons making them more attractive. The latter is of special importance with respect to gender equity: Female students often prefer language subjects as compared to Science education, partly on account of the fact that they adopt traditional gender roles (asserting that girls are less gifted in scientific and technical matters). Thus, CLIL can enhance female learners motivation to get involved in Science lessons.
Employing the concept in classes with high proportions of immigrant students will naturally provoke criticism on the basis of the need to promote foreign students' language competence in the immigration country's language. While this has undoubtedly to be taken into consideration, it is at the same time true that the use of a language that is foreign to all learners enhances equal chances for immigrant students. More remarkably, linguists have demonstrated that bilingual pupils shift

easily between different languages and have an enhanced ability to focus on the language in question.
The author claims that a systematic use of CLIL in Science lessons will not only enhance the language accomplishments of pupils but that it will also support a broader range of science perception.

In order to achieve these objectives methods and materials have to be chosen with care. A special feature in context with the aim of enhancing language awareness in Science teaching is the parallel use of English and German materials.



It has been the purpose of this study to promote and disseminate the approach outlined above and to motivate Science teachers to employ the concept in their lessons, both in an attempt to contribute to Science didactics and to obtain additional data for an evaluation. Moreover the further development of the concept should be based on the common activities of a community of practice. Although the number of Science teachers employing CLIL is high, a community with shared interests and objectives does as yet not exist.

The measures taken were varied and include the performance of workshops, the publication of papers, the installation of a moodle platform and the planning of consecutive projects.
Besides, use of the model in the author's own classes was continued and data obtained from different sources were assessed.

Results concerning the dissemination aspect are very satisfying although communication via the internet platform has been infrequent as yet, so that further measures to promote the use of this tool will have to be taken.
Data concerning students' rating of the benefits of CLIL in Science lessons were compiled from questionnaires, from interviews and from systematic

observations. A combination of these results gives evidence that the concept is indeed suited to enhance female students interest in Science subjects.

The study will be continued in the framework of an international Comenius 2.1 project "Crossnet".