

The Implementation of e-Learning in Economic Higher Education

LACUREZEANU Ramona, BAKO E. Dana, NISTOR Razvan, CHIS George
 Faculty of Economics and Business Administration
 "Babes- Bolyai" University
 Teodor Mihali St. No.56-60, Cluj-Napoca
 ROMANIA

Abstract: E-Learning is a teaching system well developed in the European countries. Given the close integration of Romania into the European Union at the beginning of 2007, each university must bring its contribution in implementing the required standards into the educational system. Thus, this paper presents some arguments in favour of using an individual e-learning platform at the Faculty of Economics and Business Administration, as well as for its continuous improvement.

Key-Words: lifelong education, long-distance education, e-Learning.

1 Introduction

Lifelong education is a principle of education embedded both into the Romanian Constitution and into the Education Law.

Long-distance education, as a form of lifelong education is defined by the Romanian pedagogic literature as "the courses where the subject is not directly and continuously supervised by the tutor as is the case in the traditional forms of education". As soon as in Romania the objective of assuring a long distance-education was set, the Ministry of Education draw up the principles of a university policy responding to Romania's needs of education connected to the international system, then published a document called "The Higher Education into a Knowledge Society"(1998)[1].

In order to ensure regulations of the long-distance education adequate to the international practice, the Ministry of Education issued a set of rules ("Order no.5181/10.12.1998 concerning the 1999 Admittance into the universities organizing long-distance education") for setting up study centres for long-distance education into the universities.[1] According to the law, "long-distance education is one of the forms in which education is taking place in Romania. Extending the access to higher education for the young people, giving equal opportunities are basic principles of the higher education reform taking place in our country. Consequently, a number of reputable universities, such as "Babes-Bolyai" University from Cluj-Napoca, "A.I.Cuza" University from Iasi and the Academy of Economics from Bucharest began to promote long-distance education, although only tentative experiments.

Amongst the problems raised by this new form of long-distance education one could encounter:

training the tutor either by own means, or by attending international courses; searching potential beneficiaries on the market, identifying the fields, themes and groups of interest; and setting up collaboration projects (either with Chambers of Commerce, or with any other concerned institutions).

In developing long-distance education an important role was played by Multimedia.

Multimedia, more than any other technology has stimulated teachers' imagination. It genuinely pumps up "adrenaline" into the educational market. Its target is developing observing skills. We are all capable of making observations, comparisons, ranking and analyses based on causal phenomena. These are the cognitive abilities we should develop in our students.

Compared to the anterior efforts of educational processes where the learning exercises consisted in merely moving the text from the books on the screen, the multimedia applications catch the attention of students using sounds and images.

Moreover, they will get involved into an interactive environment of data linked through hyper-connections. Using this kind of applications as learning resources (stricto sensu - programs) goes hand in hand with the constructivist learning theories. According to these theories in today's world - which is continually changing, the ability to analyse and resolve rapidly a variety of problems is much more important than a mere application of memorised information. The best manner of teaching the conceptual way of thinking required for this kind of tasks is by using tests.

An important role for the evolution and development of long-distance education was

played by the development and the use of the Internet, and especially of the World Wide Web.

A new educational concept emerged at the beginning of 2000 in Romania, which encloses as well the internet, the multimedia and the virtual reality. This concept is acknowledged under various names: internet as a vehicle for teaching, web based training, web based education, internet based training, internet based learning, web based instruction, interactive learning. We now talk about E-Learning.

An e-Learning education system is “a support system of learning that assure the distribution of all the required instruments for running learning activities – teaching through courses, self-evaluation and collaboration-“[3]

The contents in the e-Learning field are brought through various means: Internet, Intranet, Extranet, satellite, PDA, e-books or other distribution platform.

A new type of instructor has occurred called Internet Trainer. This is the person who works with the students, teaches them how to use the Internet for professional, business, and research, leisure or instruction reasons. His role is to design the tutorial material. His skills must range from solid knowledge about working on the Internet, Web programming, to communication skills, either direct or computer based communication.

2001 is the year when the IES – Information Educational System – was launched in Romania. The IES is a complex program initiated by the Ministry of Education, whose objective is sustaining the process of teaching/learning using modern technologies in higher education. This programme supports the objectives of education reform according to the action plan “e-Europe 2005”, launched by the European Union as a part of the eLearning European initiative.[4]

The programme is implemented through a public-private partnership. Some of the main companies involved in IES implementation are SIVECO Romania, HP, IBM and Fujitsu-Siemens.

