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Main Difficulties in Teaching Chemistry in Secondary Schools

TEACHERS' CASE STUDY

Teacher's Case Study 11:

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Description of the Case Study

Main difficulties in chemistry learning at school: *Primarily it is the lack of facilities that minimizes the use of chemical experiments in the teaching process. That renders chemistry unattractive. The manuals are not written in a proper language that would help students to learn the lessons by themselves in case of absence from school. The print is not attractive for the young people. Other difficulties are due to general errors in education that require from the student to reproduce the acquired knowledge without any reflection on it or opportunity to apply it. That is a major stumbling block in all natural and mathematic disciplines including chemistry. We can not remain isolated in a world of globalization from the global educational trends where the science of physics and chemistry are becoming more and more unattractive.*

Main difficulties in chemistry teaching at school: *The lack of specialized chemistry lab is an enormous deficiency. Preparation of multimedia lessons by computer presentations is not enough to compensate for the absence of a "live" experiment in class. The educational chemistry software in Bulgarian is still incomplete.*

Identification of the main reasons why students do not choose to continue learning scientific subjects and chemistry in particular: *Chemistry is a difficult discipline and is not suitable for everyone. Students have to be intelligent, laborious and specially motivated for learning. The good teacher in chemistry that had evaluated and motivated students could be a precondition for their opting on a career in chemistry after school graduation. Moreover, in the last 20 years a change of values has been taking place that confuses young people. They go to the University to learn something that should help them to find a good job. In this sense, in Bulgaria chemistry does not offer possibilities for a quick and successful realization. Only students focused on the scientific field or those who would follow a career abroad deal with chemistry.*

Identification of strategies to rise the number of students choosing to learn scientific subjects in higher education: *It is very difficult. The economic situation in the country has to be completely changed so that degree holders in chemistry can find a well paid job after graduation. Otherwise chemistry will be learned in University only by few enthusiasts fascinated by a good teacher in school or influenced by the family traditions. Maybe the international mobility exchange programs could be a real stimulus to that end. All universities in the country are involved in the ERASMUS program which allows for a certain extent of mobility exchange, however, the grants should cover periods longer than 6 months. Restructuring and remodeling of chemical industry that may open job opportunities for young specialists will take quite a long time in the overall development of the country.*

Description of initiatives known in the field of promoting lifelong learning: *I have no information*



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Involvement in initiatives in the field of promoting lifelong learning: *I have participated in the following seminars and courses: training course in task developing for external evaluation, training course for external evaluation examiners, training course in project organization and control for extracurricular activity in chemistry and ecology, training course in introduction of education "Nature 2000" in school.*

Suggestions: *Comparative investigation of performance of school students studying at schools furnished with necessary lab equipment in chemistry and students coming from country schools wherein chemistry is taught only by blackboard and chalk.*