B. Student's Guide

Objective: Presenting a guideline in order to help the student to become familiar with the specific of the Training Modules oriented on *Virtual Instrumentation in Science Education* and in organizing his / her own space on the *Moodle* platform

A. Introduction

Dear colleague,

Welcome to the Training Modules organized as part of the *128989-CP-1-2006-1-RO-COMENIUS-C21 Project "VccSSe – Virtual Community Collaborating Space for Science Education"* (project co-funded by EU), and grouped by the name: "*Virtual Instrumentation in Science Education*".

After consulting this document you must access the *VccSSe Project Web-page* (http://vccsse.ssai.valahia.ro) and see some specific information concerning the project.

The Training Modules have been designed as face-to-face and also on-line training meetings using *Moodle* platform as environment where the scheduled tasks have to be carried out. You can access this platform by clicking on the *Moodle* icon (on the right sight of the project home page) or typing the address: http://moodle.ssai.valahia.ro.

After this action you must follow some particular steps:

1. Select the right *Course Category* (participants from Targoviste are choosing TARGOVISTE (RO), participants from Valladolid are choosing VALLADOLID (ES)) etc.:

2. See the course details (name, short presentation, name of administrators, course creator, teachers etc.) and click on the blue-name of the course:

3. Have a look to the right part of the page and click on New Account link:

4. Into the New Account page, fill the empty fields with the necessary information (do not forget the *Username* and (especially) the *Password*!). In the end, click on the button: Create my new account. At this step, your *Moodle* new account is made!

5. Access your personal e-mail and open the received e-mail from the platform administrator containing the subject: Virtual Community Collaborating Space for Science Education: account confirmation (check also the Bulk folder! It can be also there!). You will receive a message like this:

6. Inside the message, you must click on the blue web address, for confirming your new account. In the following screen, enter in the course and introduce the key provided by your tutor (the key is particular for every institution).

7. Login to your course using your *Username* and *Password*. You will find the interface designed with all is needed for following the course. You can see also there a time-schedule, the resources uploaded for every week and the task you have to fulfill. Good luck!

A *Moodle* Guide is uploaded in the interface. Please open and read it for finding out more about this platform. This Guide is also helpful for those of you who may need to use the *Moodle* platform in the future.

The following step is to complete the *Initial Evaluation*. Even you access the questionnaire from the *Moodle* interface or from the *Project home page* (*Outcomes Section – Assessment Tools – Initial Evaluation* (1st *Questionnaire*)), please fill the on-line questionnaire and send your answers at the questions proposed. Your answers to this questionnaire are very important and that is the reason for asking you to spend 10 minutes of your time! All the information is confidential and nobody will be able to single you out afterwards on the basis of your answers. Please, answer honestly as this is the only way to let our researchers know what you really think!

Every participant is assigned to a tutor who will take care of him / her along the duration of the Training Modules. You may permanently contact your tutor by sending e-mail from the platform and your work will be visible for him. At the same time, the tutor will organize face-to-face meetings, depending on his / her students' background, technical possibilities and the units' requirements. He will send you an e-mail to announce you about that. In this case you will be strongly advised to participate in these face-to-face meetings.

B. Structure

Inside the *Moodle* platform, you can find the Structure of the Training Modules: 3 Seminars and 3 Laboratories, as follows:
- Seminar 1: Virtual Instrumentation Overview
- Seminar 2: The Basics and Examples of Virtual Instrumentation in Education
- Seminar 3: Teaching Methodologies and Pedagogical Strategies Based on the Using of Virtual Instrumentation
- Laboratory 1: Getting Familiar with VI Tools
- Laboratory 2: Basic Teaching and Learning Activities with VI Tools
- Laboratory 3: Designing Learning Activities which Include VI Applications

All these modules were designed to familiarize the participants with the technology based on Virtual Instruments and to develop teaching methodologies and pedagogical strategies which integrate virtual experiments.

Beside those seminars and laboratories, 3 Training Materials were developed:
- Teaching and Learning with *Cabri Geometry*
- Teaching and Learning with *LabVIEW*
- Teaching and Learning with *Crocodile Clips*

The Training Materials familiarise the participants with the basic steps on using specific software packages, special designed for creating virtual experiments for Science areas: Mathematics, Physics, Chemistry and other related ones.

In addition, in Seminar 3, a Lesson Template is presented for helping the participants to create the Final Products. It is compulsory for you to use at least one software (and produce one or more virtual experiments) in your product. In this sense, the tutors will make the necessary actions for recording all your products which will be organized in a common database and published on the *VccSSe Project web-page*.

The first version of the Training Modules and Training Materials was designed in English. All the members of the partnership use this version for preparing the national versions. Of course, the structure and the content of the units are the same in all the versions, but few adaptations to national or local requirements are possible. However, the tasks are almost the same in all the versions. The achievement of your tasks will serve as proof of your involvement in the course. The units have to be followed consecutively and you have to follow the units' steps to solve the tasks. These are compulsory and the tutors will check your progress. The allocated duration for every unit is stipulated in the beginning of each unit. The tutor will inform you (also through the *Moodle* platform) about the deadline for each task. Refer directly to your tutor if you have doubts about the agenda of these Training Modules.