The AEL software developed by SIVECO Romania backs up the education reform initiated by the Ministry of Education oriented towards the introduction of Information Technology as a didactic instrument into the Romanian school system.

The AEL platform is an integrated system for teaching/learning and content management designed to support trainers, content developers, as well as all the others participants to the educational process.

In Romania the first opening for the e-Learning was realised by a Romanian company – TimSoft from Timișoara in 2003, by offering a system for designing and implementing on-line courses (materials, learning styles, elements of lifelong education), weblogs about e-learning, etc.

2 Problem Formulation

The Faculty of Economics and Business Administration – called FSEGA – part of the “Babes-Bolyai” University runs full-time courses as well as long-distance courses. The long-distances courses are being organized beginning with the year 2000.

At present, long-distance education is organized following 3 lines of studies:

- The Romanian language line of studies having 1362 students enrolled in the years 2-4
- The Hungarian language line of studies which has 177 students enrolled in the years 2-4
- The German language line of studies with 19 students

FSEGA has 20 IT laboratories with 12 computers having Internet access.

FSEGA has an *Information Technology* department, where specialists could realize individualised courses, could adapt them for personal study and could offer training to the ones interested in using the new information technologies.

Moreover, the didactic personnel from all the other departments – accounting, economics, mathematics, finance, marketing, modern languages applied in economics, as well as the administrative personnel (the secretariats and faculty administration, the library) has the necessary skills for using computers and wants to take part in e-Learning education.

It is pertinent to assert that at this moment FSEGA has the required infrastructure for realizing an e-Learning education as it is understood nowadays by the European specialised literature, and as it applied in the European universities. Therefore, we wanted to investigate if our students – the target of our efforts – are willing and have the required endowment for taking part in the e-learning process.

We have also realised that most of the students enrolled for long-distance education worked abroad in countries like Italy, Spain and Germany from where they have to come in January and June

in order to take part at the session of examinations organised each semester.

3 Problem Solution

This year in July the Admittance process took place, and for the long-distance education 346 students have enrolled. A questionnaire was handed over to those students, to fill in. The questionnaire had 23 queries. The poll was conducted using the skip-step method. The incremental step was 3, thus we got 115 returned questionnaires.

The most common application of e-learning are represented by the management, the preparation and the distribution of support materials and by tutorial activities taking the form of student2student interaction or student2professor interaction.

The questions were directed towards the identification of capacity for student-professor interaction, as well as student-student interaction. We considered that this interaction capacity could be defined through:

A. The student profile: age, sex, the type and profile of high school or faculty graduated.

B. The level of information about e-Learning they had, do they know what e-Learning means, where did they find out about e-Learning and why did they choose it.

C. Computer and implicitly Internet skills. These questions could be divided into 2 subcategories:

C1. General information about having computer and internet access at home or anywhere else (sine qua non condition for e-Learning education), the amount of time spent in front of the computer for instruction or for e-mail.

C2. Computer knowledge organized by: basic concepts of IT, using an operation system (organizing and manoeuvring files and folders), word processing (WORD), EXCEL, electronic presentations (Power Point, using the Internet for information (using search engines such as GOOGLE, YAHOO, ALTA VISTA, web design, others.

A. Respondents profile:

Most of the respondents are women 69% meaning 68 persons. Of these more than 50% (47) are under the age of 24 years old, have graduated from high school, and have the following specialisation:

- economic - 15
- IT- 7
- theoretical - 13
- sciences – 3
- other specialisations -9

Among those aged between 25 and 32 years old there are 17 persons, no IT specialisation, 4 of them have an economic specialisation, sciences – 2, theoretical – 7 and 4 have other specialisations.

It is worth noticing that amongst them 2 have already graduated from a faculty and 2 from college.

Aged over 32 years old there are 4 students, two of them graduated a theoretic profile in high school and the other two are engineers.

Besides these, we have 47 men, accounting for 31%. For those there are only two age categories:

- 18-24 years old there are 87% (41) having the following background:
 - Economic - 4 of them
 - IT – 8 of them
 - Theoretic – 6 of them
 - Sciences – 4
 - Other specialisations- 15
- 25-27 years old the rest of 13 % (6 persons) only one of them being graduated from the faculty, the rest of them has graduated from high school with the following specialisations: 2 of them sciences, 2 of them economic and the other two other specialisations.

B. Information they have about e-Learning

70 students from the whole lot answered YES the question “do you know about e-Learning education?” and 45 said they do not know what e-Learning is all about. Amongst the respondents that knew about e-Learning, 43 found out from friends, 11 on the Internet, 3 from the news papers, one of them at his job, and 12 of them from other sources.

