E-learning as a supportive learning tool for a traditional class[*]

Jarumon Pongpech

Lecturer, Faculty of Engineering, Thammasat University
Klong Luang, Pathumthani, 12120

Email: jjarumon@engr.tu.ac.th

Abstract

The use of information and communication technology as an instructional tool in higher education has major implications for lecturers, learners, and institutes. Thus, there is a need to reexamine our understanding of the e-learning concept in order to fully exploit its advantages and to avoid its misgivings. This paper suggests a combination of both traditional class and online methods as the most effective solution to enhance the learner's performance.

Keywords : E-learning, Traditional class, Hybrid course, Supplementary

Introduction

E-learning is the converging of the two disciplines of technology and learning. It is also known as "web-based learning" and "internet-based learning". E-learning affects an educational management system as becoming an integral part of the education in every university.

Since instructors and students increase the use of the World Wide Web, information dissemination has been changing from paper-based to electronic format (Robin and Mcheil, 1997). Most of universities have developed their own websites to distribute academic and administrative information. And, usage of the Web in classes to receive course materials and information is integrated into the traditional class.

Especially, use of the Web as a supplement teaching tool is increasing very rapidly in higher education. There are trends toward creating online courses by faculty members and will likely continue in the future (Coppola et al., 2002; Smith et al., 2005; Young, 2002). The influences for higher education to offer online education involve the increasing technology and high competitive among educational providers. It is clear that the technology and competitive environment have a significant and dramatic effect upon the dissemination of educational information. This results in a greater demand for advance learning environment. The challenge to instructors is to use new technologies effectively and creatively.   The delivery of course materials is undergoing a remarkable change from solely traditional face-to-face lecture to the bundle with online course. As a result, e-learning used to support the traditional class is a significant topic for discussion and research. Henceforth, it is important to understand the role of the e-learning.

The purpose of this report is to provide an understanding of the basic concepts of e-learning in order to enhance faculty's perspective of an online course as a supplementary for a traditional classroom lecture.

Definition and Characteristics of E-learning

E-Learning is the use of the Web and other technologies to enhance the teaching and learning experience. There are a number of slightly different definitions of e-learning in use (Bocchi et al., 1999; Meredith and Newton, 2003; Sloman, 2001). However, a more-widely accepted but narrower definition suggests that e-learning implies use of the Internet. In this report, the term e-learning is used synonymously with technology-based learning which refers to educational online materials and online tutorials.

Here are some main characteristics of e-learning.

Digital Content
The information is created in the form of the digital content such as hyperlinked course materials, text, and images. The electronic learning is experienced through a technology interface.

Multiple Learning
Learners can access information, interact, apply knowledge, and otherwise engage in learning activities using online course as the main vehicle. The total experience learning ranges from synchronous learning to threaded discussions to self-paced study.

Delivery by Electronic Media
The delivery of content is conducted via all electronic media, including the Internet, intranets, extranets, satellite broadcast, audio/video tape, interactive TV, and CD-ROM. Normally, the

learners use the Web as an exploratory tool to access a plethora of information and resources. Beside the web-browser, other tools for e-learning include computer-based assessment, chat rooms, e-mail, whiteboards, groupware, video conferencing, web-cameras, portals, web-pages, online library catalogues, and simulations.

Benefits and Drawbacks

E-learning offers several outstanding benefits to both learners and instructors. The technology-based learning transforms the traditional classroom to a more modern, efficient, and flexible alternative. Learners can access the online course when it is convenient for them, at home or off-hours. The growth of the World Wide Web, high-capacity networks, and high-speed desktop computers will make learning available to learners 24 hours a day, seven days a week around the world. This will enable learners to work easily and conveniently at anywhere and anytime.

Another major consideration regarding the advantage of e-learning is the consistency and standardization of the content. The course content can be updated easily across the network. This keeps content fresh and consistent and enables learners immediate access to the most current information.

Since learners can customize the learning material to their own needs, they have more control over their learning process and can better understand the material, leading to a faster learning curve. E-Learning creates a flexible interactive online environment by providing immediate feedback (chat rooms, discussion boards, real-time conferencing, instant messaging and email). This enables learners to improve performance of learning. Moreover, the variety types of content (images, sounds and text work together) help to increase retention on the subject.

Learners reduce stress while taking an online course since they can try new things and make mistakes without exposing themselves. This benefit is particularly valuable when trying to learn management skills, such as leadership and decision-making. A practical learning program shows the consequences of learners' actions and the reasons for their mistake. This type of learning experience eliminates the embarrassment of failure in front of classmates. As a result, self-pacing increases learners' satisfaction.

There are however some drawbacks on using e-learning. The first drawback deals with large investment costs on an e-learning solution and, if required, an additional technology infrastructure. The second drawback is the lack of physical contact between instructor and learners. Technology can cause confusing or frustrating when there has no part of the informal social interaction of traditional classroom lecture.

Additionally, the third drawback involves technological issues. Learners must have access to computers, however sometimes the computers or internet accesses are unavailable. Regarding technical competence, the preparation of web materials is relatively time consuming for instructors who are new to the web technology. Moreover, learners are required to be more responsible and self-discipline to carry on an unconstrained learning process and schedule.

The benefits and drawbacks of e-learning vary depending on program goals, target audience and institutional infrastructure and culture. But it is unarguable that e-learning is rapidly growing as a form of educational delivery.

