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Leading a Consortium to Develop Nationwide E-Learning Programs

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Abstract

The importance of open universities, distance learning and e-learning is well-known around the world. In Vietnam, e-learning could play a crucial part in addressing the educational needs of a 80-million people economy that is growing over 8% a year, where only 20% of 1 million applicants to tertiary institutions find available seats. Realizing this, the Vietnamese government has recently appointed Hanoi Open University (HOU) to head a consortium, which include Hochiminh City Open University, Post and Telecom Institute of Technology, Hue University and Hanoi University of Pedagogy, to develop and implement nationwide e-learning programs.

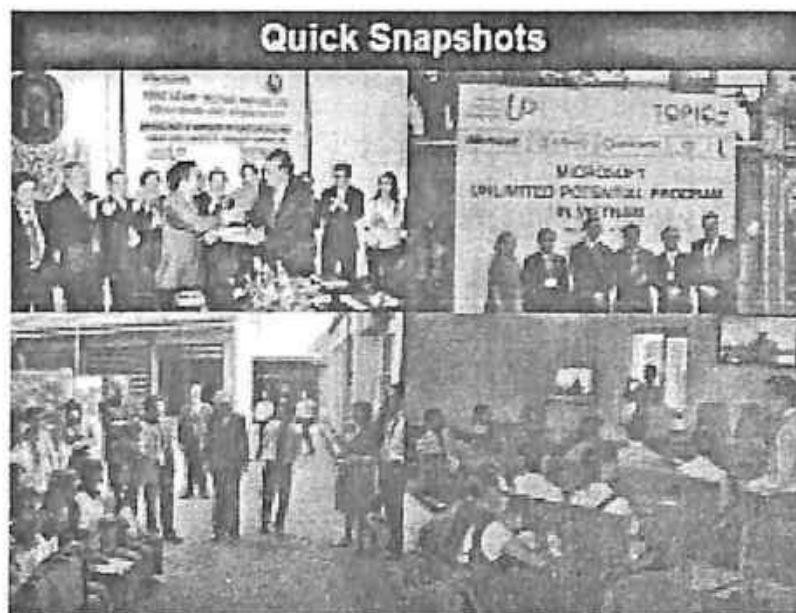
With the CRC-TOPIC Business Incubator of Hanoi University of Technology as advisor, HOU has developed a comprehensive Master Plan that coordinates efforts across institutional levels (government agencies, universities, local branches, students), and across different media (online, on Radio or TV broadcast, offline CDs, print-based textbooks or even mobile devices). HOU has also been proactive to fill in parts of the huge puzzle, with implementation projects such as TOPIC64 – developing community ICT training centers in 64-provinces, multimedia courseware development and implementation projects, Boston-Hanoi video e-learning

courses, bachelor's degree e-learning programs etc. It has entered fruitful cooperation with corporations and institutions such as MIT, UK Open University, Microsoft, Qualcomm, Hewlett-Packard etc. These efforts has resulted in many early encouraging results, including a selection into the 7 finalists of the prestigious Development Gateway Award 2006 from 160 projects worldwide.

This paper summarizes the current situation, describes the planning and implementation activities, and analyzes the key principles that HOU is following in future efforts.

The Role of E-Learning

First, let me show you a few quick snapshots of the activities we have been conducting recently in this context: a signing ceremony with Microsoft for cooperation on courseware development, a launching ceremony of TOPIC64 project with Microsoft Chairman Bill Gates and Deputy Prime Minister Pham Gia Khiem, a visit by US Trade Representative Susan Schwab, a Boston-Hanoi online course with MIT Professor Charles Leiserson.



To you and us who have long experiences with open universities, the following facts are quite well-known: the role of open universities are very important in countries around the world. Open universities help address the special needs of large student groups, and helping overcome capacity shortages in traditional universities. In the UK, the Open University enrolls 250,000 students, and is ranked Number 1 (!) nationally for teaching quality, in a prestigious ranking by BBC (Oxford and Cambridge did not participate in this ranking, but almost all universities did). In India, the Indira Ghandi Open University enrolls as many as 900,000 students; in China, the TV-Radio Open University enrolls 2 million students – the scales in India and China are just enormous. But even in Thailand, there are 900,000 open and distance students enrolled in the largest 3 universities. In Malaysia, where the population is only 16 million, the Open University still enrolls 50,000 students. Here in Vietnam, Hanoi Open University is the largest institution with 40,000 students, and we expect to multiple that enrolment in the coming years, in order to serve the educational needs of our 80-million population.

The primary reason for Vietnam's efforts to develop distance learning in general and e-learning in particular, is that we do face great shortages in education and workforce development. Our GDP is developing at 8% a year, and each year there are 1 million students applying for colleges and universities (tertiary institutions). However, our institutions can only take in 20% of them, about a half or a third of international practices, and we just cannot build enough traditional universities to address the demand.

