DK – Niels Henriksen, teacher

Report on teaching visit – Prague, Czech Republic – 30.11 – 5.12.2008

Before the visit

Very quickly a good contact was established with the Czech teacher, Petra Svrckova, who turned out to be vey cooperative. However, we did not discuss maths or English as the first item, because both in Prague and here in Nyborg we were ill shortly before the departure, so therefore we discussed very much whether it would be possible to carry through the project at all. Very quickly we realized that we had to go on under all circumstances, so practical matters about our arrival in Prague were solved. Petra would pick us up at the airport, which made things much easier for us.
Along with the contacts to Petra I was also in contact with Jeanne Christensen and Nadia Kjelsmark, the two students I was going to be together with. We agreed that I was the one going to have the contacts to Petra, so that only one person should handle this. Usually this makes things much easier for everybody, which also turned out to be true in this case.
All information about Prague was excellent, and Petra's and my dialogue was friendly and positive. We did not talk much about the subject of mathematics and English as the language of communication. We agreed that we Danes were to make observations on Monday. On Tuesday and Wednesday we were to be in charge of the teaching in an 8th form (Jeanne and Nadia) and in a 7th form (Niels). Petra had been informed about the topics: Pythagoras (8th form) and fractions (7th form).
My considerations were not so much about mathematics. I was considerably more interested in finding out how good the pupils were at English when I was standing in front of them, and how I myself would be able to juggle the linguistic possibilities and the organization of the teaching when, naturally, various scenarios would present themselves during the process, which at any rate would last only three lessons. (In a research article, Professor Hanne Tange, Ph. D. from Aarhus Business School has shown that in order to be able to work professionally in another language than one's mother tongue, one has to have an active vocabulary of approximately 6,000 words in order to work efficiently in another language.) It turned out to be considerations I could profit from when in Prague.

My comments on teaching observations

During the observations on Monday I quickly realized that the year eight pupils were the more "manageable", and the year seven pupils – well, they were just as year seven pupils are; but this was only good and no surprise. All pupils were extremely nice. In Prague you stand up when the teacher enters the classroom, and you do not sit down until you are told to. If I had expected a more deductive teaching than here in Denmark, my expectations were fulfilled to a certain degree. A big part of what we watched on Monday was taking place at the blackboard with Petra as the main instructor, as the Teacher with a capital T; but it may just as well have been incidental because we were so fortunate also to have a look at a lesson in maths in a 5th form. It

was nearly the same as with my Danish pupils, however, the Czech pupils were one hundred times better at mental arithmetic than an equivalent class in a Danish school. It turned out to be the case with the pupils in year seven and eight, too. They did not bring calculators to school, and the school did not lend any, either; but as they were to use them in the 8th form, they were allowed to bring them to school. Probably it would not have been necessary, anyway, as everyone as a matter of course knew all the tables from 2 to 20 by heart; but not just that – they knew how to use their knowledge for problem solving, and then "table knowledge" is worth a lot. It saves time. 1 – 0 to the Czech Republic.
All in all the pupils were on a very high academic level. They were "on" from the very first minute, and that held true for all the three classes we observed. I think the level of the Czech pupils was considerably above the level of an equivalent class in Denmark. The relation between teacher and pupils can best be characterized as: Friendly, relaxed and approving. (The teacher is the one in the know – the pupil is the one to receive knowledge), "loving" – by this I mean that it was evident that both parties cared for each other in the situation they were landed in, voluntarily and obligatorily.
Compared to the Danish school the teaching materials were worn-down, homemade (with due respect, Petra!) and technically not up to a standard that one would expect in any Danish school. E.g. I needed an overhead projector, and that arrived from another colleague; however, it was very worn-down, and the lighting in the classroom made it more or less immaterial whether I had it or not. Instead I made drawings on the blackboard which worked just as well.
Petra's organization of the teaching was a mixture classroom teaching and individual work, yet with a little bit of group work; but not at all to the extent it is used in Denmark.

Comments on my own teaching

If the year 7 students had been "worst" on Monday, then it turned out that I had the easier task on Tuesday when it was our turn to be in charge. Year 7 were angels – everyone without any exception.
Maths posed no problems at all. It turned out that Petra had prepared her pupils much more in the topics than I had expected, so I made use of all the materials I had brought from home in the form of copies. The heterogeneity of the pupils was not due to mathematics, but rather because the language of instruction was English, there was a part of the pupils who dropped out. Therefore I very quickly revised my teaching which meant that I included more group work in the very fast considerations. By "pooling" the pupils I could have an intensive talk with more than one at a time as I would not have to repeat everything for everyone several times. If I had done that, it would have meant that some of them would have been bored. Now the good speakers of English could continue the problem solving activities on their own, while I found new ways of presenting the topic to those not so competent in the language. There were five girls with problems in English, and with two boys it was almost hopeless. In that case I involved Petra with her Czech language, and then those two pupils

participated immediately. However, it should be mentioned that during my whole stay in their class the two boys turned to me first, which means that at any rate we had had a good start. I am certain that if my teaching sequence had had a longer duration, then we would also have succeeded in breaking the language code. I did not want to stop their maths because of a lack of competences in English. Therefore I involved Petra, who was more than happy to join in. We worked with fractions, lengthened and shortened these, made them cover each other ½ = 2/4 and so on with circles which were cut out; but the pupils were also extremely good at grasping the ideas when only these were introduced orally. To a high degree they surpassed the Danish pupils I usually teach. This means that I could totally avoid the Danish "cut-and-paste procedures". I very quickly realized this, which meant that I did not break into some parts of the materials I had brought along.
Probably I carried through my three lessons in a very "Danish" way. In other words: I did not change the teaching methods I would have used in a Danish class a lot. However, all the time I kept in mind the language and the limits it posed!
The first lesson could have been carried through with the pupils standing as I did not ask them to sit down. They remained standing so we had a good laugh after which we started work. After all that was why we were there.

After the visit

What did I bring home? Well, my opinion that the calculator should be removed from any Danish maths lesson until the young pupils know what the four basic arithmetical operations can be used for was certainly confirmed. Teach them to use their own personal hard disc before they are allowed to use a calculator. It would place them in a much better position when they go on to upper secondary schools. It is good to know what an algorithm stands for and can be used for, in order not to unconsciously type into a machine which eventually becomes the "God of maths" to the pupil himself. This happens, not because the individual pupil cannot learn a table; but because it seems to the pupil to be so much easier without his or her really knowing how much they throw obstacles in the way of their future "maths lives".
Thank you to Petra! She was a lovely person and a highly gifted educator of only 26 years. She must have a great future ahead of her. I asked her to find means to get to Denmark, and there seemed to be absolutely no insurmountable obstacles to that. Presumably, there are several possibilities for such a visit. If she needs an invitation in order to be able to apply for money, I have promised her one. It should be no problem to find schools she can visit. All in all a week from which I profited a lot. I also found the time for a lecture and a tutorial in mathematics at the Prague University – conducted in English. And Prague is still worth a visit!