

Keynote Address

To Develop or Not to Develop New Courseware for University-Level eLearning

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Abstract

Sloan Consortium released an important report at the end of 2005 defining online education or eLearning as the learning in which 80-100% of the contents are delivered through the Internet. Sloan stated that at least 63% of universities in the US are offering eLearning. The popularity of eLearning is confirmed by the fact that every country in the world has embarked on or is in the process of offering eLearning. One of the most important questions is whether to develop or not to develop new courseware for university-level eLearning. An alternative is to use the commercially available textbooks printed on paper and use the Internet to communicate with students. Many publishers are turning their textbooks into eBooks which may be another alternative to use instead of developing new courseware. Many universities have spent large sum of money in developing new courseware. For example, the College of Internet Distance Education of Assumption University spent several million baht to develop new courseware. If there are enough students then the effort would be profitable. However, many universities could not get enough students and had to go out of the eLearning business. Examples of failure are UKeU, New York Online, and Columbia Farthom.com. Highly successful virtual universities such as Jones International University and University of Phoenix do not

develop new courseware but use traditional textbooks in many courses. The College of Internet Distance Education of Assumption University has developed new courseware for the M.Sc. in Management program which is profitable but decided to use textbooks in the M.Sc. in eLearning Methodology program. This paper will discuss development of new courseware for university-level eLearning, starting from the terminology, interesting results from the Sloan survey, courseware development, textbook and eBooks in university-level eLearning, and concluding remarks.

Introduction

In November 2005, Sloan Consortium, a consortium of institutions and organizations committed to quality online education, released a report on Online Education in the United States [1] and gave permission to Prof. Charmonman to translate it into Thai language [5]. The translated publication also includes a history of eLearning in Thailand. On April 25, 2002, Prof. Charmonman proposed to and got approval from the Board of Trustees of Assumption University of Thailand to establish the College of Internet Distance Education with a highly ambitious aim to offer eLearning to 100,000 students per year [6]. At that time, eLearning was not mentioned in any Thai Government rules and regulations and, therefore, the Civil Service Commission could not recognize eLearning.

In other words, a graduate of eLearning degree could not use that degree to enter government service. So, Prof. Charmonman drafted the first eLearning decree for Thailand which was later modified by committees and government advisors and finally published in the Royal Gazette. It took him more than three years of intensive lobbying. He met with 5 Ministers and their advisors. In his capacity as President of the Computer Association of Thailand under the Royal Patronage of HM the King, he wrote two letters to the Prime Ministers, citing the popularity of eLearning in ASEAN [4] and the quality of eLearning [3]. In his capacity as Chairman of eASEAN Business Council, he convinced the 10 Ministers from ASEAN to support eLearning. The publication of the eLearning Decree in the Royal Gazette made it legal for any Thai university, public or private, to offer eLearning degree programs provided that approval has been obtained from the university board of trustees.

In January 2006, the College of Internet Distance Education of Assumption University became the first university in Thailand to offer a complete eLearning degree program, i.e. Master of Science in Management, MSc (Management), with Prof. Charmonman as the Program Director at that time.

Comparing to hotels, developing new courseware for university-level degree program would make the program equivalent to six-star hotel. However, for the MSc (Management) program, about 90 students per year would be needed to make the Master's degree program reach the breakeven point. Smaller number of students would make the program unprofitable. Assumption University is a non-profit organization and does not emphasize on profitability but the university has to be self-supported. In some other programs where the expected numbers of students are below breakeven point, development of new courseware may have to be curtailed in order

to reduce cost. However, high standards in all other aspects must be maintained, and perhaps, allow the rating to be reduced from six-star to five-star, which is still quite acceptable. As a matter of facts, most virtual universities in the United States of America do not develop new courseware for university-level eLearning. They use ordinary textbooks or eBooks.

At several international conferences the authors attended, many eLearning experts stated that eventually eLearning will be the main stream of education and classroom-based learning the supporting part. That sentiment was also expressed in the best-seller by New York Times [9] and there was a prediction that eLearning will be the core of the academic ecosystem by the year 2020 [13].

This paper will discuss development of new courseware for university-level eLearning, starting from the terminology, interesting results from the Sloan survey, courseware development, textbook and eBooks in university-level eLearning, and concluding remarks.

Terminology

Definitions and/or descriptions of some terms used in this paper will be given as examples in this Section. Definitions of other terms may be found in Google.

The word "eLearning" is a synonym for "Online Learning" [14, 16, 20]. There are many definitions for eLearning but the Sloan report stated that eLearning is the learning in which 80-100% of the contents are delivered through the Internet.

The word "courseware" may mean "Software that contains instructional modules which deliver a collection of lessons on a specific topic" [14]. A related phrase, similar to "software engineering", is "courseware engineering" which means "an emerging set of practices, tools and methodologies which result from attempts to

take an engineering approach to the production of courseware” [2, 7].

A “textbook” is “a book used for instructional purposes, especially in schools and colleges” [21]. An “ebook” is a digital version of a book and, in a context of a curriculum, may mean a digital version of a textbook.

The word “podcast” is “the method of distributing multimedia files over the Internet for playback on mobile devices and personal computers” [15]. A related word is “vodcast” which means “video podcast” [15].

