The Choice of eLearning or Blended Learning in Higher Education

Andrea Tick

Faculty of International Management and Business, Budapest Business School
tick.andrea@kkfk.bgf.hu

Abstract: The proliferation of Virtual Learning Environment (VLE) systems and the wide variety of learning management systems (LMS) provided various alternatives in applying any one system over another in higher and further education while the problem of selecting a commercial or open source learning management system has also arisen. The forceful implementation of e-learning, regardless of the target group and the demands of the profession, drives higher education institutions into dead ends. This paper tries to point out whether the application of only e-learning approach as the unique and divine route in the future should be forced or blended learning should be encouraged as an alternative. Furthermore, the selection of an appropriate LMS in order to handle learning content, student administration and monitoring the learning process is a must.

Keywords: e-learning, blended learning, learning management system

1 Introduction

The revolutionary development and change in the information and communication technology (ICT) in the last fifty years and especially the digital boom in the mid/late 90s have tremendously changed certain forms of learning and education. Distance learning and distance education, especially e-learning and the recently spreading blended learning way of life long learning, are becoming more and more widespread since they differ from the conventional way of education. It is a complex system which results in a remote, planned and guided learning process determined by the demand of the market and the learners. Furthermore, e-learning internet based technologies have also changed the nature of knowledge, enabling lifelong learning and inspiring individual, autonomous learning as well. In the Information and Communication Society (ICS), as the 21st century is also referred to, the nature of knowledge turns into a 'multimedia-ish', trans-disciplinary and practical oriented knowledge [1]. ICT, especially the implementation of multimedia components and the proliferation of web based e-learning applications encourages the development of new methodologies in developing teaching materials and forces learning management system developers to invest in

innovation and create such learning management systems that enable student e-portfolio as well.

This paper focuses on the questions of introducing e-learning or applying blended learning in undergraduate and postgraduate courses. The second chapter deals with the concept of e-learning and blended learning approaches and strategies. The third chapter gives a short description of LMS types that are unavoidable in the e-learning market.

Finally, the paper makes an attempt to recommend which learning approach could better serve undergraduate and postgraduate courses.

2   Concepts of e-Learning and Blended Learning

2.1   E-Learning

In the Virtual Learning Environment in the Information Society, an ICT enhanced e-learning environment can effectively foster learning if it stands on sound strategic pillars varying from the technological to the tutorial ones. According to Derek Stockley e-learning is 'the delivery of a learning, training or education program by electronic means. E-learning involves the use of a computer or electronic device (e.g. a mobile phone) in some way to provide training, educational or learning material'[1][2]. According to some definitions internet technology forms the base of e-learning where d-learning (distance) gives the frame for e-learning development and interactivity adds an extra feature to e-learning compared to fixed web based education [3]. It can be argued that e-learning forms a content rich, performance oriented, interactive and multimedia based network that enables autonomous and individual learning pace, flexible scheduling in learning, and can be accessed any time from any place [1]. It is assumed in a study by Eduweb that web-based (internet based) e-learning will become the most widespread form of e-learning in the future. As the authors of [4] say, Internet based courses utilize potentials of advanced communication tools as media, knowledge technology, Internet, and human-computer interaction. Internet brought new resources of transfer of teaching materials between computers, hypertext in programmed presentations, e-mail, and chat. The accessibility of such ways of learning creates such an open learning environment where both the flexibility of timing and the autonomy of a learner meet the requirements of life long learning in the information society. However, the student/learner who needs personal supervision for confidence or for motivation will fail to find mere e-

---

[1]   http://derekstockley.com.au/elearning-definition.html, 23. 04. 2006.

learning solutions satisfactory. (S)he would seek learning approaches where face-to-face teaching or classroom activities are involved. Consequently, an integrated strategy for delivering content and providing personal tutoring that involves coaching by a supervisor, participation in a traditional or an online class, meeting colleagues outside the classroom, participation in seminars, workshops, and online communities is to be taken into account when talking about undergraduate courses. In case of in-service training or postgraduate courses time, place and group size factors must also be considered. In this case trainees are not full time students and might not find time to come to conventional classrooms. To fulfil the demand of this market courses built exclusively on e-learning ought to be offered as well.