Our government decided to take serious steps to develop distance and e-learning, issuing a Prime Minister decision (164/2005/QĐ-TTg) and a Ministry of Education and Training

decision (4753/QĐ-BGD&ĐT). These decisions, along with other policies, have set some ambitious goals for the next five years:

- To increase the ratio of tertiary students/population from 137 to 200/10,000
- To increase the portion of distance students /total students from 10% to 20%
- To develop quality E-learning program as an effective and scalable way to train about 100,000 more tertiary students

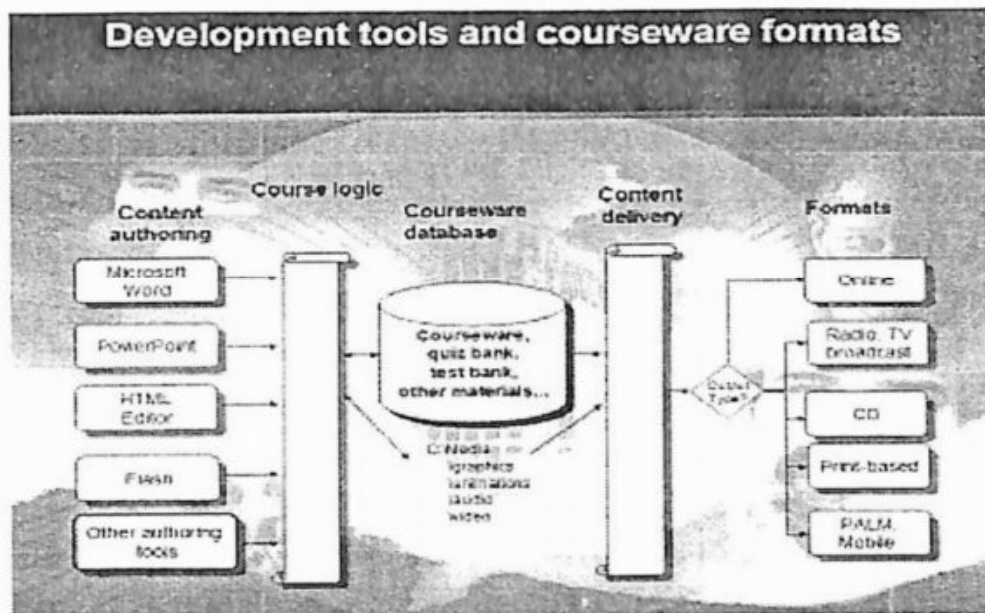
In order to implement these goals, the Ministry has appointed us, Hanoi Open University, to lead a consortium including Hochiminh City Open University, Post and Telecom Institute of Technology, Hue University and Hanoi University of Pedagogy. We have also engaged the CRC-TOPIC Business Incubator of Hanoi University of Technology as an advisor partner.

Master Plan and Methodologies

The working group has helped the Ministry develop a Master Plan for Distance and E-Learning Infrastructure and Capabilities, which provides the most comprehensive view of how distance learning should be developed on a national scale. Since we need to reach out to hundreds of thousands of students in all parts of the country, and not all of them have access to good technology infrastructure, we need to leverage all delivery methods: Textbooks, CDs, Radio, TV, Online text and graphics, Online Audio, Online Video. Of course e-learning should receive emphasis wherever the infrastructure is available, including mobile-learning, but for students in remote or poor communities we should make the most out of CD players, radio and TV broadcast programs, or just better quality textbooks.

Development efforts should be coordinated consistently at all levels: government and ministry level, university level, branch learning center level, and even at the level of students: creative support schemes should be developed so that more student have good learning equipment available (PCs with broadband connection at home or in nearby learning centers, or even just a digital TV receiver or a VCD player); and training programs should be implemented so students have basic IT skills necessary for E-learning.

To ensure quality, consistent courseware should be developed, which would have essentially the same content in SCORM format online, on Radio or TV broadcast, on offline CDs, print-based textbooks or even mobile devices. We have implemented a central courseware database and standard processes, in order to capture content developed with various authoring tools (word, powerpoint, HTML, flash, and others), and then publish the content in different formats whenever needed.



These courseware development processes follow rigorous ADDIE methodology: analysis of student needs and available

resources, design of suitable structure and format, development of multimedia content, small-scale implementation to test the course, collecting evaluation and feedback, and then starting over with analysis in order to implement on larger scale.

Some Implementation Projects

Following the Master Plan, Hanoi Open University has been proactively conducting projects to fill in parts of the huge puzzle. In 2006, we collaborated in the TOPIC64 project with the CRC-TOPIC Incubator and sponsors Microsoft, USAID, Qualcomm, EVN Telecom, Hewlett-Packard. This project fits in the Master Plan in two ways. First, it builds 64 learning centers with PCs and connection in 64 provinces, helping expand the access points available for the students in those communities. Second, it trains teachers and provide quality curriculum on Basic IT skills for 426 affiliate centers, enabling large-scale training of students in order to become ready for future e-learning programs. Other projects include the development of a self-study multimedia courseware for Basic IT and multimedia courseware for the 5 compulsory Marxism/Leninism and economics subjects, a cooperation with Massachusetts Institute of Technology (MIT) for a Boston-Hanoi video course, and the development of online Bachelor's degree programs in IT, Business, Finance etc.

