

VIRTUAL EXPERIMENTS FOR SUPPORTING CHEMISTRY LESSONS AND DEMONSTRATIONS

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SUMMARY

At present, the educational process has introduced step-by-step ICT based methods of teaching and learning. It is well-known that one of the most common methods is represented by blended learning which combines traditional face-to-face education with e-learning. In this sense, in the frame of the three years Socrates Comenius 2.1 European Project *VccSSe - Virtual Community Collaborating Space for Science Education* (<http://vccsse.ssai.valahia.ro>, project nr. 128989-CP-1-2006-1-RO-COMENIUS-C21), special training sessions took place (oriented on blended learning) with a view to promote the using of virtual instrumentation in Science education. One of the dedicated software chosen for designing virtual experiments, (Crocodile Chemistry) allow students and teachers to recreate experiments, model mathematical theories or simulate real life quickly and easy. Crocodile simulators let students experiment in a safe, accurate environment, and come with a wealth of ready-made simulations and models (Keith-Lucas 2000).

The virtual experiments proposed for Chemistry lessons had in view the teaching of the chemical character of the solutions on the one hand and the substitution reaction on the other hand. The level of teaching of the chemical concepts was adapted to the Chemistry curricula for the 7th grade. As Crocodile Chemistry software allows the achieving of many practical applications in the frame of the same virtual experiment, the experiments had in view the emphasizing of the chemical character of the solutions by using chemical indicators and also the presentation of the substitution reaction through examples which involve different reactions of the metals with chemical reagents (Gorghiu et al. 2008). The experiments are presented step-by-step for an easier understanding of the chemical concepts. One of the advantages of the software is given by the fact that in the frame of the same sequence the teacher can create different successive steps, with gradual difficulty levels. In addition, the pupils have the possibility to design new experiments on their own as a complementary step of the lesson.

REFERENCES

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