Regarding the respondents giving a negative answer 25 of them just heard about e-learning from friends, 8 have found the term on the internet, 4 found it in the news papers, one of them at his job, and 7 heard it somewhere else.

The option for this form of education was made by two of them due to the lower cost, 18 have chosen it for the possibility of studying at their own pace, and more than 77% (89 persons) have opted for this form of education due to the fact that it gives them the possibility to mingle their work with study, gaining also the work experience which will give them better chances to find a good job when they graduate.

When we started this investigation we expected that over 75% of the enrolled students made this option to continue their studies in order to take advantage of the possibility to study at their own pace, this being one of the major advantages of e-learning education.

For the question “Do you prefer to follow your studies through e-Learning education?” there were 4 possible answers, only one to be chosen. From the answers one could see that only 40% would like courses and exams in e-Learning system, 29 % would prefer e-Learning type courses and exams in classroom, 14% would like classical courses and exams e-Learning type, and only 15% would prefer both courses and exams in the traditional manner.

C. Computer and implicitly Internet skills. These questions could be divided into 2 subcategories:

C1. General information about having computer and internet access at home or anywhere else (sine qua non condition for e-Learning education), the amount of time spent in front of the computer for instruction or for e-mail.

At the question “Do you have a PC at home?” 79 % (91) answered YES and 21% (24) answered that do not have a PC at home.

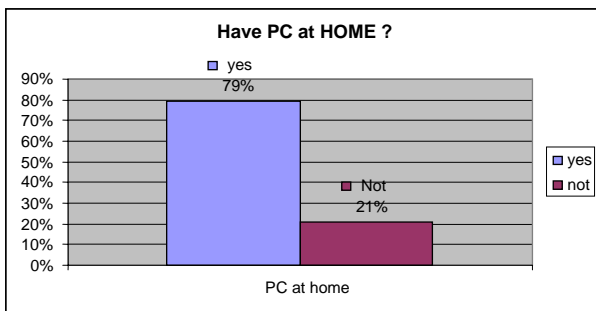


Fig1: Have PC at HOME?

Among those that have computers at home, only 66 have internet access at their home, 11 of them have internet access at their jobs, and 14 of them could get internet access at I-cafes. For the latter, one could assume it would be rather difficult to follow an e-learning education as they would have to study into an unfamiliar environment and they would pay for using the computer at the i-café.

Analysing some other data we could see that 3 of those that have a PC at home work on the computer less than an hour daily, 59 of the questioned are working between 1 and 4 hours daily, 23 of the respondents spend around 5-8 ours in front of a computer and 6 of them could and are willing to spend more than 8 hours daily on the Internet.

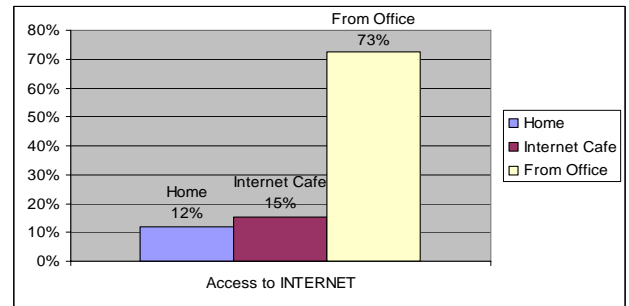


Fig2. Access to Internet

The amount of time spent in front of the computer gives us indications about the capacity of working with computers which is an essential prerequisite as e-Learning is mostly about using a computer.

Of those 24 students that do not have a PC at home, only 3 could have Internet access at their jobs, 15 of them could get access at an I-café and the rest of 6 do not have access to a computer at all. Though, 75% of those who do not have computers at home could have access to a computer and to the Internet, only 2 (8%) are working between 2-6 hours daily on the computer elsewhere than at home. We believe that only those 8% could manage to get their study materials, resolve the problems and hand in the due papers. The rest of them will probably not be able to cope, and will not succeed in accumulating the required number of credit points (30 ETC/ semester are required in order to get into the second year of studies)

We have then tried to see if the students are accustomed to use the computer for documentation, and also how much of what they learnt came from a technologic support. This is what we learnt:

At the question “What kind of learning technology have you used until now in the last year?”

The answers were as it follows: 59 of them representing 52% said that they only used books, 27 of them representing 23% have used lessons on CD Rom/ DVD , 6 of them (5%) have used compulsory courses posted by their professors on the site, but 23 of them (20%) have read various courses on the WWW.

