

# MA<sup>2</sup>ThE TE AMO

## MAkING MATHematics TEACHERs MOBILE

The project focuses on promoting mathematics teachers mobility by enhancing their confidence in their language competence and thereby reducing their reluctance to be mobile. A innovative aspect of the project is that, based on the analysis of the answers of a questionnaire on teaching mathematics in a foreign language, mathematicians and linguists prepared a few teaching units to be discussed with teachers and student teachers.

### The training courses

Two teachers (one in-service, one student teacher) from each country were prepared, linguistically and interculturally, to go abroad and teach the units using one of the selected foreign languages as the medium of instruction. Through piloting of the teaching units, teachers were made aware that in spite of the fact that mathematical language seems to require a rather limited vocabulary, it is all the same necessary to develop communicative competence in order to implement teaching based on an interactionist didactical approach. During the preparation of their teaching abroad activity, teachers and student teachers had the opportunity to consider that, during their lessons, they needed to use three languages that interact in an overt or covert way and influence each other: the learners' mother tongue (L1), a foreign language (L2) spoken by the visiting teacher and the language of mathematics (L3). Teachers were, therefore, asked to reflect on the great importance of making use of a plain (for L1), easy (for L2) and, at the same time, precise (for L3) linguistic approach to the mathematical communication in the classrooms they were to visit.

### Some comments from the experiences abroad

The following quotations from the visiting teachers' and student teachers' reports illustrate some of the different and, sometimes, problematic issues related to the maths teachers mobility. However, the visits clearly proved that teacher mobility is possible, without affecting the teaching / learning process.

#### The language

I also observed that during the first three lessons with a non-native teacher, the students are fairly lenient to the mistakes he makes in their mother tongue and focus rather on the lesson itself. I faced minor problems when I had to provide additional explanations in French. ... The only thing that was really difficult for me was to reformulate instructions for the activities in order to make them clearer or to explain results.

[Štěpán Vimr, CZ]

#### The teaching-culture

... we noticed that the teaching-culture in Denmark is very different to the one in Austria. They seem to have no exercise books, to take notes during the lessons. It is also not common for the teacher to present something in front of the class or that pupils are doing exercises on the blackboard. They usually get some tasks to work out by themselves or in small groups. While they are doing that they can stay wherever they feel comfortable.

[Judith Wolf and Sonja Weissenböck, AT]

#### Teaching and Learning in a second language

In the beginning they were rather shy and found it difficult to express themselves in English. It was evident that although they did not understand the spoken language, they were able to profit from the teaching because of the written language, mathematics, which is common to everyone. They understood the mathematical terms and in that way they were able to profit from the teaching.

[Jeanne Christensen & Nadia Kjelsmark, DK]

#### Different choices for a definition

I already introduced translated Italian expressions in my math class vocabulary. For example, few weeks after my visit at Pisa, my 4ème classes had a lesson about "equal fractions". I've used the term "equivalent fractions" instead, warning that sometimes they'll find "equal". The kids admitted this without any problem. I think it makes more sense to them to say that  $\frac{3}{5} \times \frac{5}{7}$  equals  $\frac{15}{35}$  but that  $\frac{15}{35}$  and  $\frac{3}{7}$  are equivalent. [Olivier Vogt, FR]

#### The textbook

Reading the book of my hosting school, I wondered how it could help the students with this type of individual work, in particular with regard to those students who couldn't listen to the lesson... Moreover, the aim of most all of the exercises in the book is to let the students discover new concepts, one for each exercise, but there are not so many of them aimed at helping the students to deepen their understanding of already discovered ones... On the other hand, this approach is much easier to read of the Italian one, that sometimes uses too many words. [Rossella Masi, IT]

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