Interesting Results from the Sloan Survey

The Sloan Survey of over 1,000 universities and colleges in the US was released in November 2005 and included many interesting results [1, 5, 8]:

- Enrollment in eLearning in the US grew 10 times faster than originally predicted by the National Center for Education Statistics.
- Nearly 2.4 million students were enrolled in one or more eLearning courses at the 1,000 universities and colleges surveyed.
- More than 200,000 students are enrolled at the University of Phoenix alone.
- Of all universities and colleges offering graduate courses in the classroom mode, 65% also offered courses in eLearning mode.
- Of all universities and colleges offering undergraduate courses in the classroom mode, 63% also offered courses in eLearning mode.
- 65% of universities and colleges used classroom-based faculty members to teach in eLearning mode as well.
- Most educational executives believed that both teachers and students have to work harder in eLearning mode.

- 82% of faculty members believed that it would not be more difficult to measure the quality of eLearning mode than measuring the quality of classroom mode.

Courseware Development

There are two main types of eLearning, namely, (1) short courses and training, and (2) university-level degree programs. For short courses and training, new courseware should be developed for the large number of students. When the number of students is large, the cost of producing the courseware per student is very small and highly justified.

For university-level degree programs, the cost per student for the production of new courseware depends on the number of students. If the number of students is small, the cost per student may be high and not justifiable. In other words, a new courseware should be developed for university-level program when the expected number of students taking that course is high.

A courseware may be developed in a similar way to a software and thus the term “courseware engineering” similar to “software engineering” [2]. For example, the process could be divided into 4 phrases:

- Problem Investigation or Analysis
- Planning or Design
- Development or Production
- Implementation and Evaluation or Testing

The MSc in Management program at the College of Internet Distance Education of Assumption University is the first complete eLearning degree program offered in Thailand. The College would like it to be the best and decided to develop new courseware for 23 courses. Three parties played the key roles. They are (1) the content expert, (2) the production team, and (3) the facilitating instructor.

The content expert has many functions. He has to create the course syllabus with course description, course objectives, list of textbooks and journal articles, additional reading materials, course assessment, etc. He has to establish the contents of the course and the powerpoint presentation. He has to deliver the lectures in the studio to be videotaped and taped in voice. He has to create the handout for students to download. He has to set up online activities. He has to define all activities such as exercises, assignments, reports, quizzes and examinations. He has to set up assessment guidelines for the facilitating instructor to follow. He has to develop many sets of examinations. He has to provide a list of glossary. The College paid the content expert 180,000 baht per course, totaling over 4 million baht for 23 courses in the MSc in Management program.

The production team includes instructional designer, video and audio technicians, web programmers, web developers, etc. For the MSc in Management, several million baht worth of services were provided by the production team.

Each facilitating instructor carries a teaching load of 3 sessions, each session with not more than 40 students (compared to the load of two sessions for a classroom-based instructor). As the name implies, a facilitating instructor has to provide facilitation for the students to study in the course. For example, the facilitating instructor has to post the course announcements on the web, monitor the students' participation, reply every email from any student within 24 hours, comments on the reports, grade the assignments and exams, etc.

The MSc in Management program needs about 30 students per term to breakeven. If there are 100 students per term, the amount of income over expenses would be about 20 million bath per year.

The College of Internet Distance Education announced that MSc in eLearning Methodology program would start in September 2006. If the program is in Thai language, there would be more than 30 students per year. However, Assumption University is the first international university in Thailand, i.e. English has been the medium of instruction from the very beginning. Therefore, the MSc in eLearning Methodology has to be conducted in English and the number of students would be less than 30 per term. So, it was decided that new courseware would not be developed. Other alternatives like textbook or ebook would have to be used.

Textbook and ebooks in University-Level eLearning

In courses where the contents do not change at all like Calculus, a new courseware could be developed and used for years without any modification.

In courses where new contents, technology, methodology, etc. are changing real fast like courses on the subject of the Internet itself, by the time a new courseware is developed, it is already obsolete. In this case, a textbook or ebook plus current articles from academic journals may be more appropriate.

Successful virtual universities in the US, e.g. Jones International University which was the first to be fully accredited [3] and University of Phoenix [8] do use textbooks in many courses. Similar to the case of the classroom mode, the facilitating instructor announces in the web for the students to read Chapter 1 of the textbook for Week 1, Chapter 2 of the textbook for Week 2, and so on.

A lot of information about ebook is available [10, 11, 12, 17, 18, 19, 22]. For example, instead of paying 50 US\$ for a textbook, a student may pay 25 US\$ to use an ebook for 6 months. The ebook may

include the text like in the textbook but in digital form, powerpoint presentation, video clips, assignments, quizzes, and examination questions, etc.

Concluding Remarks.

It has been predicted that not later than the year 2020, eLearning will be the mainstream of learning and classroom learning will be the supporting part. That prediction is supported by many facts, such as that in the year 2005, the enrollment in eLearning in the US grew 10 times faster than earlier projected by the National Center for Education Statistics; that eLearning has been used in all subjects taught in US universities; and that all countries in the world have or are in the process of adopting eLearning. There are two main types of eLearning, namely short courses and degree programs. For most of the short courses, new courseware should be developed because the number of students is large enough. For degree programs, if the expected number of students is large enough or the contents are static (like Calculus), justification can be made to develop new courseware. If the expected number of students is not large enough or the contents change very fast (like Internet Technology courses), new courseware should not be developed but textbooks or ebooks and academic papers should be used. Anyway, all parties concerned should join forces in promoting eLearning for the benefits of the countries and the world.

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