

## Quality through E-Learning and Quality for E-Learning

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*E-learning is a term frequently debated in the last years, especially in the academic environment. Computer technology has profoundly transformed society, research and education. It provides support for the development of an educational system continuously adapted to society's demands and advances in knowledge acquisition. Students can learn, evaluate and communicate their own results in formal or informal settings, universities and other public institutions take part in the development of international projects, workers are able to integrate learning into work, using the same tools and technology for working as they use for learn. Teachers have to adopt an appropriate way to interact with students, accept that both formal and informal learning settings offer important strengths to the learning process. They have to assist students in accessing knowledge, become facilitators of learning and partners in sharing ICT resources. What is more, if students used to learn in an on-line way, the school-to-work transition is easier, because they carry the experience of e-learning with them into the workplace, they have more control over their learning and can integrate learning into work more effectively.*

**Keywords:** *e-learning platform, quality in educational process, ITC technologies*

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### General considerations

The digital world becomes a more “real” component in a society based

on information and knowledge, where individual finds unlimited resources to develop his own personality.

E-learning platforms are considered the appropriate way to support learning process. They are designed taken into account the Jacques Delors's four 'pillars' of education for the future [1], (learning to know, learning to do, learning to live together, learning to be), are implemented in order to achieve quality through e-learning and quality for e-learning. Consequently, more and more universities use e-learning platforms to improve access to ICT, to provide learning opportunities in school or in lifelong learning environment. For example [conf]:

- *Blackboard Learning System*, developed by Blackboard Inc. (1997), is a virtual learning environment which the main purposes are to add online elements to courses traditionally delivered face-to-face and to develop completely online courses with few or no face-to-face meetings.

- *Dokeos 2009* is an Open Source Learning Management System with tools to track learner's progress and share content between learners. It was built according to the traditional instructional design, this structure is very close to the traditional teaching but it extend this base by providing tools which encourage constructivism (forum, blogs, wikis, chat, file exchange, personal messages).

- *Moodle 2009 (Modular Object-Oriented Dynamic Learning Environment)* is an open-source e-learning platform which helps educators to create online courses with a focus on interaction and collaborative construction of content. It is modular in construction and can be readily extended by creating plug-ins for specific new features.

## **Learning process in faculty and after graduation. Survey organized in Science Economics Faculty from Titu Maiorescu University**

We are an economic faculty and we have problems with the ability to apply in practice the theory learned in faculty. In the curriculum we have more theoretical topics than case studies and we have problems with students' integration in the labor market after graduation. Consequently, we chose to refer below at platforms designed in our university with an aim to prepare students to operate in a continuously evolving business environment.

We have conducted a survey in order to understand how our students

perceive the learning process on an e-learning platform, the advantages of the e-learning in formal and informal settings for them and how they can continue learning after graduation, we have conducted a survey. The type of study was a descriptive one and as population we chose the students from the terminal year of study.

The questionnaire had five sections:

1. Education before entering the University;
2. E-learning in the University;
3. Another kind of instruction (secondary instruction)/training:
  - 3.1 participation in job-related training;
  - 3.2 volunteering;
  - 3.3 learning in an informal environment.
4. The way to search a workplace:
  - 4.1 the first workplace;
  - 4.2 the present workplace.
5. e-learning in the workplace:
  - 5.1 the advantages of adopting computer technology in workspace;
  - 5.2 the way the workplaces adopted computer technology;
  - 5.3 the barriers in using e-learning at workplaces.

We analyzed the answers to the questionnaire and we have concluded that:

1 80% from the students entered University immediately after high school. They have computer skills, but they do not use them in the learning process.

2 in our University the system is focused on teaching. E-learning is a desideratum and the e-learning platform is an “achievable dream” only if all decision-makers acknowledge the advantages of the on-line courses:

Flexible courses deliver efficient knowledge, allow students to work in their own pace;

Alternative learning environments allowed by technology can reduce psychological obstacles; students, who were previously neglected, can play a major role in the process of learning;

Learning is directly related to tasks and responsibilities, stimulate students to retain information more than traditional learning processes do;

Whether it is one-way or two-way, it encourages information sharing, collaboration and interaction.

3.1 students and graduates identified a range of factors motivating them to undertake secondary instruction, such as:

- to develop personal skills or to upgrade job skills;
- to learn about a subject or to extend their knowledge;
- to develop self-confidence;
- to participate in social networking;
- to meet new people;
- to start a business.

3.2 students are involved in a few and insignificant volunteer activities;

3.3 almost all real learning for performance is informal, because in informal learning environment the students feel less intimidated and more comfortable than they do in a formal classroom

4 students find work easier if they have solid knowledge and skills to adapt to the new environment. They want to work in an environment where:

- they are provided with the necessary tools, support and time for their continuous development of intellect, capability and integrity;
- they can learn informally through the use of instructional media, information technologies, environment and nature, from experiences and problem solving.

