Dimension of E-Learning Usage Based on Level of Studies: The Case of SEE University

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Abstract: It is readily evident that the huge prospective of present technology will influence not just the location of the educational process, but also its occasion-time, place, content, context and form of interactions. The technology of e-learning digital libraries, open course collections of web pages, e-learning courses and classes abroad has invaded the public cultural awareness of conducting education. This paper will gathers experiences, challenges and tools from applying e-learning in a HE institution for more than a decade and further more it presents successful model(s) of course delivery based on lessons learned from more than a decade implementation of e-learning.

Key words: e-learning, LMS, teaching,

INTRODUCTION

The impressive growth in the appliance of technology to e-learning course instruction has resulted in increased concern for higher institutions. Close to this almost all abroad higher education institutions are promoting the deliverance of e-learning courses to convene student demands for learning and preparation flexibility. The grounds of the Internet have universal application because of its suitable access, interactive interface, low rate connectivity, media potentials, and its possibility to feature interactive environments. The application is even greater when higher education institutions consider instructional costs, student insists including an increasing population of adult learners, and competition from other higher education institutions. As a result, the number of e-learning courses and related student enrolment has missile in recent years

Nevertheless, the actual transformative potential of web technology for education reform is still not well understood. The promise of the Internet to deeply modify the structure of education is not without its problems yet. The technology cannot immediately cause changes in centuries old traditions. Much of what is now available e-learning is merely content based on the same old educational principle of driving knowledge into the student's head.

E-learning is rapidly becoming one of the most widespread teaching modalities, thanks to its wide spectrum of possibilities. Often also called distance learning, e-learning and web-based learning, the term generally covers all those cases in which the teaching-learning process takes place autonomously and using electronic material. Among the main features distinguishing e-learning, as opposed to "face to face" learning, the following can be identified [7]: while the face to face modality is characterized by the class, the e-learning modality is usually tailored to the student; while in the first it is the teacher who selects subjects and rules, in the second the student has more control over topics; while the first has predefined timetables, the second takes place when the student prefers; while in the first the use of technology is optional and depends on the teacher's will and competence, in the second the teaching procedure occurs mainly by means of technology, and the student can learn through an autonomous critical thinking process; in general, while students play a reactive role in the face to face modality, they act a proactive role in the e-learning modality. On the other hand, e-learning also poses some challenges, such as motivation, time management, collaborative learning, learning "how to learn" in a virtual environment and assessments and similar [9].

SEE University has succeeded in combining the best of European and US experience and benefited from academic collaborations sponsored by the EU Commission and USAID among other donors. The entire period since the founding of the University is characterized by intense development aimed at improving the quality of teaching and educational process, as well as its modernization. The tradition of innovation in teaching at SEEU started from its beginning when first distance education programs were launched.

QUALITY ISSUES IN E-LEARNING COURSES

The general problem with e-learning courses is the quality. In the run to offer e-learning courses, some higher education institutions have created standardized measures for course development however all courses are treated unchanged regardless to their implicit necessities for teaching and learning. Other institutions have just pressured departments to turn their on-site courses into e-learning courses. Even when training is provided, in many examples the focus is on the technology for delivery of the courses rather than on instructional and assessment strategies. In other cases, the courses are just a collection of materials including lecture notes and power point presentations with little teacher-student or student-student interaction and low intellectual motivation.

As a result, higher education has reached a point where the concept of quality is becoming an important and dominant issue. Almost every higher education institution that is offering e-learning courses is facing with many challenges concerning this mode of the delivery. These challenges include many aspects of the e-learning delivery but the main questions include [4]:

- Are the e-learning courses as effective as face-to-face?
- Are the e-learning courses as good as they could be?
- What is the best method to deliver an e-learning course?
- How to evaluate the quality of e-learning course?

