



Bundesamt für Strahlenschutz

# ENETRAP – NEW CONCEPTS AND TOOLS FOR AN ERPC

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## ENETRAP - European Network on Education and Training in RAdiological Protection

The main objectives of this EU project are

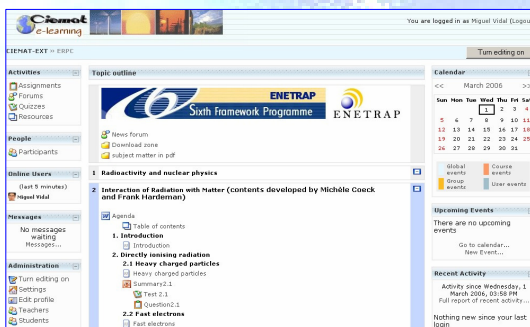
- to better integrate existing education and training activities in the radiation protection infrastructure of the European countries in order to combat the decline in both student numbers and teaching institutions;
- to develop more harmonised approaches for education and training in radiation protection 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

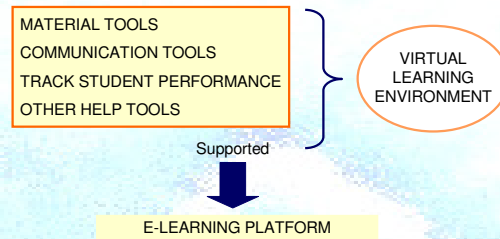
A number of actions have been carried out to achieve the objectives of this work package:

- 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 contra 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 *blending 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 focussed 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.



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