2.2   Blended Learning

The nowadays trendy term blended learning is used to describe the combination of online tutoring or mentoring, self-paced learning and 'conventional', offline, face-to-face approaches. It can successfully combine the advantages of e-Learning with rigorous practice, correction and guidance face-to-face with a teacher in a classroom using the combinations of technology-based materials and traditional print materials. Good examples can be taken form English Language Teaching (ELT) since foreign language teaching especially ELT has always been at the forefront of e-learning and blended learning as well, which is proved by the numerous online language teaching programmes accessible on the world wide web, e.g. courses offered by the British Council or the BBC World Service. However, it can be argued whether purely online tutoring and courses fulfil the requirements of successful and effective learning since it misses real life personal communication / interaction. Consequently, a combination of face-to-face teaching and interactive (frequently electronic) practice activity could result in a more motivated, efficient and effective teaching-learning process. 'In 2002, Harvard Business School faculty DeLacey and Leonard reported that students not only learned more when online sessions were added to traditional courses, but student interaction and satisfaction improved as well.' [2] [4] The proverb 'When in Rome do as the Romans do' or 'One size fits all' imply that there is no single formula that guarantees learning, however, the learning activities can be tailor-made and customised according to the learner's demands. Blended learning approaches are 'characterized by customization, integration, purpose, flexibility, and redundancy. The alternative – one-size-fits-all – is no way to serve a global workforce' [3][4].

The National Institute Of Information Technology (NIIT) has put blended learning into three basic models as written in the paper by Valiathan [5]:

---

[2]   http://www.learningcircuits.org/2003/jul2003/rossett.htm, 01. 09. 2006.
[3]   http://www.learningcircuits.org/2003/jul2003/rossett.htm, 01. 09. 2006.

Category	Basic Features:	Event-based activities:
Skill-driven learning	To combine self-paced learning with instructor or facilitator support to develop specific knowledge and skills	- Group-learning and self-paced learning tasks with tightly scheduled and strict supervision - Synchronous or asynchronous learning labs - Long-term project work
Attitude-driven learning	To mix various events and delivery media to develop specific behaviours (new attitudes)	- Role play simulations - Synchronous online meetings (peer-to-peer interactions) - Offline group project work (risk free environment)
Competency-driven learning	To blend performance support tools with knowledge management resources and mentoring to develop workplace competencies.	- Interaction with experts in the profession - Availability of a knowledge repository (LCMS[4]/LMS)

Figure 1

Blended Learning Models based on NIIT categories given by Valiathan

2.2.1   Skill-Driven Model

In blended learning the skill driven model builds on the interaction between the instructor-teacher and the learner, the interaction being via electronic means such as email or chat forums or a face-to-face meeting in a classroom. This approach puts an emphasis on the tutor playing an active part in the online training programme. Learners feel comfortable if his/her self-paced learning process is continuously monitored and supervised. This approach has proved to work best with people learning content at the knowledge or application levels.

2.2.2   Attitude-Driven Model

This approach can be applied to teach soft skills like meeting skills, negotiation skills or dealing with troublesome customers. The content as well as the skill / attitude development requires face-to-face meetings or technology-based collaborative events. Online discussion forums, chat modules as well as group projects are desirable to be included in the course plan.

2.2.3   Competency-Driven Model

As the name of the approach suggests the success of knowledge depends on how competent the freshly recruited employees are in quick decision making. In order to improve these competencies learners need tacit knowledge that can be 'learnt' from experts by observing and interacting with experts in the profession. A knowledge depository, a discussion forum, online performing possibilities and also online mentoring could improve competencies.

---

[4]   LCMS: Learning Content Management System

2.3 Blended Learning Strategies

In the previous chapter three different blended learning approaches have been discussed. At the same time there are some tangible tools and techniques that make blended learning applicable. Virtual and Live/Non-Virtual learning possibilities are combined in blended learning. The authors of [4] state that a virtual classroom offers services to students as conventional classroom since the teaching procedure relies upon services. The main categories of such services are virtual lecture, seminar, teaching material service, offline and live consultation, submission of assignments, interactive learning and training. A conventional teaching procedure can also be arranged individually upon request, and it also includes lectures, seminars, face-to-face consultations, assignments and assessments. The following table arranges some of the virtual and non-virtual tools and techniques according to learning phases without attempting to cover the entire range of possibilities.