These Training Modules are being taken by almost **180 teachers** from Romania, Spain, Poland, Finland and Greece. All of you are doing the same activities at (almost) the same time, though there are national and local peculiarities. If you want you can contact your colleagues. Please access the *School Network* section from the *Project home page* and see the information provided there concerning every participant.

The VccSSe Team worked very hard in this project. We hope that "*Virtual Instrumentation in Science Education*" Training Modules will help you to improve your teaching practice and experience and you will use in the future the pedagogical aspects and the new technology presented here. However, we will be pleased to hear your opinions and comments! Contact us whenever you want (all our e-mails can be found on the VccSSe project web-page).

Don't forget to write your opinions into both Forums (*Added Value of Virtual Experiments for Effective Science Education* and *Final Discussion*) opened in the middle and at the end of the Training Modules, in the *Moodle* interface. At the same time, please fill the *Final Evaluation* (from the *Moodle* interface or from the *Project home page* (*Outcomes Section – Assessment Tools – Final Evaluation* (2nd *Questionnaire*)). Please answer the questions as honestly as you can. Your personal data will be confidential and there is no possibility that somebody could recognize you on the basis of your answers afterwards.

Finally, after the implementation of your products in the classroom, you must fill the *Impact in the Classroom Form* and collect and appreciate your pupils feedback stipulated in the *Pupils' Feedback Questionnaire* (also from the *Moodle* interface or from the *Project home page* (*Outcomes Section – Assessment Tools*).

C. Acknowledgements

We would like to thank to all the partners of the *"VccSSe – Virtual Community Collaborating Space for Science Education"* Project for their hard and intensive work on the designing of the original version of the Training Modules and Training Materials. All the materials are the result of this team work and it took almost 6 months. Beside this original English version, 5 national versions are also created: Romanian, Spanish, Polish, Finnish and Greek.

Special mentions have to be made at this moment to those colleagues who designed the Training Modules units and Training Materials (English versions):

- Tutor's Guide: Gabriel GORGHIU (Valahia University Targoviste, Romania) & Adina GLAVA (Babes-Bolyai University of Cluj Napoca, Romania)
- Student''s Guide: Gabriel GORGHIU (Valahia University Targoviste, Romania) & Adina GLAVA (Babes-Bolyai University of Cluj Napoca, Romania)
- Initial Evaluation: Wladyslaw MASIOR & Maria LATKA (Regional In-Service Teacher Training Centre "WOM" in Bielsko-Biała, Poland), Adina & Cătălin GLAVA (Babes-Bolyai University of Cluj Napoca, Romania), Lourdes CABEZA (Teachers Training Centre of Gijón, Spain)
- Seminar 1 - Virtual Instrumentation Overview: Ana-Maria SUDUC, Laura Monica & Gabriel GORGHIU (Valahia University Targoviste, Romania)
- Seminar 2 - The Basics and Examples of Virtual Instrumentation in Education: Javier TAMARGO (Teachers Training Centre of Gijón, Spain), Gabriel GORGHIU

(Valahia University Targoviste, Romania), Alicia GARCIA (Teacher Training and Educational Innovation Centre Valladolid II, Spain)

- Seminar 3 - Teaching Methodologies and Pedagogical Strategies Based on the Using of Virtual Instrumentation: Javier TAMARGO & Lourdes CABEZA (Teachers Training Centre of Gijón, Spain)

- Laboratory 1 - Getting Familiar with VI Tools: Adina & Cătălin GLAVA (Babes-Bolyai University of Cluj Napoca, Romania)

- Laboratory 2 - Basic Teaching and Learning Activities with VI Tools: Adina & Cătălin GLAVA (Babes-Bolyai University of Cluj Napoca, Romania)

- Laboratory 3 - Designing Learning Activities which Include VI Applications: Adina & Cătălin GLAVA (Babes-Bolyai University of Cluj Napoca, Romania)

- Training Material 1 - Teaching and Learning with *Cabri Geometry*: Maria KORDAKI & Alexios MASTROGIANNIS (University of Patras, Greece)

- Training Material 2 - Teaching and Learning with *LabVIEW*: Wieslaw TLACZALA (Warsaw University of Technology, Poland)

- Training Material 3 - Teaching and Learning with *Crocodile Clips*: José Luis CEBOLLADA (Teachers Training Centre of Zaragoza 1, Spain), Javier TAMARGO (Teachers Training Centre of Gijón, Spain) & Laura Monica GORGHIU (Valahia University Targoviste, Romania)

- Final Evaluation: Wladyslaw MASIOR & Maria LATKA (Regional In-Service Teacher Training Centre "WOM" in Bielsko-Biała, Poland), Adina & Cătălin GLAVA, (Babes-Bolyai University of Cluj Napoca, Romania), Lourdes CABEZA (Teachers Training Centre of Gijón, Spain)

Yet, the Final Form of all the materials developed in the frame of the project was impossible to be designed without the contribution of all the colleagues. Please have a look on the *VccSSe Project Web-page* (*Participants* section) and try to contact them for further information!

Thank you all and Good Luck!