

# **Increase eLearning Effectiveness with Mobile Technology: A Case of Assumption University, Thailand**

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## **Abstract**

*This paper describes a pioneer eLearning program offered in Thailand, the obstacles and problems encountered it and, searches for solutions from documents and past studies. Finally it proposes a learning concept, integrating certain features of mobile devices with the eLearning courses to increase their learning effectiveness.*

*Keywords: Mobile Device, Mobile Technology, Interactivity, eLearning, Distance Education, Thailand.*

## **Introduction**

Assumption University (ABAC), the pioneer of Information Technology education in Thailand and the leader of Internet and E-Commerce curriculum in South-East Asia since 1999, began setting up an eLearning curriculum within the semi-autonomous College of Internet Distance Education (CIDE) in 2002. The first curriculum ready in 2004 was the Master of Science Program in Management, the eLearning method of instruction could not be utilized because the Ministry of Education had not endorsed the curriculum's online method of teaching through the Internet for a degree level education. It was in October 2005, when the decree to legalize eLearning

in Thailand was published in the Royal Gazette (Charmonman, 2007). Therefore, the already enrolled students studied the courses in classrooms, and continued in that context for another year. After Several Ministers of Education exchanged, finally in 2006, degree level eLearning method of education was allowed, and 100% eLearning method of instruction was administered from January 2006. This Master of Science Program is offered two semesters per year with optional summer semester, similar to other classroom-based programs. New students are accepted every semester. As of May 2007, 390 students have enrolled. Out of the 222 classroom-based students from the four batches, 46 have graduated. Of the remaining 176, some have discontinued their studies, but most are still completing their Thesis/Masters project. The Program commenced as a full 100% online eLearning curriculum from January 2006, starting with batch 5 students. In the most recent 5 batches, 168 students have been studying the 100% online eLearning curriculum.

## **Understanding E-Education and Its Major Components**

Brahmawong (2005) cautioned that to develop eLearning courseware production system, the institution must have full understanding of eEducation and its major

components: eManagement, eLearning, and eServices.

**E-Management** is an educational management system via electronics components, based on an effective management model available such as POSDCARE Model developed at Sukhuthai Thammathirat Open University in Thailand (Brahmwong, 2003).

**E-Services** is a service system where rendering and receiving services are processed via electronics means.

**eLearning** is a system of learning in which ICT is used to support interactive two-way communication among learners and instructors. The combination of on-screen interactive (OSI) and Web-based instruction is developed for effective teaching and learning in the form of digital and analog, synchronous and asynchronous, online and offline, and narrowcast or broadcast delivery systems. eLearning may employ, as a major approach, digital, asynchronous, online, and broadcast, or a combination of analog, synchronous, offline, and narrowcast electronic media.

### **Conditions That Facilitates Effective Learning**

M J Stiles (2000) gave a Keynote at the European Universities Information Systems Congress – EUNIS 2000 where he cautioned institutions about educational and course design should avoid having errors such as:

- Failure to engage the learner
- Mistaking “interactivity” for engagement
- Focusing on content rather than outcomes
- Mirroring traditional didactic approaches on the technology

Brahmawong (2005) cited four conditions that are needed to facilitate

effective learning: Active participation, Immediate feedback, Success experiences, and Gradual approximation.

- **Active Participation** Students should be programmed to have active participations in the learning process, not just mere reading, performing and completing all activities and assignments provided in the course.
- **Immediate Feedback** After completing the activities or assignments, the results of their performance need to be recorded for feedback, either immediately or delayed. However, immediate feedback was proven to be more effective to let the students know the outcome and progress of their learning. In distance learning, self-feedback is more preferable to the external feedback given by the instructor or other external sources.
- **Success Experiences** The feedback given to the students gives the students the feeling of success. It becomes reinforcement to encourage the students to further their studies. Comments help students correct their mistakes and improve their work while praises or admirations drive them further to more success in learning.
- **Gradual Approximation** In the process of self-directed learning, the students are gradually directed to progress along bits of knowledge and experience, well analyzed in advanced, through the process of approximation or through thinking. Consequently, content analysis is the most important steps to be conducted by courseware production team in order to make sure that the students are programmed to progress along in the logical step-by-step approach.

