

GENERAL CHEMISTRY ON ICT SUPPORTS FOR SCHOOL TEACHERS (TFA 2011-2012)

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One of the objectives of the TFA (Tirocinio Formativo Attivo) course held at the University of Perugia (Italy) during the first half of the year 2013 in order to train school teachers to an acceptable level for European standards of teaching was that of familiarizing them with the use of electronic tools in educational activities. At the Department of Chemistry this task was undertaken with the support of some colleagues of the Mathematics and Informatics Department with whom part of the lectures were shared. Accordingly, the related part of the TFA has been focused on how to teach General Chemistry at a European level using ICT technologies as follows:

“Introduce and analyze some ICT technologies meant to support networked learning and the establishing of Virtual Education Communities (VEC)s. Design and assemble General Chemistry learning modules of European level aimed at fostering the development of a solid knowledge of Chemistry and Chemical Technologies using an ICT platform. Exploit Chemistry related knowledge management techniques on distributed repositories by building self assessment tools and related support materials .”

In order to implement such plan we:

- carried out an analysis of the European Syllabus for Chemistry in Schools (named General Chemistry level 1 developed by ECTNA [1]) and listed a suitable set of lectures;
- structured a subset of typical lectures and assigned them to the participants for development;
- went through an introduction to the use of the open source software Moodle [2] for lecturing;
- developed individually and in team the chosen lectures using Moodle;
- went through an introduction to the use of Moodle and the local product EOL (Exams on line) [3] for developing self evaluation sessions;
- went through an introduction to the use of G-LOREP (a distributed repository manager developed in Perugia) [4] for developing Learning Objects (LO)s as support materials to self evaluation;
- designed related LOs for implementation on distributed repositories with the appropriate description;
- prepared (block A) reports containing the specifications for the proposed LOs (Title, brief description, keywords, time length, etc.)
- assembled some specific LOs (block B)
- prepared some examples of self assessment materials (block C)

in an experimental way. In the followings we give such materials in the Education section of the present issue of the VIRT&L-COMM magazine as they were produced by the TFA participants.

References

[1] <http://ectn-assoc.cpe.fr/network/index.htm>

[2] <https://moodle.org/>

[3] O. Gervasi, A. Laganà, EOL: a web based distance assessment system, [Lecture Notes in Computer Science](#) Volume 3044, 2004, pp 854-862

[4] S. Tasso, S. Pallottelli, R. Bastianini, A. Lagana', Federation of distributed and collaborative Repositories and its application on Science Learning objects, [Lecture Notes Computer Science](#) 6784, 466-478 (2011)