These challenges are very often raised in the literature and the message than can be gleaned is that in e-learning settings the quality is often compromised ([6], [8], [10]). Although there is a plethora in the literature that describes attributes and guidelines for the quality of e-learning course delivery, each e-learning experience has its own story and lessons learned. In fact, even if we consider resolved nowadays questions such as accessibility of the content, the age of the content and the purposeful use of the media, there are questions and perspectives that remain to be explored and evaluated in each e-learning experience ([11],[12],[13]).

E-LEARNING AT SEEU

SEEU strive to be in line with the current trends in e-learning and to apply effective utilization of e-learning in education to enhance teaching and learning process. The use of e-learning in the majority of higher education institutions is identified by the use of Learning Management System (LMS), a system that is focused on the delivery and support of learning opportunities.

Figure 1. LMS - Libri (http://libri.seeu.edu.mk/)

SEE University's LMS experience is starting from the period 2006-2008 when SEEU initially started the usage of a commercial LMS (ANGEL) with various learning and managing tools. In the following period a new in-house LMS-Libri (Fig.1) was developed and integrated with other e-systems at SEEU [3]. The system is in use from 2009 to present.

A lot of investigation based on user voice' has been done before and after the system was designed. The main aim was to detect the most important tools in a LMS from the users' perspective and also after the system was designed, developed and implemented at SEEU, the users were again the key drivers in the process of enhancing and further system development [2].

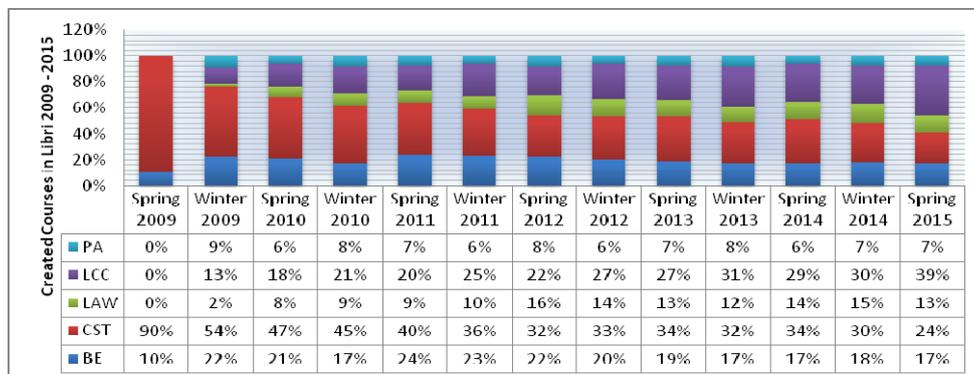|	Spring 2009	Winter 2009	Spring 2010	Winter 2010	Spring 2011	Winter 2011	Spring 2012	Winter 2012	Spring 2013	Winter 2013	Spring 2014	Winter 2014	Spring 2015
PA	0%	9%	6%	8%	7%	6%	8%	6%	7%	8%	6%	7%	7%
LCC	0%	13%	18%	21%	20%	25%	22%	27%	27%	31%	29%	30%	39%
LAW	0%	2%	8%	9%	9%	10%	16%	14%	13%	12%	14%	15%	13%
CST	90%	54%	47%	45%	40%	36%	32%	33%	34%	32%	34%	30%	24%
BE	10%	22%	21%	17%	24%	23%	22%	20%	19%	17%	17%	18%	17%

Figure 2. History of Libri usage for 6 years distributed among the SEEU Faculties