5.1 the advantages of adopting computer technology in workspace:

- there is feedback of how and when employees learn. The result is a more personal commitment to and over learning control;
- learning will become more integrated with work and will use shorter, more modular, just-in-time delivery systems;
- provides the opportunity for learning on the job what is needed, when it is needed;
- allows integration of e-learning with knowledge management, performance management and communication systems.

5.2 in the workplace we have a new employer–employee relationship:

- employers foster a culture that integrates and supports learning as a necessary and essential part of daily work, partner with educators and other stakeholders to develop community-based e-learning solutions.
- employers can support the integration of e-learning into labor market transition issues, and the school-to-work transition;
- the employer provides the tools to employees and employees, on their turn, manage and develop their skills and are responsible for maintaining the value they add to the company.

5.3 organizations face barriers:

- the cost of acquisition and developing e-learning platforms;
- lack of time—employees do not have enough time to devote to workplace learning, and employers do not have enough time to develop and maintain e-learning solutions;
- lack of knowledge and skills in using e-learning platforms.

## The quality through e-learning platform

To achieve quality in educational process through our e-learning platform, we took into account two facts: (1) the difference between traditionally and on-line instruction and (2) the key competences adopted at the European level and at post-accession strategy of Romania for 2007-2013 [conf]. (1)

- traditionally, in formal instruction, we have a course finished by a final assessment and seminars where the teacher can help students with necessary information. Moreover, all students have the same age and similar ethnic and spiritual beliefs.

- in on-line courses there is not the teacher who maintains interest and transmits knowledge. The traditional lecture (front teaching) is absent, being replaced by self-study and a tutorial system. Everything is based on materials which must be clearing, well-reasoned, not confusing. So, we should have:

- observable and measurable behavior, supported by permanent self-assessment tests and assessment test with feedback. Test questions and content do not allow a separation by age, gender or ethnic /spiritual beliefs learners;

- instructions for writing papers, restrictions for length of answers, additional resources needed to design work, evaluation criteria and scoring paper;

- permanent reiteration, reformulation, reconsideration, because the repetition is a characteristic of on-line instruction. (2)

The key competences adopted at the European level and at post-accession strategy of Romania for 2007-2013, “represent a transferable and multifunctional package of knowledge, abilities and attitudes which all people need for their personal development, for social inclusion and professional insertion. These must be developed until the ending of the compulsory education and must act as a basis for the continuing learning, as a part of learning throughout the entire life” [4]. They are: communication in one’s

mother tongue, communication in foreign languages, mathematical abilities and competences in science and technology, abilities in informatics, the capacity of learning to learn, civic and interpersonal competences, entrepreneurship, cultural conscience.

As examples of how we acted in order to accomplish the goals proposed, we chose the learning modules from computer science, accounting and decision-making system used in accounting:

- in a course which presents the methods for design systems models - "Object-oriented methods used in economic systems"-, we can use different methodologies and obtain models that prepare students to apply conclusions resulting from the analysis process in the development of an existing model by adding new components, that help students to develop networks between the defined objects, to reuse components in different programming environments. In this way, students can adopt an efficient mode of action in the decision making process, changing focus from symptoms to causes, from assertion to justification, from the particular to the general.

- we can change the way to present the decision-making process, in order to determine students to acquire competences in working with decision-making system used in accounting. So, we can change the traditional way we used decision as a resolution taken after examining a problem, a situation and we can approach the decision as a process which include activities based on solid background information. The solution is chosen from several possible alternatives depending on fulfilling certain conditions, it is an outcome of a long and difficult process. More, the traditional steps in taking a decision (information phase, design phase, choice phase and implementation) are now: analysis (gather data for outline the goal and outcome), discovery of causes (brainstorming to develop alternatives), projection of future effects (list pros and cons of each alternative), measuring the results (learn from, and reflect on the decision making) and implementation.

We can improve the information systems existed in an organization, those which have led to the bi-dimensional information, by introducing the decision as a process. In the new conditions, students learn about the analysis of multidimensional data from data warehouses and the curriculum includes a new course with OLAP (On Line Analytical Processing) components. The course helps students to work in a client-server architecture, translate daily transactions into a standard language (SQL- Standard Query Language), accustom students with the definition of complex data collections,

with multidimensional analysis of data stored for extended periods of time, accustom students with the financial analysis and forecasting.