## **The eLearning System at Assumption University**

Charmonman (2007) CEO of College of Internet Distance Education (CIDE) in his Keynote Address at the Training for Executives of Hanoi University, gave details of the different types of Distance Education, and pointed out that the eLearning program at CIDE, ABAC belongs to the fourth or top of the group where 80% or more of the course content is delivered online, called "Online or eLearning". It also has a classification of belonging to the Fifth Generation Distance Education. The Master of Science Program in Management at ABAC requires the student to complete 36 credits to graduate with a masters degree. An academic year consists of two semesters and an optional summer term. Presently, there are twenty courses available, where 6 are core courses, the rest electives. The courseware of the program at ABAC was developed in collaboration with another business enterprise using their Learning Management System (LMS) software which was later code-named AU Plus, and uploaded at their server. Website operations, maintenance, and modifications are done by their staff. Student registration for the program and the courses to be studied each semester is done through the Website of Au Plus. Each student must open a saving account at a specified bank, there all payments to the University and course registration fees are transferred. When the course registration is complete, the student receives a username and password to access the eLearning systems and the virtual classrooms of the registered courses through the Internet. The student is required to have Internet access of good quality no less than 56K connection, but preferably broadband of 128K up for faster download time and uninterrupted learning. To start learning, the student would connect to the Internet, browse the AU Plus Website, logon to the

Homepage with navigation menu to enter the virtual classroom. The students enrolled courses would be available which present the pre-recorded Webpages with the teacher's audio and video lectures together with other instructional facilities of the LMS. Apart from learning in the virtual classrooms, a student has access to PowerPoint downloads of the lectures, course outline, assignment list, quizzes, web board, chat room, message board, and electronics means to submit assignments to the instructor. Exams are not conducted online but in a classroom at the University or some other convenient site and are proctored.

The student would proceed with the learning process at his/her own discretion; on any day, at any time, at any part of the course content, how many times of each chapter, and as many minutes or hours required. One of the most frequently asked questions is "if the student doesn't understand some points taught in the virtual classroom, what can he/she do or who to turn to for help", because the video recorded teacher of the virtual classroom can't possibly answer a real-time question. And the consequence of the interrupted learning due to not understanding or unclearness of some part of the lesson could render the student inability to continue to the next part. However, the eLearning system does have a "Facilitating Instructor" and an "eTutor" to help the student. A Facilitating Instructor is assigned to each course and is responsible for not more than 40 students (Charmonman, 2007), and has several duties during the semester: (1) Acknowledge the receipt of email from students within 24 hours.(2) Give responses to questions from the students within 72 hours.(3) Monitor student activities in the chat room and the collaborative group.(4) Check and review the student homework or assignment within seven days after the date of receipt.(5) Grade the examination and post the result on the

web within seven days after the examination.(6) Submit weekly progress report of teaching to the Program Director.

### **eLearning Problems and Remedies**

Problems started with the first four intakes of students numbering 222 who wanted to study eLearning online, but as stated earlier were prevented due to regulations, and had to study in classrooms. The fifth batch became the first eLearning group, and quickly experienced a number of difficulties:

- The majority have only dialup Internet access of 56 K or less, very few had broadband. All the course contents to be studied in the virtual classrooms are of considerable size, because of the video, and therefore took a long download time.
- All students were unfamiliar with the AU Plus LMS software and its navigational features, therefore had considerable difficulties studying.
- All instructors were unfamiliar with the AU Plus LMS software and its navigational features, therefore had considerable difficulties assisting students in studying.
- The eLearning system did not have teacher-student interactive feature other than via email. When a student was confronted with some unclear teaching in the virtual classroom, he/she had to email the facilitating instructor, which may take 24 to 72 hours to get a reply. During that time the student may not be able to proceed forward and had to just wait.
- Many students were not frequent users of a computer and have trouble using it, and did not enjoy studying alone in front of a computer. Many made a request to allow them to study in classrooms as the first four

batches. More than half of that batch left after their request was turned down.

