

DOCUMENT TITLE:	REPORT ON 2ND POLICY WORKSHOP
WORKSHOP TITLE:	STANDARDS IN E-LEARNING: WHAT STANDARDS DO WE NEED AND WHY?
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Workshop site:	Cavtat, Croatia
Date:	Tuesday, June 22 - Wednesday, June 23, 2006
Organized by:	➤ University of Zagreb University Computing Center
Purpose:	<ul style="list-style-type: none"> ⊙ to learn and to collect experience from EU universities about standards they use in implementing e-learning methodology and technology ⊙ to help appointed university's 'e-learning strategy teams' to propose standards and recommendation documents on e-learning ⊙ to start process of developing e-learning standards at Croatian partner universities
Lecturers (in alphabetic order):	<ul style="list-style-type: none"> 👤 Maria Elena Caballero Romero, Valencia University of Technology 👤 Petar Pervan, Institute for Physics 👤 Oleg Rudash, Estonian E-Learning Development Centre 👤 Jan Thomas, University of Vienna 👤 Kristijan Zimmer, University of Zagreb
Target audience (participants):	<ul style="list-style-type: none"> 👤 Members of university bodies responsible for teaching, e-learning or ICT 👤 Members of government bodies responsible for implementation of e-learning methodology and technology 👤 Members of EQIBELT project team and university's e-learning teams 👤 University teachers involved or interested in e-learning 👤 ICT or other support staff involved or interested in e-learning
Web pages:	http://eqibelt.srce.hr/workshops/cavtat/standards_in_EL
Report prepared at	July 2006
Report prepared by	Vladimir Braus
Report approval:	Report revised by workshop participants by e-mail in August, 2006

I GENERAL REMARKS ON WORKSHOP CONTENT

2nd EQIBELT policy workshop on e-learning standards was held in Cavtat on June 22nd and 23rd, 2006.

Workshop consisted of five lectures performed by experts from EU universities - EQIBELT project partners and experts from Croatian universities (listed in the order of presentation):

- ◆ **Jan Thomas**, University of Vienna, Austria: **Commercial or Open Source VLE? Some ideas, myths and experiences about the choice of an e-learning platform**
- ◆ **Oleg Rudash**, Estonian E-Learning Development Centre, Estonia: **Course description metadata applied by the Estonian E-Learning Development Centre**
- ◆ **Maria Elena Caballero Romero**, Valencia University of Technology, Spain: **Design, production and delivery of ODL materials**
- ◆ **Kristijan Zimmer**, University of Zagreb, Croatia: **Standardizing the e-learning environment: A single LMS or bunch of e-learning tools?**
- ◆ **Petar Pervan**, Institute for Physics, Croatia: **Specialized repositories; on the storing standards of scientific and educational content**

Important parts of workshop were discussions during the lectures, Q&A sessions and general discussion sessions.

Workshop was chaired by Vladimir Braus (University of Zagreb University Computing Center).

Complete list of workshop participants is available as separate document, published on workshop web pages.

II CONCLUSIONS OF THE WORKSHOP

The following conclusions are a result of the lectures and discussions held in the course of the Workshop.

The Need for a Selection and Application of Standards in E-Learning

The problems of the application of e-learning are often related to non-standardized data models, unstructured content, and the incompatibility of different e-learning systems. This results in difficulties in the integration of existing educational content and e-learning systems into one coherent whole at a university or national level. To avoid these problems, it is essential to **reach a consensus about common protocols, data models and interfaces.**

The second level of problems is related to the methodology of teaching. **The adoption of common basic methodological guidelines** will help create a consistent e-learning environment at a university or national level, and will help support the work of teachers and authors of teaching materials.

The application of standards to e-learning needs to assure compatibility and a common level of quality of teaching materials, and establish a productive, competitive and stimulating environment for authors. The development, adoption and application of standards can lead to a faster and cheaper production of learning materials. For students, the application of standards also leads to a more efficient search for and simpler usage of the content they are interested in.

The success of the selection and the application of standards to e-learning depend on the initial definition of objectives and the reach of their realization, as well as on the choice of the leading body entrusted with the standardization process.

Already existing and proven standards should be adopted and applied whenever possible. Numerous technical standards exist, which are already in use and need to be taken into account in the selection process. Unfortunately, this is not the case with methodological e-learning standards.

Every university for itself should autonomously select a set of e-learning standards to be implemented. Nevertheless, **universities should also cooperate in this process**, to reach the best effect and attain the highest possible level of compatibility of learning materials and interoperability of e-learning systems.

