



Dr. Kittima Mekhabunchakij
Vice President, Software Industry Promotion Agency (Public
Organization), Thailand
e-mail: kittima.me@sipa.or.th

KITTIMA Mekhabunchakij, Ph.D. Hokkaido University (1988), was previously Deputy Director at Computer Research and Services Center, King Mongkut's Institute ladkrabang (Bangkok; 1988-1991), where she managed a team of researchers working on online information retrieval, and advanced satellite data processing applications. Before joining Thailand's Software Industry Promotion Agency in June 2007, Dr. KITTIMA has been Director, Ph.D. Program in Information Technology, Sripatum University. Thailand. Her specialist expertise is in the areas of Software Architecture, and Information Visualization. Her past research topic include E-Learning Content Management and RLO (Reusable Learning Object) Modeling; Modeling Knowledge Management System using Topic Maps; Service-Oriented Architectures for Higher Education Administration; and Visualization System Modeling for R&D Information Management.

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Thailand's Development Path to Open Learning

Executive Summary

Thailand's IT2010 Master Plan has set the key development objectives to exploit the benefits of information and communications technology to move Thailand to the 'Knowledge-Based Society and Economy'.

This article reviews e-learning growth in Thailand, including the past and continual e-Learning activities. We found that the limited learning resources are not properly channeled and utilized and there are misplaced priorities. Lot of effort has been worked out in term of e-learning awareness and learning content development in the country.

As Thailand's is the nation's ultimate goal to transfer resource-based economics to knowledge-based economics, an important factor to be considered is how to achieve the entire goal at the best cost-effective way. The provision of localized open source software in conjunct with the infrastructure for creating and maintaining open resources is to support the foundation of e-learning> This is to ensure that the education communities obtain the best value for money in selecting e-Learning solutions and maintaining the learning content. The approach is the setup across borders collaborative efforts in the nation to achieve standardization, optimization of cost/benefit ratio, avoidance of duplication of resources, as well as maintaining a central pool of open-source resources for streamlining maintenance support activities on the basis of cost effectiveness.

Thailand's Development Path to Open Learning

Background

Thailand has developed a master plan for ICT use in education for the years 2004–2006. According to the plan, there are four major strategies:

- 1) the use of ICT to improve teaching and learning,
- 2) the use of ICT to enhance the educational management and service effectiveness,
- 3) the personnel training and developing and
- 4) ICT equipment provision and distribution for all educational levels.

By the first strategy its purpose is that all learners have opportunities to access and use ICT according to the curriculum standards. This is to encourage teachers and students to learn and use ICT for enhancing their teaching and learning skills in order to improve the quality of education. In addition, all parents and communities are encouraged to participate in utilizing the ICT in education. The Ministry of Education (MOE) has suggested to the public that all students in the country should be able to access an internet within 2006. This is also signified as the beginning of delivering e-library to people in the country as well.

Regarding to the development of personnel, the MOE has around 500,000 teachers under its supervision 67% of this number have been trained with basic skills in digital literacy. Moreover, the MOE has been working with Ministry of Information, Communication and Technology (MICT) and private sectors in term of personnel development, for instance Partners in Learning is the project from Microsoft Thailand who donated operating software for all PCs and learning grants for improving teachers to use ICT effectively as a result of their professional and personal development. Intel Teach to the Future was the program to equip teachers with pedagogical use of ICT in classrooms in a way that the lesson must enhance students' higher efficiency and thinking skills. Besides, the Institute of the Promotion of Science and Math Teaching has a number of programs to introduce and produce web based education for teachers and students. The MOE also has a number of projects with international organizations to integrate ICT into classroom activities, for instance Japan International Cooperation Agency has launched ITED project to equip 3,000 teachers in the country with idea of ICT integration in classroom activities. UNESCO and UNICEF also help teachers and

educational institutes in rural areas in the country to get into ICT use paradigm. World Bank and NGO also have numbers of programs to introduce ICT in the school level. The educational network comprises of MOE Net. It will cause the internet access for all schools.

Vision for E-learning

E-learning is defined as formal and informal education and information sharing that uses digital technology. It is a nation's ability to generate, disseminate and use digital information among its citizens to the betterment of the country's economic activity. There is much more flexibility possible and available for everyone, for example the full time students and employees, senior citizens and rural residents, workers unable to quit their day jobs to attend university, and professionals seeking advance in their careers. The lure of internet use in learning is undeniable. It can bridge distances, conserves classrooms and costs. It is available anytime according to learners' convenience and fosters life-long learning for career development. Online educational materials are more easily updated and more motivated for learners.

Development on Main Components

The necessary components to enable e-learning accessible for learners, are: connectivity, capability, contents and culture. IT connectivity in Thailand is growing rapidly. The government has concentrated on its policy to expand in all rural communities the internet access through Internet-Tambons. At present there are around 10,000 tambons. Broadband connection for one million people is the target of the year 2005. Increasing number of mobile-phones and internet usage has developed rapidly around 20% each year. The MOE has planed to expand internet to all schools throughout the country by the year 2006.

Capability is an additional qualification necessary for the e-learning, including a strong education system, tradition by job training, support for life-long learning, and a high rate of literacy. The government's policy also stresses on the expansion of life-time training opportunity for office workers and continual skill development for all people.

Online content access for people is another important component as well as library materials, newspapers, corporate information and government database. The content makes e-learning possible to schools, companies, and other institutions. Sharable content is the main topic for discussion and SCORM (Sharable Content Object of Reference Model) is widely acceptable through out Thailand.

