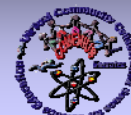


# An Overview of Tutors/Teachers Activities in the VccSse Project



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## VccSse Project Objectives:

Started in October 2006, the Socrates - Comenius 2.1 European Project no. 128989-CP-1-2006-1-RO-COMENIUS-C21 entitled **VccSse - Virtual Community Collaborating Space for Science Education** (<http://www.vccsse.ssai.valahia.ro>) has as main objective to adapt, develop, test, implement and disseminate training modules, teaching methodologies and pedagogical strategies based on the use of virtual instruments, with the view to their implementation in the classroom, through *Information and Communication Technology* tools.

As virtual instrumentation represents a real revolution in the field of instrumentation (its power in creating simulation-based learning environments being well-known), the project is addressed essentially to in-service teachers training on using virtual instruments in the teaching process of different Science areas (mathematics, physics, chemistry, technology) and also to the pupils, as end-users, who are benefiting by the implementation of the virtual instruments in the classrooms.

The specific sub-objectives of the project include:

- offering to in-service teachers a particular technology, based on virtual instruments, which will enhance learning in specific laboratories;
- applying the developed teaching methodologies and pedagogical strategies to the teaching process;
- improving the research base of knowledge and the implementation to other training areas;
- developing European cooperation and awareness;
- disseminating all the results at local, national and European level.

## VccSse Tutors/Teachers Activities:

### □ Preparing the VccSse course

- The preparation of the VccSse course was made following, simultaneously, two directions: the first one targeted the creation of the training modules, training materials and designing assessment tools; the second one used a strong technical background to develop and implement ICT instruments that support the course. In this sense, the project team have implemented an e-learning platform to support the course activities and developed the *e-Space*, a repository of virtual instruments to be used as examples in the frame of the course. The course "*Virtual Instrumentation in Science Education*" introduces the specific virtual instruments concepts, available software packages, pedagogical methods and also particular and didactical elements for some very used educational platforms: *Cabri Geometry*, *LabVIEW*, *Crocodile Clips* and *GeoGebra*.
- The course structure consists of training modules (3 Seminars and 3 Laboratories) and training materials for each software platform. All the materials used in this course were translated in partner's national languages: Romanian, Spanish, Polish, Greek and Finnish.

### □ Evaluation of the VccSse course activities

- Assessment tools have been designed in order to evaluate the quality of the in-service teacher training process. Any teacher who has followed the VccSse course was asked to fill in the form of initial evaluation, before starting the course activities and to fill in the form of final evaluation at the end of the course activities. After they have finished the course, teachers have implemented the new learned methodologies in the classroom, and this activity involving children was evaluated by means of two questionnaires: the impact questionnaire that reflects the teachers' opinions regarding the use of virtual instruments in the classroom and also the pupils' feedback questionnaire. The evaluation questionnaires completed by teachers have been implemented using web forms. Thus, after completing the forms, the partnership has acquired very quickly a central database with all evaluation data. The course was implemented in two editions and started at different moments depending on every partner. This offered the opportunity to improve some elements of the course, based on the partial evaluation made at the end of the first edition of the course.

### □ Elaboration of the teachers' products

- Following this course, the teachers learn to develop at least one virtual instrument which they can use it in the classroom. This virtual instrument (experiment) is the main outcome (product) of the course activity. However, to design a lesson in classroom, the teachers were asked to provide a lesson plan to include activities for a lesson using virtual instruments. At the end of the second year of the project, 175 teachers had created their products (experiment and lesson plan). Many of them also implemented the new methodologies in the classroom. All the teachers' products are available on the project web-site. The *Products Matrix* is a web interface of the teacher's products database. This interface provides information regarding every teacher's products (name of the teacher, name of the experiment, school name, experiment files and lesson plan). The lesson topics are selected by the teachers from different scientific areas (mathematics, physics, chemistry, technology) and different style of approach.

## VccSse Project Partnership:

### Coordinating institution:

- VALAHIA UNIVERSITY TARGOVISTE – ROMANIA

### Partner institutions:

- TEACHER TRAINING AND EDUCATIONAL INNOVATION CENTRE VALLADOLID II – SPAIN
- TEACHERS TRAINING CENTRE OF GIJON – SPAIN
- TEACHERS TRAINING CENTRE OF ZARAGOZA 1 – SPAIN
- WARSAW UNIVERSITY OF TECHNOLOGY – POLAND
- REGIONAL IN-SERVICE TEACHER TRAINING CENTRE "WOM" IN BIELSKO-BIALA – POLAND
- UNIVERSITY OF JOENSUU – FINLAND
- BABES-BOLYAI UNIVERSITY CLUJ NAPOCA – ROMANIA
- UNIVERSITY OF PATRAS – GREECE



VccSse Team in the Instrumentation World

## VccSse Target Groups:

The first target group is composed by *local coordinators* (which are also tutors), *tutors*, *researchers* and *local authorities* in education. Although initially, the number of tutors and researchers has been approximated at 27, at present it has reached 32. Along with the 18 representatives of local authorities in education, this group comprises approximately 50 people.

The second target group consists of *in-service teachers* from primary and secondary schools involved in Science teaching areas. The initial target groups are formed by approximately 180 teachers from the partners' countries, but at this point, this group consists on over 330 teachers.

The third target group is composed by *pupils* (children) who are participating to lessons created by teachers involved in the project, based on developed pedagogical methods and strategies. The initial number of pupils is approximated at 3500.

In addition to above presented target groups, the project addressed through the dissemination process, to other teachers from Europe and world interested in implementing of the virtual experiments in Science education.



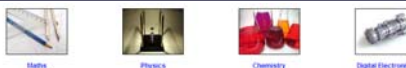
Designing the structure of the VccSse course

## VccSse Project Exhibition:

The *Exhibition* intends to be a web interface that contains the best virtual experiments produced by the teachers. The partnership selected 50 representative experiments from the *Products Matrix*, taking into consideration scientific area, school level, training institution, language etc.

For every chosen experiment, the teachers were asked to create a small educational video clip that best describe the pedagogical activities which can be implemented using their product. The teachers have chosen different approaches for this educational video-clip: part described the realization of the experiment and the possibilities of creating a new experiment to be used in the classroom, others have described the experiment itself and how it can be used with pupils.

The *VccSse Exhibition* is the evidence that the teachers created virtual instruments, used them in the classroom, improved them based on the pupils feedback and created elements to promote their work to other colleagues.



Exhibition experiments

## VccSse Project Dissemination:

Dissemination activities were developed from the beginning of the project. Project team members and part of the teachers involved in project participated to the dissemination activities.

The project team has tried to promote the project by using as many channels of dissemination: leaflets, posters, newspaper articles, scientific articles, books, web dissemination and external dissemination.

Numerous dissemination activities are scheduled for release in the last year of the project. The main products of these activities are: the project CD edition (a CD version of the project materials) and a volume of project dissemination.



## VccSse tutors activities during the project lifetime



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### Contact information

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