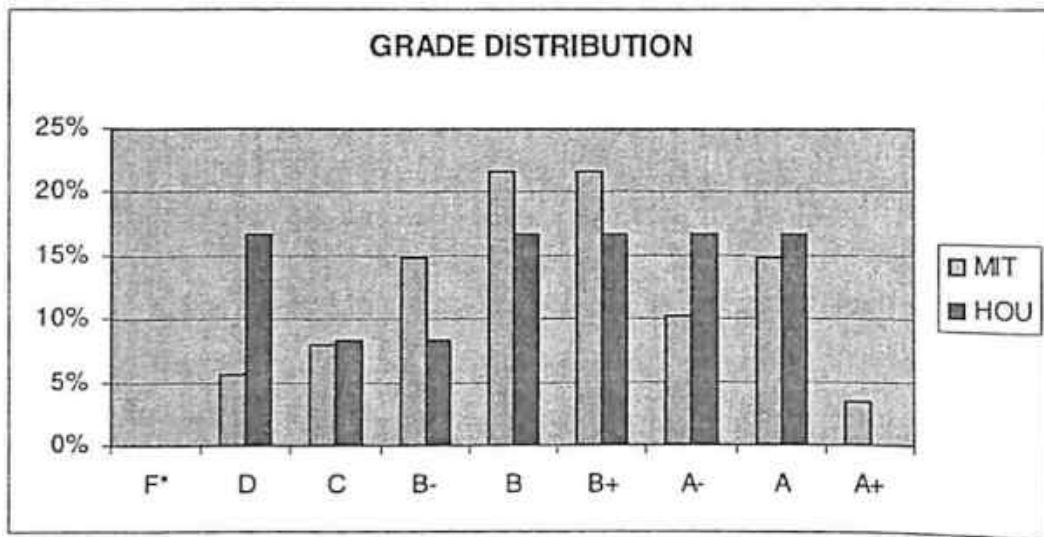
During the course of those projects, we have developed and tested various delivery methods that are suitable for the actual content, and the infrastructure available to students and teachers. For example, Basic IT courses in TOPIC64 follow the traditional face-to-face delivery method: 70-100% of the course time is spent with teachers in the labs in 64 provinces, any discussion and teamwork also happen in the labs. During these courses,

we were able to measure a serious shortage of qualified IT teachers around the country. In order to address this issue, we collaborated with Microsoft to develop a self-study multimedia courseware on Basic IT, which reduces the need for face-to-face time with teachers to 30-50% during 60-80 hour courses. For the rest of the course time, students can study by themselves in the lab or at home, if they have home computers.

Another interesting delivery method involves the multimedia courseware for the 5 compulsory Marxism/Leninism and economics subjects that every university students in Vietnam must take. The students spent almost 100% of the time self-studying, except for the 2-3 sessions of Q&A, when students gather in the provincial classroom, the teacher sits in our lab in Hanoi, and the students see his webcam image on a projector. The students also have access to an online quiz database, and a web forum for discussions. Early implementations showed that students were very enthusiastic about the new delivery methods for these old subjects, took advantage of the online practice quizzes, and therefore received significantly higher grades. In the next semesters we are rolling out these courses to about 8,000 students a year.

In the Boston-Hanoi course with MIT, we tested the delivery methods for advanced subjects, with advanced infrastructure and skilled students. The course was on Introduction to Algorithms for selected students of HOU. Prof. Charles Leiserson of MIT agreed to give a few lectures live from Boston via video conferencing, in order to get to know our students and give them initial motivation. The other lectures were conducted with recorded videos and textbook. The seminars and recitations were given weekly by 2 Vietnamese graduate students from Boston, via voice chat. Students also had access

to a lab in HOU for practice and teamwork. The exams were conducted with questionnaires provided by Prof. Leiserson. The results were very encouraging: the grade distribution of HOU students was almost comparable to that of MIT students in the same semester. Our students even had more A grades. Nevertheless we had no A+ grades, presumably only the most excellent students at MIT can get these scores.



Conclusion

As an early encouraging result, the TOPIC64 project was selected into the 7 finalists of the prestigious Development Gateway Award 2006 from 160 projects worldwide. During future development, we are determined to maintain firm principles to achieve good results, which can be summarized as below:

- Follow clear strategies and consistent implementation. Balance development of human resources, infrastructure and courseware. Develop courseware consistently across delivery channels such as books, CD, TV, radio, online and

- e-learning including text, animation, voice, or video.
- Apply the latest methodologies and tools: ADDIE model for courseware development, collaboration with top-caliber professors, SCORM standard, Moodle systems, mobile devices etc.
 - Take pragmatic approaches: research – pilot – evaluation – implementation. Implement methods that are suitable to Vietnamese practices, and that are driven by market and student needs.
 - Expand international cooperation: work together with credible institutions and corporations such as MIT, UK Open University, Microsoft, Qualcomm, Hewlett-Packard etc.