Using E-learning in Higher Education

There are three different ways of using e-learning in teaching and learning (Rashty, 2005). Utilizing the technology to support or supplement a traditional course is the first way of using technology in higher education. That is to delivery the course as traditional (face-to-face) way with lectures, seminars, tutorial, etc, and as online documentation to support the course. The documentation comprises of administrative materials such as a scheme of work, syllabus, course handbook and lecture materials such as handouts, presentations and reading lists. The learning process involves not only continuing traditional instruction but also enhancing them or extending them beyond classroom hours with online resources. This type of e-learning is used to support the traditional class rather than replace it.

Integrating technology into a traditional course is the second way of using technology in higher education. This model is also known as a hybrid or blended course. The use of interactive, collaborative, online-based activities within traditional course enables learners to have a much more flexible and richer learning experience. The online elements include information and reference materials, online activities and exercises, online tests, online discussion, and collaborative learning activities. Blending the face-to-face and online elements together is the complementary.

Delivering a course completely online is the third way of using technology in higher education. This e-learning model offers the program to more than just the campus-based learners. In this case all learning interaction takes place online and all material delivered online. Online collaborative learning is a key feature of this model.

Since the technology competence of learners and instructors varies. So here the technology use in e-learning for higher education should be selected appropriately for a particular course where it adds value to the learners' learning.

Blended Learning

Blended learning, or hybrid learning, is the concept that instructors combine web-based instruction and face-to-face lecture by mixing a variety of mediums and methods in presenting knowledge and information. This is because learning became increasingly web-based. The education transforms teaching to learning, which focuses on learners rather than instructor. However, the role of instructor has not diminished but changed from transmitter of knowledge to the facilitator of knowledge transformation. It depends on the optimal conditions for a given subject.

Some preliminary studies show that significant advantages in blended learning are a preferred method of modern educational delivery (Tuckman, 2002; Riffel and Sibley, 2005). Hybrid class enables learners to do their work outside the classroom. It is flexible access of asynchronous delivery methods because they can learn from any place and any time. The online activities such as quiz and response email are also great benefits to the learners.

It is most likely to use several e-learning technologies as well as traditional learning methods. Blended learning can provide the convenience, speed and cost effectiveness of e-learning with the personal touch of traditional learning (Helmi, 2002).

Conclusion

It is clearly to state that e-learning as a supplementary tool for a traditional class allow university to teach more effectively. The adoption of new educational technologies has extended teaching method available, rather than substituting for current teaching processes.

To examine this concept, the pilot study of implementing a hybrid course is under conducting by the author. We carry out the experiment with one course for engineering students. It is expected that the active lecture can eliminate the limitation of online course such as lack of face-to-face interaction with instructors and classmates (Carstens and Worsfold, 2000; Yazon et al., 2002) and lack of accountability (Sullivan, 2001).

The integration between a face-to-face class with online activities as a hybrid course has the potential to capture benefits of web-based course while retaining benefits of traditional classroom lecture. Hence, we hope that the hybrid course can improve learning outcomes, which are of advantage to the learners directly. As a result, it is highly possible to expand to other courses in the institute with the strongly support from the top management. Ultimately, the cost of learning decreases and the productivity of learning increases. The institute then can employ this as its competitive advantage.

References

Bocchi, J., Weyand, F. and Watson, V. 1999. Technology enhanced learning in industry and higher education: Preliminary report on a "gap" analysis [Commentary: May 1999]. [Retrieved April 15, 2005]. Available from: http://horizon.unc.edu/TS/commentary/1999-05.asp

Carstens, R.W. and Worsfold, V.L. 2000. Epilogue: A cautionary note about online classrooms. New Directions for Teaching and Learning. 84: 83-87.

Coppola, N.W., Hiltz, S.R. and Rotter, N. 2002. Becoming a virtual professor: Pedagogical roles and ALN. J. of Management Information Systems. 18: 169-190.

Helmi, A. 2002. An analysis on the impetus of online education Curtin University of Technology, Western Australia. The Internet and Higher Education. 4: 243-253.

Meredith, S. and Newton, B. 2003. Models of e-learning" Technology promise vs. learner needs literature review. Int. J. of Management Education. 3. [Retrieved April 15, 2005]. Available from: http://www.business.heacademy.ac.uk/publications/journal/vol3no3/paper4

Rashty, D. E-learning process models. [Retrieved April 15, 2005]. Available at http://www.addwise.com/articles/eLearning_Process_Models.pdf.

Riffell, S. and Sibley, D. 2005. Using web-based instruction to improve large undergraduate biology courses: An evaluation of a hybrid course format. Computer and Education. 44: 217-135.

Robin, B.R. and Mcneil, S.G. 1997. Creating a course-based web site in a university environment. Computers & Geosciences. 23: 563-572.

Sloman, M. 2001. The e-learning revolution: How technology is driving a new training paradigm. American Management Association.

Smith, G.G., Ferguson, D. and Caris, M. 2001. Teaching college courses online vs. face-to-face. J. Online. April, 2001. [Retrieved March 16, 2005]. Available from: http://www.thejournal.com/magazine/vault/A3407.cf

Sullivan, P. 2001. Gender differences and the online classroom: Male and female college students evaluate their experiences. Community College J. of Research and Practice. 25: 805-818.

Tuckman, B.W. 2002. Evaluating ADAPT: A hybrid instructional model combining web-based and classroom components. **Computers and Education**. 39: 261-269.

Yazon, J.M.O., Mayer-Smith, J.A., and Redfield, R.J. 2002. Does the medium change the message? The impact of ac web-based genetics course on university students' perspectives on learning and teaching. **Computer and Education**. 38: 267-285.

Young, J.R. 2002. The 24-hours professor: Online teaching redefines faculty members' schedules, duties, and relationships with students. **Chronicle of Higher Education**. 38: A.31-A.33.