

Main Difficulties in Teaching Chemistry in Secondary Schools

TEACHERS' CASE STUDY

Teacher's Case Study No 8

Subjects: Chemistry, Mathematics

School: Oberstufenzentrum Informations- und Medizintechnik

Place: Berlin, Germany

Description of the Case Study

1. What do you think are the reasons for major difficulties in learning chemistry at school?

On one side it is due to the structural reforms we had at school in recent years. Teachers and students had to adapt to often to different kinds of curricula and there seem to be no end. We have an inadequate vertically networking and coherence in the subjects Mathematics, Physics, Chemistry etc, and there is a lack of coordination between these fields. On the other hand it is to notice that the interest of students is decreasing during their school time. This is due to the more and more abstract contents to whom not all students do correspond to. In the end this is a question of talent too.

2. What major difficulties do you have in teaching chemistry?

We have a good teamwork at school but I know of colleagues who are "lone fighters" at their school, they don't have enough time to care for the students in depth or to prepare special lessons to support developments. We have a good coordination and a headmaster who is not bureaucratic – so things are made possible.

3. What kind of courses - if any - on didactics of chemistry did you attend?

I am teaching Chemistry and Mathematics for 20 years now. In the beginning I did several courses at the university today I keep up to date by reading special journals etc.

4. Why do many young people quit learning chemistry and, in general, scientific studies after upper secondary school?

I only can assess the situation at my school. Our school is focused on ICT and medical technology, so the students are interested in the subjects. I do think that a

student has to have robust motives and the ability to imagine technical proceedings even with very good teacher and methods etc. this ability can't be created.

5. How could young people be helped take up scientific studies after upper secondary school?

The students coming from our school know that they have very good career prospects, this is a strong motive. I think it could be useful to show young people in the beginning of upper secondary school where they may work and what their work will look like.

6. Which initiatives has your country undertaken in this direction?

I know that the "Bund-Länder Kommission" (Federal Conference of the German States) has prepared new guidelines which will soon be put into practice.

7. Have you ever taken part into a research project concerning scientific learning?

No

8. Could you mention any recent research you have heard of, that might be useful to our project?

No

9. Could you suggest any other areas of research that might be useful to our project?

No