	Virtual	**Live/Non-virtual**
Information transfer Instruction	LMS Email Online bulletin boards	Phone Notice board Face-to-face meeting
Demonstration/Self study	e-books online resource links web-based tutorials EPSS Web-learning modules Knowledge databases	Library Books Printed material Workbooks Conventional classroom
Emulation session	Webinar[5] email	Face-to-face, traditional classroom Workshops,
Discussion/queries	Online chat forums Discussion forums Instant messenger Email Online communities	Workshops Group meetings
Assessment	Online self assessment Web-based test	Print test
Support/feedback	Email LMS e-mentoring	Print report Personal tutorial

Figure 2

Blended Learning Strategies based on NIIT and Rossett- Douglis-Frazee categories

---

[5] Webinar is short form 'for Web-based seminar, a presentation, lecture, workshop or seminar that is transmitted over the Web. A key feature of a Webinar is its interactive elements -- the ability to give, receive and discuss information.' [6].

In higher and further education full time students have the possibilities to follow courses in the traditional classroom and at the same time exploit the advantages of getting additional tutoring and mentoring via e-learning and the virtual classroom. The adequate combination of the two namely blended learning could create a healthy balance between conventional and '21st-centurish' ICT enhanced way of life long learning.

3   Learning Management Systems

3.1   The Concept and Features of an LMS

The key issue for the implementation of the virtual classroom as well as the services of e-learning is management. Regardless of the approach a higher education institution chooses to implement and practise, an adequate and well selected Learning Management System is capable of fulfilling the demand of tutors and learners simultaneously. A well selected LMS is capable to handle the knowledge database as well as student administration. According to Wikipedia 'a Learning Management System (or LMS) is a software package, usually on a large scale (that scale is decreasing rapidly), that enables the management and delivery of learning content and resources to students. Most LMSs are web-based to facilitate 'anytime, anywhere' access to learning content and administration'[6][7]. Most of LMSs cater for educational, administrative and deployment requirements. Common LMSs enable student registration, the delivery and tracking of e-learning courses and content, and assessment, and may enable the management of instructor-led training classes. 'In the most comprehensive of LMSs, one may find tools such as competency management, skills-gap analysis, succession planning, certifications, virtual live classes, and resource allocation (venues, rooms, textbooks, instructors, etc.)'[7][7]. Most systems provide learner self-service, facilitates self-enrolment, and make access to courses available.

The terms LMS and LCMS ought to be distinguished since LCMS, which stands for 'Learning Content Management System', facilitates organization of content from authoring tools, and presentation of this content to students via the LMS. It means that learning content can be edited in the LCMS while it is not supported by LMS. Should one decide which LMS to choose for a course(s) in higher and further education it has to be considered whether e-learning will be exclusively implemented as teaching and tutoring or blended learning will be applied as well. In Hungary the picture is quite colourful. Within one higher educational institution

---

[6]   http://en.wikipedia.org/wiki/Learning_management_system, 31.08.2006
[7]   http://en.wikipedia.org/wiki/Learning_management_system, 31.08.2006

several LMSs systems are installed and used for various courses or set of courses. John Hall [8] has given a list of features to be considered when selecting an LMS.

Compatibility. Most Hungarian higher education institutions use the Neptun and the ETR (Unified Student Administration System) in which a database has already been created. The question is whether the installed LMSs are compatible with these systems and could build on the already existing database.

Interoperability. The other question whether the content and knowledge database uploaded into a certain LMS can be transferred easily to another LMS also used by the same institution. To support learning content from different sources and multiple vendors' hardware/software solutions, the LMS ought to be based on open industry standards for Web deployments, e.g. XML, SOAP or AQ, and support the major learning standards like AICC, SCORM, IMS and IEEE [8]. At this point we have to mention commercial and open source (OS) LMSs. Both systems are available on the market, and the institution must consider how the LMSs already in use compatible or can be make compatible with other LMSs. Commercial LMS tend to offer more services, however, such features that OS LMSs can be re-used legally under the GNU General Public License might be determining hen purchasing an LMS. OS LMSs make such development possible that enables content transfer from one LMS to another. Such OS LMS are for example Moodle, ATutor, ILIAS, dotLRN or OLAT.

User friendliness/Usability. When selecting a LMS it should be taken into account that tutors who are (un)trained to develop and upload learning content are not computer experts. This applies to most of the students as well. Therefore the tools and services of the LMS such as the access, delivery and presentation of learning content and self-paced study ought to be presented in an easy-to-use and highly intuitive manner. Otherwise both tutors and students loose motivation and will feel uncomfortable.

High availability: If the selected LMS is used in undergraduate and postgraduate courses at the same time, it has to 'be robust enough to serve the diverse needs of thousands of learners, administrators, content builders and instructors simultaneously' [8][8].

Scalability: The growing e-learning market attracts more and more e-learners. Institutions must be ready to provide further infrastructure that is able 'to expand – or 'scale' – to meet future growth, both in terms of the volume of instruction and the size of the student body'.

