ENETRAP – NEW CONCEPTS AND TOOLS FOR AN ERPC

Annemarie Schmitt-Hannig(2), Marisa Marco(1), Paul Livolsi(3), Carlos Giralda(1), Mónica Rodriguez(1)

(1) CIEMAT, The Research Centre for Energy, Environment and Technology, Spain
(2) BfS, The Federal Office for Radiation Protection, Germany
(3) INSTN, The Institute for Nuclear Sciences and Technology, France

ENETRAP - European Network on Education and Training in Radiation Protection

The main objectives of this EU project are

- to better integrate existing education and training activities in the radiation protection infrastructure of the European countries in order to combat the decline in both student numbers and teaching institutions;
- to develop more harmonised approaches for education and training in radiation protection in Europe and their implementation;
- to better integrate the national resources and capacities for education and training;
- to provide the necessary competence and expertise for the continued safe use of radiation in industry, medicine and research.

The work to reach these objectives is done in a number of work packages.

Work Package: New Concepts and Tools

A number of actions have been carried out to achieve the objectives of this work package:

- To identify and review the existing documentation about the present state of art and the future trends and evolution of the e-learning technologies.
- To explore the current existing e-learning platforms and pedagogical methodologies concerning open and distance learning.
- To focus the investigation in the existing electronic tools used in RP training and education of European Universities, and Institutions as well as International Organizations.
- To evaluate the capabilities of e-learning technologies and methodologies providing the pro and con of existing tools.
- To propose a matrix indicating the most adequate tool which can fit the requirements for the implementation and validation of the ERPC.
- To prepare the basis to execute a pilot session run of one module or part of the course.

E-Learning

The use of new technologies to teach and learn facilitates access to resources and services as well as exchange of information and collaboration.

Study of some existing platforms

Good reasons for selecting “MOODLE”

- It consists of an open source project from an Australian University.
- It’s very developed and the users community is very dynamic and active. It associates around moodle.org.
- Creation of powerful courses which can manage a great number of users, the concurrency is determined by the web hosting plan you have contracted
- A great number of activities for the learners, not only related to communication (chats, forum, mails, ...) as group working or tests, multiselection exercises.
- Compatibility with SCORM
- Statistical register of students access
- Multilanguage package for 34 languages
- Files loading by means of a web interface for teachers and students
- You can create html contents directly on the platform

Pilot Session

- Taking into account the previous results an on-line pilot RP session has been developed.
- The platform selected to develop the pilot session is Moodle, and the topic chosen is “Interaction of Radiation with Matter”.
- http://elearning.ciemat.es:4444/

Conclusions

- This concept of training is compatible with the Bologna objectives for education and equally important for continuous professional development.
- For the specific field of RP, e-learning allows simulations and practical exercises without exposure to ionising radiation, which contributes to the ALARA principle.
- The promotion and implementation of e-learning in the EU, specially in RP education, should increase the participation of professionals and young researchers in advanced courses in RP.
- E-learning standardises training into the Member States, offering quality material and teaching sessions prepared and imparted by professionals.
- A combination of both presence and distance learning, named blended learning, is the best option to offer a high quality, successful and complete RP training.
- An evaluation of the e-learning educational methodologies and existing e-learning platforms has been carried out. As an example of the e-learning potentialities, an e-learning pilot session focused on “Interaction of Radiation with Matter” has been developed and integrated in the MOODLE platform. The methodology selected is based on high quality material, a high level of motivation stressed on communication tools and a continuous tracking of the student performance through exercises and evaluations.