The first remedial action was providing students with low-cost broadband Internet access, which help a lot with better downloading speed. Secondly, they were allowed to use on-campus broadband Internet connections, which also helped with faster downloading of courseware. Both actions did reduce students complaints markedly. Thirdly, orientation and training for both students and facilitating instructors on AU Plus LMS software usage were conducted, and better user manual were developed. Fourthly, a Call Center was setup by outsourcing to a third party starting 1<sup>st</sup> May 2006, at a very high fee, to receive, answer, and hopefully solve student problems. The third party Call Center was not too successful with the service rendered to the students, and definitely not cost beneficial. After one year of operation ending 30<sup>th</sup> April 2007, the Call Center recorded 4242 calls, with 21% wrong number, leaving intended calls to 3351, averaging 9.18 calls per day. The topics were concerning information of the program, how to register, registration period, payment, Internet problems, LMS usage problem, but almost none on course content teaching. After contract expiration, it was not renewed and calls were directed to CIDE office.

One evaluative feature of the AU Plus LMS software is the students evaluation of each course they have taken and its respective facilitating instructors, every semester. One major point that the majority of students complained is the late response of their questions from the facilitating instructors. The author made an investigation on this point to first find out what means did the students submit their queries. (1) Posting it on the message board in the AU Plus system, (2) Chat room, (3) Email if they have access to the instructors email.

The message board is not so conspicuous that would draw the attention of the instructor to visit, and inside are lists of several boards, which inside each list are numerous list of messages, which again each message will have certain number of questions and answers. So, it is not straight forward for an instructor to locate questions from a student, he must really try very hard to find them, and different student would place their questions in different places. The chat room is not so useful, because the two parties must be there at the same time to be able to communicate. The instructor if he/she receive the question can reply either using the message board or by email, which will be received by the student the next time he/she enter the message board again. The present means of instructor-student communication is not considered acceptable nor effective.

### **Mobile Devices Desirable Features for eLearning**

Sribhadung (2006) explored how mobile devices can be used for educational purposes, with special emphasis on eLearning. He listed the desirable characteristics as follows: (1) **Accessibility** – Each student has a mobile device, (2) **Immediacy** – The student has a mobile device all the time, (3) **Convergence** – A student can accomplish almost everything as on a computer, (4) **Permanency** – A student's work can be saved on a mobile device and transfers easily to a computer for permanent storage, (5) **Malleability** – Mobile devices can do so many things, (6) **Simplicity** – Mobile devices are easy to use, (7) **Pleasurability** – A student enjoys using them, (8) **Collaboration** – Students construct meaning by beaming, (9) **Invisibility** – With a touch of a button or tap of a stylus the mobile device is ready to go, (10) **Add-Ons** – memory card, software, keyboard, and other devices can be added.

The strongest features of mobile devices are their very large number of users, and still

increasing violently, and that they are always on the person no matter where they go. What this means to eLearning is that a learner is no longer restricted to only sit in front of a computer, but can be free to move or travel and still can learn as long as he/she is in the range of a Wi-Fi hot spot or mobile phone network.

### **Incorporating Mobile Device with eLearning**

This paper is not suggesting incorporating mobile devices as suggested in mLearning, there the student uses a mobile device instead of a computer to access the virtual classroom or course content Website. But to be used by the facilitating instructors to interact to student queries in real-time or nearest to it. The propose concept is as follows:

- The AU Plus LMS software add a feature within the virtual classroom with an icon "QUERIES" to be clicked should the student want to send question to the facilitating instructor.
- The action will open a window there the student can type in hie queries, and click "SEND"
- The system shall be programmed to send the queries and location of that lesson as a SMS message to the mobile devices of the facilitating instructor.
- The facilitating instructor would have the power point file of that course corresponding to what the student is studying loaded in his mobile device storage card
- Prompted by the incoming SMS signal, the facilitating instructor would see the question plus the location of the lesson in the course, and could answer the student quite quickly by reply SMS.

## Conclusions

The proposed learning concept to solve the problem of delayed responses on the part of the facilitating instructor is by incorporating mobile devices using only SMS feature and adjusting the LMS courseware slightly. This will greatly increase efficiency of eLearning and reduced student loss time due to waiting time of responses.

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