The future economists will act in a different environment. To register transactions and economic-financial operation, they need to operate with different type of concepts, to analyze different situations. Using an e-learning platform, teachers can design case studies, so the students have the opportunity to analyze different situations, to take decisions, to extrapolate the results in a real system. In the same time, the teachers change the assessment methods, using direct observation, simulation process or e-portfolio with the actual study of knowledge. They allow evaluating knowledge and skills corresponding to each unit of learning, the capacity of action in new situations and the legislative support that can be used in an accounting process. More than that, the e-learning platform can supports the integration of students into labor market transition issues, and the school-to-work transition.

## Quality for e-learning

Now, in the “computer era”, the term “e-learning” is often taken to be synonymous with on-line learning and was defined by Elliott Masie as “the broad spectrum of learning and training activities that harness the power of technology, including blended approaches and new models of classroom delivery” [3]. Focusing on the most valuable feature of e-learning, Debbie Murray in her work ” E-Learning for the Workplace” [2] wrote that while e-learning can’t and won’t replace human-mediated learning, it is an excellent complement to it and it represents the best means for people to learn in work environments where more traditional forms of learning are not appropriate or where geography limits training.

Implemented as support for on-line learning, the e-learning platforms have mission to enhance the quality of learning. The most important advantage is that, on e-learning platform, during a learning unit, students have to acquire particular skills. If they can demonstrate the skills, they move on to the next unit. For examples:

- to develop ICT skills, teachers should:
- guide students to achieve basic level in informatics by using virtual libraries to provide documentation;
- guide students in understanding knowledge networks and in developing knowledge bases;

- create situations in which students become familiar with data security issues and understand how important cooperation is;
  - give students skills in communication on Internet and Intranet;
  - seek to stimulate self-assessment and interactive evaluation to allow students to demonstrate acquired skills.
- for the development of the skills that will help graduates to adapt to the business environment in which they will work, teachers should:
    - develop a business environment in which students can apply acquired knowledge and can improve their skills in the process of decision making;
    - direct students to acquire skills that help them operate in an environment in constant motion, to prepare them for the gradual acquisition of professional tasks required in a real system;
    - help students to understand how economic organizations use information to create knowledge, develop the ability to interpret data from the appropriate collection;
    - help students to analyze the effect of computer use in their activity.

At the same time, we recognize that there are many ways to develop and demonstrate different kinds of skills and knowledge, included in an implicit interdisciplinary system. The competency-based system implemented on e-learning platform allows students to use different methods to accomplish their tasks. All the students are expected to demonstrate the required outcomes, but we accept that different students will do it in different ways and at different paces. Particularly, teachers of informatics and accounting should work together for developing a learning environment that allow students to acquire particular skills and used them in accomplish tasks required in the models of real world. They consider courses (learning modules) divided into learning units. Usually, a unit is connected to a competency; sometimes, more than one unit will address a particular competency. A learning unit is designed to help students achieve the learning outcomes that can demonstrate the acquired competency which is linked to the unit. Desired learning outcomes are clearly defined and stated up front.

Based on these conclusions and taking into account the findings of the survey previously presented, we decided to adapt the e-learning solution to the competency-based system. This solution allows students to have knowledge and acquire key competences, helps students to easier integrate in the workspaces. We adopt a curriculum taking into account that the students live in a global society and learn to communicate in an online community



and that the teachers have knowledge, skills and positive attitude to apply ICT in accounting and in decision processes, and divide the management in four modules: management of educational process, management of users, management of instruction and management of content. It is an opportunity to change to an education based on knowledge, which develops competences, to reorient the formal and informal education, taking into account that students and graduated have to have adequate knowledge and strong skills to adopt the permanent changes and adapt to the new conditions in their workplaces.

## Conclusions

In this new context, universities need to understand the evolution of the external world, students should be aware that after graduation they enter in a global not local profession, employers have to develop an organizational learning culture, partnering with other businesses and educators in order to share expertise. Students, teachers, university staff and the whole community have to work together to create an integrated and accessible set of resources that support learning, to develop the key competences endorsed at the European level.

We consider that is useful to include in e-learning platform a new module (Management of student integration) that has the following components: practical activities of students, student integration in business environment. These components help university to prepare today students to become tomorrow's workers, include students in research activities and give them the opportunity to apply theory in practice. At the same time the university has a permanent feedback with their graduates and the business environment where they work.

The topic of this paper is a vast one and raises many difficult but interesting problems. We have presented in it only some examples of how we acted in order to adapt our education system to society's demands. Our opinion is that the opportunity of implementing an e-learning platform could change the teachers' responsibilities and prepare the students to operate in a continuously evolving business environment. We express our hope on this way to challenge the specialist in the field and together we could build e-learning platforms which will prepare today's students to operate in future workplaces.

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