“In the last year how much of what you learnt came from a technologic support as listed above?” From the respondents 45 said that nothing they learnt was by using an IT support, 19 of them said that up to 15% was by IT support, 14 of them said 15-25%, 22 of them said 25-50%, and 15 said that over 50%.

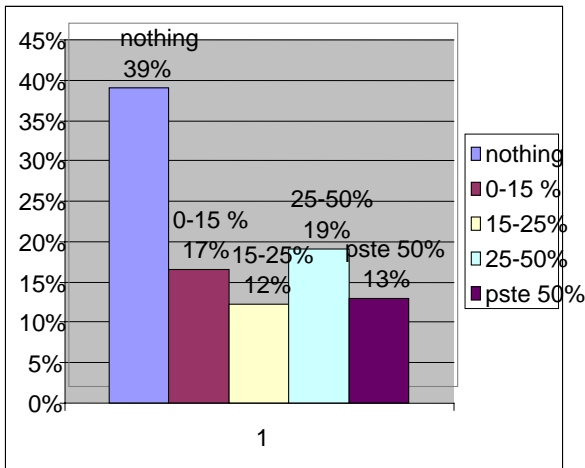


Fig. 3 Technology support for learning

C2. Computer knowledge organized by: basic concepts of IT, using a operation system (organizing and manoeuvring files and folders), word processing (WORD), EXCEL, electronic presentations (Power Point, using the Internet for information (using search engines such as GOOGLE, YAHOO, ALTA VISTA, web design, others.

The answers we got from the respondents were as follows:

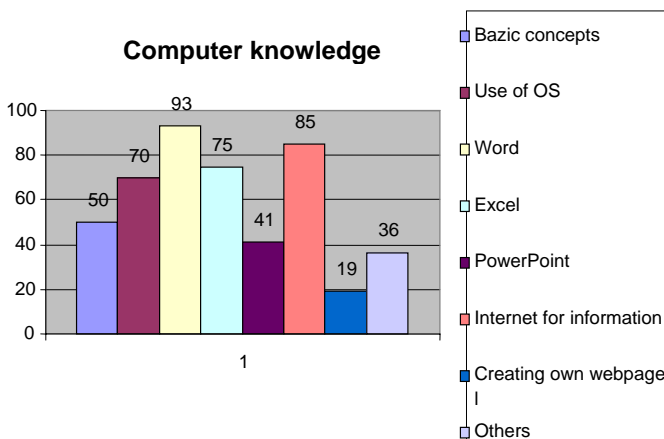


Fig. 4 Computer knowledge

50 of them acquired at the high school the basic concepts of IT (what a computer is and what is the meaning of its main characteristics, what the Internet is, and what World Wide Web is). 70 of them have used an OS (Windows 98, XP) and therefore know how to manage files and folders. 3 of them know how to write a paper using word processing (especially WORD), 75 of them know how to use EXCEL and 41 of them are able to give Power Point presentations. 85 students could use the Internet for collecting information, and getting bibliographical sources, 19 could realise their own webpage for presenting their CV, and 36 of them

have different other knowledge about computers and the internet.

At the question “Should the faculty buy the e-Learning platform and then adapt it to its specificity, or it should have its own e-Learning platform produced by the faculty specialists?” a great number of the respondents 88 (77%) think that the faculty should have an individual e-Learning platform, and only 23% (27 of the respondents) think that the e-Learning platform should be bought from a software firm and then individualised according to the needs.

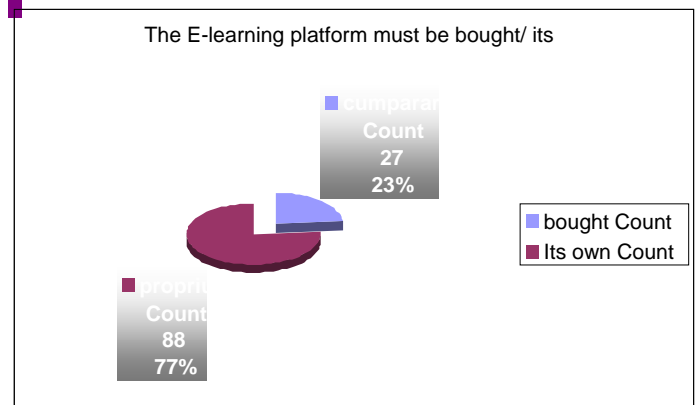


Fig.5 Should the faculty buy the e-Learning platform?

4 Conclusion

A first conclusion of our investigation is that in the simplest case the e-Learning systems could be combined with the traditional classes. Presenting the didactic material using both images and sounds could have a positive impact on the learning process and could allow a greater involvement of students into the learning process.