In Fig. 2 and Fig. 3 are given the statistics from the LMS Libri usage among different faculties from its initial lunching in 2009 till 2015, separated per semesters. As can be seen from these figures after the initial motivation and increase in the LMS usage, lately there is a slight fall of Libri usage by four out of five SEEU faculties (Contemporary Sciences and Technologies (CST), Public Administration (PA), LAW and Business Administration (BA)). This is a consequence of many new trendy applications that are appearing (Google Drive, Google Classroom, Facebook apps, etc.) and are available free of charge. The drop of the number of courses created in Libri lately (Fig.3) is also result of the new tools for managing the courses which teaching staff are exploring.
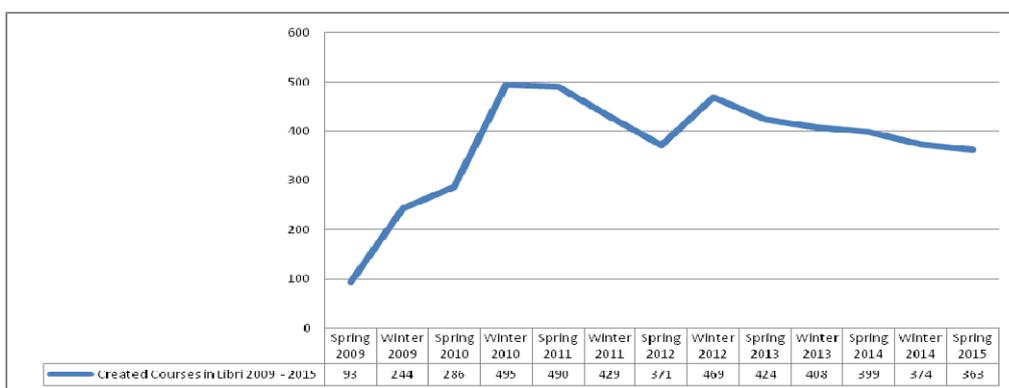

	Spring 2009	Winter 2009	Spring 2010	Winter 2010	Spring 2011	Winter 2011	Spring 2012	Winter 2012	Spring 2013	Winter 2013	Spring 2014	Winter 2014	Spring 2015
Created Courses in Libri 2009 - 2015	93	244	286	495	490	429	371	469	424	408	399	374	363

Figure 3. Curve of courses created in Libri LMS 2009-2015

METHODOLOGY OF ONLINE TEACHING

In order to establish a successful online program after the establishment of the technical tools such as the LMS and the Distance Education Lab another key issue was raised. It was regarding the methodology of online teaching. The teaching staff was unfamiliar with the procedure of converting the course content used for teaching face to face in 'a form' that would be more appropriate for the teaching in distance. Although the courses are the same (for both face to face and online teaching) the teaching staff needs to reorganize and to rethink their teaching methodology once they decide to teach online [5].

In this direction, a collaborative effort involving professionals from Indiana University took place in order to help to the teaching staff to produce e-learning courses and teaching-learning strategies through organizing an e-learning workshop training seminar.

The workshop contributed by exploring the design and development of effective e-learning courses for teaching and learning in higher education [5].

The main idea was the teaching staff at SEEU to begin adapting an existing course to work within the Libri environment, taking into a consideration the learning theories, strategies and dominant methodology for e-learning course preparation. Also a lot of new tools were presented to the staff in order to enhance their communication with the students in distance. The initial point was the design of the syllabus for the e-learning course. The syllabus must contain all the crucial data and it should be presented to the students in the very first module (usually named: Start Here). E-learning involves not just activities but also content in a Web browser and actual learning materials delivered in Web format; therefore this information should be part of the syllabus as well.

The e-learning syllabus must contain at least the following elements [4]: Course Information; Instructor Information; Technical Requirements; Grading Criteria; Important Course How Tos; Policies; Course Calendar.

Another very important moment in the workshop was the're'-organization of the course content in the LMS. In fact once the course content was "chunked" in modules or weeks depending on the course, for each module (or week) were prepared lessons, recordings, exercises and scheduled e-learning activities for the students. Differently from the face to face learning when the teacher just uploads the lectures and the exercises in the LMS, in the distance course delivery the whole approach in the LMS use must be more descriptive [4]. In fact within each module the first document is the Module Page which represents the learning guide.