Stability: The LMS infrastructure can reliably and effectively manage a large enterprise implementation running 24x7.

---

[8]   Hall, 2003, See [8]

Security: As with any outward-facing collaborative solution, the LMS can selectively limit and control access to online content, resources and back-end functions, both internally and externally, for its diverse user community" [9][8].

3.2 Seven Steps to Select an LMS

Alvarado an independent consultant specializing in corporate learning and learning technology has given seven steps to select an LMS which meets the needs of the institution [9].

1 Determine the strategy	Making a formal Corporate Learning Strategy document. • target audience, • learning preferences, • the location of the audience, • what resources are available to them, • the corporate goals and objectives, • budget constraints, • potential realized benefits, • return on investment. Your learning strategy should reflect how you plan on delivering learning programs to the people who need it to accomplish your business goals**.**
2 Determine the requirements	• To match the LMS to the requirements of the institution • Hoste vs installed LMS • Commercial or OS LMS
3 Research LMS companies	• focus on key areas surrounding your core or highest priority requirements
4 Prepare the Request for Proposal (RFP)	• To be specific about the requirements • Proposed projects plan for implementation • To provide a short response time
5 Review the Proposals	• Rating matrix • Include positive and negative impressions • Focus on core requirements
6 Schedule Meetings and Demos	• Check how compatible and flexible the environment • Try out demonstrations • Check specific questions
7 Make your selection	• It is a long-term investment

Figure 3
Seven steps to select an LMS based on e-learning engineering document [9]

Conclusions

In summary, the challenges of the Information Society, the growing boom of the digital technology, and the proliferation of the Virtual Learning Environment have all influenced the process of teaching and learning in higher and further education. All in all, it can be argued that due to the technological innovations and developments the emphasis shifted from learning in a class towards learning

---

[9]   Hall, 2003, See [8]

individually or via network-based solutions using Learning Management Systems to serve and encourage autonomous, independent and life long learning.

This paper has striven to present the viability and necessity of blended learning in higher education and argued that pure e-learning is not the only beatific way of tutoring in the Information Society of the 21st century. The teacher's role has definitely changed and his/her role as the only source of knowledge is turning into being a mentor, counsellor and tutor. The tutors will have to be able to develop learning content for LMSs and the institutions ought to decide which LMS to choose in order to fulfil the requirements. In the last paragraph some LMS features to be considered when selecting a LMS have been listed. Finally, looking at the decision making side of the coin, the process of selecting an LMS has been presented in seven steps.

References

[1]   Dr. Selinger, S.: Távoktatás a világhálón, Az internet alapú oktatás egy kommunikációs folyamat (Distance Learning on the Web, Internet-based Education is a Communication Process), http://www.szamalk.hu/E-learning/Program.htm, 29.12. 2005

[2]   http://derekstockley.com.au/elearning-definition.html, 23. 04. 2006

[3]   Felvégi, E.: Távoktatás, e-learning és nyitott oktatás Anglia, Az Egyesült Államok, Finnország , Németország, Svédország oktatási rendszerében, (Distance Learning and Open Learning in the Education System of England, the USA, Finland, Germany and Sweden), Új pedagógiai Szemle. 2005/12

[4]   Preitl, S., Precup, R. E., Gáti J., Kártyás Gy., Szénási S.: Enhanced Mixed Campus and Distance Higher Education, 3rd Romanian-Hungarian Joint Symposium on Applied Computational Intelligence (SACI 2006) May 25-26, 2006

[5]   Rossett, A, Douglis, F., Frazee, R. V.: Strategies for Building Blended Learning, 2003, http://www.learningcircuits.org/2003/jul2003/rossett.htm, 01.09.2006

[6]   Valiathan, P.: Blended Learning Models, 2002, http://www.learningcircuits.org/2002/aug2002/valiathan.html, 12.09.2006

[7]   http://www.webopedia.com/TERM/W/Webinar.html, 31.08.2006

[8]   http://en.wikipedia.org/wiki/Learning_management_system, 31.08.2006

[9]   Hall, J.: Assessing Learning Management Systems, 2003, http://www.clomedia.com/content/templates/clo_feature.asp?articleid=91&zoneid=, 14.09.2006

[10]   Alvarado, P.: Seven Steps to Selecting a Learning Management System, 2004, http://www.clomedia.com/content/templates/clo_webonly.asp?articleid=365&zoneid=78, 31.08.2006