Surely, the course support should be more than a simple copy of a printed text, it should be a new material adapted for the new technology.

The main prerequisite for implementing successfully the new system of education implies developing the web culture of those trained by using e-Learning, particularly using the Internet for distributing didactic materials, communicating with all those involved in this educational process, and also finding resources for studying the proposed subjects.

The New Educational Technologies, as any other technologic instrument, have either industrial or economic pertinence only if they have the capacity to suit a large enough market. This does not depends only upon equipments' capacity of processing information but also on the educational products they transmit. Therefore, the e-Learning

offer must be in accordance with the users demand.

Based partly on the IT infrastructure but mostly on the strong human resources at FSEGA should be implemented an e-learning platform which could be successfully realised using the resources the IT department has at its disposal.

An argument in favour of such an option is given by the fact that the content part (the didactic materials, the questions, the tests) form the e-learning systems realised by the software firms is realised in partnership with the professors who have the required experience.

If one of the essential objectives of a university is “producing a social individual”, this individual as a part of an informational society must have all the abilities to access and process information regardless where this is coming from (computer, internet, CD, etc.) or what form is having (sound, image, text, etc.), no matter the place (home, library, school) or the time the information is needed.

Moreover, as the access at the information in not an aim *per se*, the social individual must extend its capacity to present the information in such a form as to make it accessible to others. The development of our students ‘abilities is an important goal that could be realised through our efforts at FSEGA.

Acknowledgment

This work has been partially funded from the grant CEE05-D08-66/11.10.2005 “University education efficiency in Romania from the perspective of the dynamics of educational formative requests” and Internal Grant of Babes - Bolyai University, Collaborative Decision Support Systems in the Academic Environments - Case Study, Babes-Bolyai University.

References:

- [01] Ministry of National Education, <http://www.edu.ro>
 [02] www.Byte.ro
 [03] Stroe A. D., *Standards and ELearning system*, edited by EduSoft, Bacău, Romania, pp 59, 2005
 [04] Ilia F., *AEL-a new technology in national education system of Romania*, in *proceeding of National Conferences in Virtual Learning*, printet in Bucharest, Romania 2003, ISBN 973-575-822-9
 [05] Mureşan P., *Rapid and efficient Learning* printed by *Ceres*, Bucharest, Romania, pp 45-47, 1990

- [06] Noveanu D. si altii, Cercetarea pedagogică în domeniul Instruirii asistate de calculator, rev. de Pedagogie, nr. 1, 1991
 [07] Lacurezeanu R., Vlad M., *Consideration about E-Learning in Romanian education*, proceedings of the 3rd International Conference "Economy and transformation management, Timisoara, Romania
 [08] * * *, *Avantajele sistemului E-learning* http://www.qwe.ro/ro/e-learning/articol/1/Avantajele_sistemului_E-learning.html
 [09] http://e.learning.ro/ro/pdf/elearning_ro.pdf
 [10] * * *, *e-Learning in Romania*, <http://www.timsoft.ro>
 [11] <http://elearning-forum.ro/elearning>
 [12] Istrate O., *Academia online*, www.leducat.ro/elearning
 [13] * * *, *The European E-learning Market Summary*, Report 2002 www.trainingvillage.gr/etv/Projects_Networks/ELearning/survey/Report2Summary.pdf
 [14] * * *, *The challenge of e.learning in small enterprises* - www.trainingvillage.gr/etv/publication/download/panorama/5144_en.pdf
 [15] * * *, *Evolving e-Learning*, HELIOS Yearly Report 2005/2006, *Scienter*, www.education-observatories.net/helios/Members/Odin/HELIOS%2022_05.pdf
 [16] Bajenescu T., *Power of multimedia communication*, Alabastra, Cluj-Napoca, 2002, ISBN 973-650-060-8
 [17] Holbrook J., *Step by Step Installation of a Secure Linux Web, DNS and Mail Server*, GIAC GSEC Practical, Version 1.4b, 2004
 [18] Daconta M. C., Obrst L. J. Smith K.T., *The Semantic Web: A Guide to the Future of XML, Web Services, and Knowledge Management*, John Wiley & Sons, 2003 ISBN:0471432571
 [19] Cook J., Smith M., *Beyond formal learning: Informal community eLearning*, *Computers & Education*, Volume 43, Issues 1-2, August-September 2004, Pages 35-47
 [20] Chis G.S., *Why Content Management*, proceedings of VIII Congreso “Cultura Europea”, Pamplona, Spania, 19-22 octubre 2005