EXPERIENCE WITH E-LEARNING IN DIFFERENT LEVELS OF STUDY

Although e-learning is part of almost all up to date universities, the experience at our university has shown that in different levels of study (Bachelor, Master, PhD) different modes of delivery and different levels of LMS usage are present. E-learning learners at Bachelor level can simultaneously be exposed to very different pedagogies. To succeed they should be provided with assistance. Proposing a predominantly teacher-centred environment where the students usually expect their teachers to tell them what to learn and how, could serve them very well. This is due to the fact that the students need a teacher support supposing that they didn't have any e-learning teaching before. In this initial part of their studies the LMS usage also is mostly used for managing course content and slight use of collaborative tools is noticed (Table1). In other words, based on the levels of LMS usage shown on Fig.4, at bachelor level 90% of the activities are at level 1 and 2.
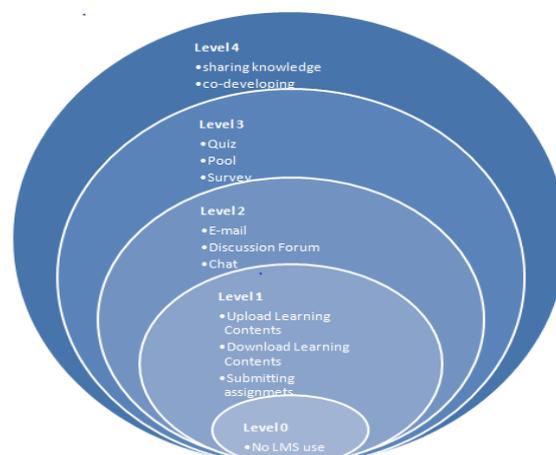

Figure 4. A level-model for assessing the LMS usage among staff (courses) in an institution [1].

As the students progress in the higher levels of education at Master and PhD level, the use of collaborative tools is more significant. The students in master studies are active in creating knowledge based on their own existing knowledge. They could also be as a

part of a team of other learners that are taking part in a learning experience. Constructivism based teaching, by facilitating collaboration, communication, interaction and knowledge construction and sharing in a team of learners and with the teacher, will improve learning outcomes and course quality. Defining the required competences is a first phase in the development of a learning process. Following the constructivism approach, the learning process can be built in phases of learning activities, which can be further one developed by the learners.

Although the students are in the second level of their HE, at master level still almost 60% of the activities remain on LMS usage level 1 and 2 (Table 1), which shows that student work together and have some critical approach towards the learning content but considerable guidance and interaction with the teacher is a necessity.

Collaborative learning is an important pedagogy that is mostly meaningful for graduate students, who are often adults returning to college. This instructional approach can lead to stronger outcomes especially for PhD students. Teaching staff reorganize the classroom away from traditional lectures to small-group collaborative projects, where students work together and with teachers on complex projects.

Table 1. The percentage of ANGEL usage based on level-model

LMS / Levels	Level 0	Level 1	Level 2	Level 3	Level 4
Bachelor	0%	49 %	41 %	10 %	0 %
Master	0%	33%	26%	32%	9%
PhD	0%	10%	8%	10%	72%

Through collaborative projects, PhD students build upon their previous personal experiences as they advance their learning and development. The LMS usage also is with highest percentage 72% in the higher level where students focus mainly in collaborative work and co-developing the existing tools and services in the system.

CONCLUSION

The great interest for original pedagogical-educational practices is a reaction to the community needs for educational change. Such needs come out from the huge request and admission to higher education, the need to raise competitiveness mainly through the raise of the human potential and the necessity to take into account new approaches to learning. Our experience helped us to develop a deeper understanding on the issues and opportunities in an e-learning environment, create new teaching and learning approaches, and empower teaching staff to become more effective in delivering e-learning courses. The paper reflects the experience we had in the establishing of e-learning and LMS usage.

Of course there are still many challenges and unresolved issues that remain open. One of these challenges is that students are sometimes resistant to working on group projects because the outcomes rely heavily on the input of others and conflicts within groups does not always result in the acquisition of increased knowledge. Another major challenge associated with collaborative learning is how much freedom to give to students to manage the roles they take in order to encourage the development of independent team-working skills. This issue is present especially at graduate studies, both master and PhD level.

Finally the main obstacle of e-learning is time. It takes significantly more time to prepare and deliver an e-learning content. This is reported by both teachers and participating students. Although they value these experiences, they do report that it is time consuming.

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The paper has been reviewed.