Chemistry In Action!

Issue No. 97
Summer 2012

ISSN 0332-2637

SALiS Special Issue

The Impact of the TEMPUS-project SALiS from the Perspective of Georgia

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After the end of the Soviet Union time the intended change in education still seeks to overcome a centralized and teacher-centered paradigm in science education in Georgia. National reforms ask for more student-active and problem-based science education under inclusion of students' hands-on and inquiry-based learning in the laboratory. Unfortunately, teaching materials and teacher training facilities are not well enough developed to support sufficiently the intentions of the reform (Kapanadze *et al.* 2010).

As a response to this situation, the TEMPUS-project SALiS (Student Active Learning in Science) was established. The project is led jointly by the Ilia State University in Tbilisi, Georgia, and the University of Bremen, Germany. SALiS aims at promoting science teaching through a better inclusion of student-active experimental learning in science classes. SALiS promotes inquiry-type lab-work as one of the foundations of modern curricular and methodological approaches in science teaching to reach higher order cognitive skills, a better learning of science concepts, and to enhance the understanding of the nature of science (Kapanadze *et al.* 2011).

With the help of the TEMPUS-program of the EU, an innovation of infrastructure and teacher training was implemented in Georgia. New laboratories for science teacher training were founded and equipped at Ilia State University and Kutaisi State University. Curricula were changed and the staff members were trained to train teachers more thoroughly in inquiry-based science education involving more student activity, especially based on low-cost and microscale laboratory techniques (Kapanadze *et al.* 2012).

Staff from Ilia State University and Kutaisi State University visited two European Universities – the Free University of Berlin, Germany and University of Limerick, Ireland. During the visit in Berlin SALiS partners had the opportunity to attend experimental out-of-school courses with children (age 9 to 10) KiWi, seminars with practical exercises with pre-service teacher students and in-service-teacher training courses. During the visit in Limerick SALiS partners took part in a Workshop on Chemical Demonstrations and Chemical Magic Shows with Irish teachers.

Workshop at the University of Limerick, June 2011

Two workshops were organized at Ilia State University. The first workshop was done by all

European Partners in September, 2011. The materials for this workshop have been developed by the EU universities, in collaboration with other partners. These materials were translated in Georgian language and published.

Another three-day workshop on simple low-cost science demonstrations and experiments, was conducted by Peter Childs and Sarah Hayes from Limerick University, for the science teachers of the secondary schools in Georgia and for the academic staff of SALiS partner universities - Ilia State University and Kutaisi State University, but also for the academic staff for other Georgian Universities – Batumi State University and Telavi State University.

Workshop at Ilia State University, Tbilisi

Participants at the workshop in September 2011

SALiS courses were piloted at Ilia State University during the spring semester 2012 and afterwards they were evaluated. This information will be used for the development of the final version of the curriculum and of the teaching & learning materials.

Teaching and learning materials, labguides were developed, translated into the Georgian language and published.

The results of the project are disseminated by the SAliS website (www.salislab.org), on international conferences in Dortmund, Istanbul, Rome.

Five training modules will be accredited for September, 2012 and trainings for in-service Science teachers will be done at Ilia state University in SALiS Laboratory. These modules are:

1. Student Active Learning in Physics for basic and high school
2. Student Active Learning in Chemistry for basic and high school
3. Student Active Learning in Biology for basic and high school
4. Student Active Learning in Science for elementary school
5. Student Active Learning in Science for the 7th grade (integrated course)

Through the SALiS training modules, the dissemination of project activities will become more widespread and sustainable.

In August, 2012 the SALiS final conference was held in Tbilisi, Georgia, promoting the ideas of SAliS both on international and local levels.

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