Standards should be published in one of two ways: as **binding standards** or as **recommendations**. Whenever possible, the form of recommendation should be used, while binding standards should be used only where absolutely necessary, restricting them to a minimal set of topics.

Common Repository of E-Learning Content

Repositories of e-learning content are made up of collections of educational objects which are at the disposal of authors and systems creating or using e-learning materials. **The objective of the establishment of repositories is to stimulate and facilitate the exchange and repeated (repetitive) use of already created content.** The existence and the quality of an e-learning content repository are commonly used as an indicator of the level of educational productivity of an environment.

The establishment of common e-learning content repositories allows for cuts in the costs and the duration of the preparation of teaching materials, which is an important factor in the spread and the growth of e-learning.

As essential features of an e-learning content repository are the possibility of simple storage and retrieval, as well as its capability of integration into larger systems, the implementation of standards in this field is indispensable. To this end, specific standards for the description and storage of objects into repositories and the interconnectivity of repositories have already been established and are implemented worldwide. It is necessary to recognize and adopt these standards.

It is also important to choose a strategy for the establishment of a repository (a general or specialized one, centralized, decentralized or hybrid, etc.).

Standardization and Selection of E-Learning Systems and Tools

An important step in the establishment and the employment of e-learning is the selection of concrete e-learning tools and systems. As it is possible to make this selection according to different criteria, it is necessary to define the criteria and standards the chosen solution needs to fulfil before the final product is selected. Since often, for various reasons, more than one e-learning system will be used in the same environment, the standardization of e-learning systems is of particular importance.

The minimum requirement is that the applied standards should assure the possibility of educational content exchange between different e-learning systems.

Besides securing technical compatibility, the standardization of e-learning systems needs to assure that the chosen solutions have the same level of functionality, including the functions and the appearance of their user interface.

Before making the final choice of an e-learning system, it is important to get to know and make use of the experiences of universities and other organizations which have already gone through such a selection process.

Interfaces for the Exchange of Data between Central Information Systems and Applications for E-Learning

Several central information systems handling different student data have already been set up at Croatian universities (such as AAI@EduHr and ISVU). It is essential to define and publicize interfaces for the exchange of data between these and future e-learning systems and applications, in order to avoid needles multiple data entry, to assure data currency and consistency, and to increase productivity and improve the work of students and staff.

A good example of a complex system which integrates different e-learning applications with central information systems is the FER e-Campus, an integral e-learning system at the Faculty of Electrical Engineering and Computing in Zagreb, Croatia.

Creation and Production of Teaching Materials

The standardization of teaching materials can include different elements, ranging from the appearance of the materials to the methodology of teaching. The elaboration of recommendations and guidelines discussing what teaching materials should look like and how to make good teaching materials can help achieve a common level of quality and consistent visual appearance.

A given university or department may also standardize the creation and production process of e-learning teaching materials itself, with the aim to improve and accelerate the preparation of teaching materials and avoid improvisation. For example, a norm may define the amount of resources available for the creation of a certain teaching unit.

In both cases, the standardization needs to be a result of experience in the conception and implementation of e-learning, adapted to the needs of the environment in which it is to be applied. The chosen norms should in no way hinder the creativity of the author.

We recall here the especially useful examples and experiences of the creation, production and implementation of teaching materials for e-learning at the Universidad Politécnica de Valencia, Spain.

Educational Portals

The integration of various e-learning solutions may be achieved through the establishment of educational portals. The main purpose of educational portals is to offer students a faster and simpler access to information about courses, and to facilitate administrative tasks (enrolment, marking, etc.) for everyone included in the teaching process.

To realize these goals, the selection and application of certain standards in the course description is required. This should preferably take place on a national level.

A good example of a national educational portal is the Estonian E-Learning Portal.

Organizational Recommendations Adopted at the Closing Discussion

The closing discussions gave rise to several proposals and concrete initiatives for future activities.

- Within the framework of the EQIBELT project, a task force should be entrusted with the selection of e-learning standards and the formulation of recommendations for their implementation. This task force should be open to anyone interested. A list of workshop participants interested in getting involved in the work of this task force has been drawn up.
- The universities included in the EQIBELT project should be encouraged to set up task forces which will analyze the needs related to e-learning solutions and recommend a particular choice of e-learning systems and tools.

- Within the framework of the EQIBELT project, a task force should be charged with the definition of a common strategy for the establishment of e-learning content repositories, the specification of a format for the description of repository objects, and the initiation of the establishment of repositories.
- For the requirements of the EQIBELT project, the use of collaborative tools such as wiki should be considered.