



E-LEARNING EXPERIENCE AT UNIVERSITY OF ŽILINA, THE FACULTY OF SPECIAL ENGINEERING,

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Abstract. In recent years significant progress has been made in process of using e-learning. The term e-learning is well-known at the universities and each teacher should be involved in it. For most of us, it is a teaching assistance. Is e-learning the right way of education process? Is it part of this process, or is it process by itself? How is e-learning influencing the traditional ways of teaching? Where are we now in the process of implementing e-learning?

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Introduction

Electronic Learning or *e-learning* is a general term used to refer to computer-enhanced learning. It is used interchangeably in so many contexts that it is critical to be clear what one means when one speaks of *e-learning*. In many respects, it is commonly associated with the field of advanced learning technology, which deals with both the technologies and associated methodologies in learning using network and/or multimedia technologies.

Today, e-learning mainly takes the form of online courses [1]. From the resources distributed by MIT's [2] OpenCourseware project [3] to the design of learning materials in Rice's Connexions project, to the offerings found from colleges and universities everywhere, the course is the basic unit of organization.

1. Advanced learning technology

Term *Learning Management System* means software tools designed to manage user learning interventions. Learning Management Systems go far beyond conventional training records management and reporting. The value-add for *Learning Management Systems* is the extensive range of complementary functionality that they offer.

From the term Learning Management System we come to the term Advanced Learning Technology that has a strong focus on adult education, especially in higher education and industrial and vocational training. Concentration is not only in the technology per se, but in the social, psychological, cultural, and organizational issues which are thrown into sharp relief during the design and introduction of technology-based learning environments.

We can distinguish the following features typical of advanced learning technology:

- i) focus on research, network and e-learning;
- ii) computer supported collaborative learning, multimedia computing, psychology, sociology, instructional design, evaluation and video for learning;
- iii) innovative distance learning methodology regarding the design and use of advanced learning technologies;
- iv) intercultural e-pedagogy, including conceptions of e-learning and teaching;
- v) course designs that support e-groups and online communities of learning.

2. Where We Are Now

When we think of learning content today, we probably think of a learning object. Originating in the world of computer-based delivery systems, learning objects were depicted as being like lego blocks or atoms, little bits of content that could be put together or organized. Standard bodies have refined the concept of learning objects into a rigorous form and have provided specifications on how to sequence and organize these bits of content into courses and package them for delivery as though they were books or training manuals.

As a consequence, the dominant learning technology employed today is a type of system that organizes and delivers online courses—the Learning Management System. This piece of software has become almost ubiquitous in the learning environment. The learning

management system takes learning content and organizes it in a standard way, as a course divided into modules and lessons, supported with quizzes, tests and discussions, and in many systems today, integrated into the college or university's student information system.

3. Moodle

At the University of Žilina, we have adapted Moodle (Modular Object Oriented Dynamic Learning Environment) as our Course Management System [4].

Moodle is a free Open Source software package designed using sound pedagogical principles, to help educators create effective online learning communities. Before using Moodle or any other course management system we need to answer the question: Do we really need this kind of system?

The answer could be no, however, a course management system could be really helpful in administrating many courses. As far as each teacher is good in html and creating web-pages the answer could be again no, but are they really? Our personal experience at the university and, especially, at our faculty has proved that a course management system is the best choice of creating e-learning environment

The authors have outlined several reasons why e-learning should be integrated:

- i) e-learning provides access to a range of resources and materials which may not otherwise be available or accessible, for example, graphics, sound, animation, multimedia; it gives choice for students when and where to study;
- ii) e-learning provides a student with centered-learning environment which can be tailored to meet the learning needs of individual students;
- iii) e-learning creates an environment that promotes an active approach to learning;
- iv) e-learning supports increased communication between teachers and students, and among students;
- v) e-learning provides frequent and timely individual feedback, for example, through computer-assisted assessment and positive reinforcement;
- vi) e-learning encourages students to take responsibility for their own learning.

4. E-learning experiences at University of Žilina

Even though the e-learning system at our university has been used for a long period, yet it does not host all the subjects. In our experience e-learning should be used not only in supporting teaching but also as part of education process. The questions that we are currently facing are as follows:

- Can e-learning replace the way we are teaching now?
- Are we going the right way?
- Can we use e-learning to motivate students to study more?

The authors are strongly convinced that it is only through presentations of e-learning as system aiming to support teaching process that more teachers can be involved and become interested in it, especially teachers who have

The screenshot displays a Moodle course interface for 'Ekonometria'. At the top right, it indicates the user is logged in as 'Ristvej Jozef'. The course title 'Ekonometria' is prominently displayed. Below the title, there's a navigation bar with 'e-Learning ZU' and 'Ekmet'. A 'Zapnúť upravovanie' button is visible. The main content area is divided into three columns. The left column, 'Aktuálna činnosť', shows the last activity date as Saturday, 6 October 2007, 04:06 PM. The middle column, 'Prehľad tém', lists five topics with their respective exercises: 1. Úvod do ekonometrie (Cvičenie 1), 2. Predmet a metódy ekonometrie (Cvičenie 2), 3. Ekonometrické modelovanie (Cvičenie 3), 4. Lineárny regresný model (Cvičenie 4), and 5. Jednorovnicový ekonometrický model (Cvičenie 5). The right column contains 'Aktivity' (Fóra, Zdroje) and 'Moje kurzy' (Ekonometria, Plánovanie 3 prognostika, Všetky kurzy...). A sidebar on the left provides administrative options like 'Zapnúť upravovanie', 'Nastavenia', 'Upraviť profil', 'Students', 'Skupiny', 'Zálohovanie', 'Obnoviť zo zálohy', 'Importovať údaje kurzu', 'Stuonice', 'Známky', 'Záznamy o prihláseniach', and 'Súbory'.

Fig. 1. Course of Econometrics in e-learning system at University of Žilina, powered by Moodle [5].

been teaching without using computer-aided learning. Sharing successful experience and best practice within e-learning will consequently lead to the wider integration of traditionally-taught subjects into e-learning platform. For all this we are really glad to be part of 4 E-trainer project.

5. E-trainer project

The project aims to provide products, information and services for teachers and trainers in the development, creation, exchange and use of e-learning materials. One of the main reasons of the project is to contribute to the quality of e-learning in Europe by building a sustainable environment that can express leadership in this domain. Teachers and trainers are on the constant need to upgrade their qualifications in order to provide qualitative and standardized training to their students. The 4 E-trainer project will help teachers and trainers improve their professional competencies. The main goal of the project is to build European portal in English, Polish, Lithuanian, Slovak and Latvian languages, which will present the results of EU funded projects.

Conclusion

E-learning is widely claimed to offer flexible *any time, any place* learning.

The claim for *any place* is absolutely valid and is a great breakthrough in the learning process, as many people can access rich learning materials that simply were not possible in paper or distance learning era.

However, the claim for *any time* is in reality overstated. The issue of quality in the process of blended learning (e-learning resources + face-to-face sessions) requires interactivity among the learners and the tutor but practice shows that providing this interactivity restricts e-learning at best to flexible time periods, and at worst to set time periods.

We can promote flexible e-learning as long as we do not mind learning on our own.

So the question is - where are we today in process of e-learning? What are the next steps to bring e-learning forward in the process of education?

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