

Main Difficulties in Teaching Chemistry in Secondary Schools

TEACHERS' CASE STUDY

Teacher's Case Study No 1

Subjects: Chemistry, Mathematics
School: Leibniz-Gymnasium
Place: Potsdam, Germany

Description of the Case Study

1. What do you think are the reasons for major difficulties in learning chemistry at school?
In general, we have too little time for mandatory theoretical contents, development of skills and competencies fall by the wayside, for practice is too little time. On the other side, colleagues notice that work focuses too much on "phenomenological" methods, which can sometimes lead to getting lost in details and to reducing the systematization or consolidation phases.
2. What major difficulties do you have in teaching chemistry?
Same as no 1.
3. What kind of courses - if any - on didactics of chemistry did you attend?
We studied in the German Democratic Republic; teaching methodology was part of the study.
4. Why do many young people quit learning chemistry and, in general, scientific studies after upper secondary school?
In class, subject matters are sometimes handled too fast for some students, then they are more resigned and block mentally.
5. How could young people be helped take up scientific studies after upper secondary school?
The love for chemistry and natural sciences must be awakened and sustained. This is only possible if the students have a sense of achievement in the classroom; then they are also motivated. Much practical work and room for experiments should encourage

them to deal with chemistry. But this does not work if we race through the materials in order to fulfil the curriculum.

6. Which initiatives has your country undertaken in this direction?
Chemistry in context is an approach, the curricula have not changed so far.
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