Past and Continual e-Learning Activities

The Primary Education Department, MOE, has developed its e-learning activities for 80 % of all its learners under its responsibility by way of the following different facets:-

1. Support and helping widely all teachers to create their own e-learning materials, by arranging courses and seminars for them so that they are capable to gain knowledge in computer and internet use and to create and collect electronic teaching aids by themselves. These teacher course and seminars have been widely and rapidly succeeded, for example the development project for 2,300 teachers of small sized schools, 2,000 of them being trained in Thailand and 300 in Singapore. Moreover the ITed Project of Thai and Japanese co-operations has set up six modern teacher seminar centers in different regions, in which about 3,000 teachers have participated. Another Project of Intel Teach to the Future has given in 2 years training courses for 300 teacher leaders and more than 6,000 network teachers. There is another project on the way called Partners in Learning, which is going to develop teacher- training centers throughout the country, in which the e-learning system will be subject for training teachers all over the country.
2. Preparing electronic library building procedure, which houses selected and collected electronic teaching materials in a sharable system. By the end of 2010 it is expected that average standard of electronic teaching materials can be specified, following with buying their copyrights or receiving as donation appropriate teaching materials and adjusting them to the level of the average standard and storing them in the electronic library. By this way, information network service system is being expansively reached throughout the country.
3. Studying and developing the learning Management System (LMS) which is now differently and variably used. Each university chooses its own system, so does each primary school. Some schools experimented and developed the e-learning usage of their own by using different LMS. Some made a new development for their varied and specific usage necessity, including evaluation of knowledge content after the curriculum. Therefore the issue of sharable common usage of e-learning in average standard remains to be solved. Perhaps the LMS has to be commonly developed and standardized, and on the other hand exact characteristics necessary for each institution must remain undisturbed. Finally the LMS common standard of all educational systems is expected to come out true within the year 2008.

IT2010 Master Plan or ‘IT Policy 2.0’

IT2010 Master Plan or ‘IT Policy 2.0’ has set the key development objectives to exploit the benefits of information and communications technology to move Thailand to the ‘Knowledge-Based Society and Economy (KBS/KBE)’. The development is therefore not on focusing on ‘technology’, but rather, on the good use of ICT that would drive overall national economic and social development.

To this end, IT2010 identifies three cross-cutting principles to support the ‘ICT for KBE/KBS’ framework as follows:

1. Building human capital,
2. Promoting innovation, and
3. Investing in information infrastructure and promote the information industry.

To achieve the goals, IT 2010 identified five main flagships that have to be developed as follows:

- e-Society, covering issues such as digital divide, quality-of-life, culture, health, public participation;
- e-Education, includes issues of life-long learning, computer literacy, human resource development, virtual education, etc.;
- e-Government, including public service via electronic service delivery, employment, legal infrastructure;
- e-Commerce, with special focus on ‘e-services’ including not only finance, tourism and IT service, but also other industries; and
- e-Industry, focusing on e-manufacturing and IT-related industries, plus issue such as standardization.

Access to Information and Knowledge

A National ICT Organization has been set up to create a physical learning center accessible to everyone and a prototype for more centers to be established. This center also features a traditional library of the best IT books alongside a more modern, digital library. In 2005, more than 250,000 desk top computer were provided to the students throughout the nation.

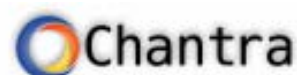
The “One Temple One e-Learning Center” (OTEC) was another project to raise a number of computer users and Internet access in Thailand. PCs with Internet access,

logistic, software, course outline and training the trainer program are scheduled to be provided to high potential temples throughout the country.

Promotion of E-Learning for Development using Open Source Software

Software Industry Promotion Agency (Public Organization), or known as SIPA, has been established from the IT2010 Master Plan, which directs the government to develop and promote software industry. Thus, the main obligations of SIPA are developing skills, creating job opportunities and hiring, and expanding market in software industry. Aside from the main obligation in promoting software industry, one of its mission is to promotion adoption and development of open source software (OSS) in the country.

In 2006 SIPA released its first OSS distribution kit namely "Chantra." The distribution kit includes the Open Office R2.0 that enables the software to handle Thai characters in a consistent manner, along with the first client-side distribution pack comprising more than 20 open source applications.



In addition, SIPA also initiated the E-Book/E-Learning Sharing Project, aimed at enabling children throughout the country to have the same chance as children in the cities to access knowledge through the Internet. The project's concept is to build infrastructure to allow children to easily learn. This includes work to encourage teachers to develop electronic books and also to assist schools to integrate and share their electronic-book resources, allowing children access across servers as well as client devices such as laptops, PCs, personal digital assistants and mobile phones.

Content developed by teachers will be stored in schools' distributed servers across the nation. The distributed servers will probably be linked, similar to peer-to-peer networks. Once children access the network from anywhere in the country by signing on with their unique identification, the software management system will automatically know who they are and then the system will offer information appropriate to them, instead of them wasting time looking for the information they want from everything available over the network. For this project SIPA's role are software management for server hubs, training teachers to develop digital content with animation and multimedia, and providing platform tools for teachers.

Open Source and e-Learning Resources

In collaboration with higher-education institutions, SIPA started a project in attempt to

create media-rich Open Resources for e-Learning in 2007. The areas relevant to open technology development of e-learning are the open format and open content. Open format means that files (documents) can be written, read and understood within any program, platform and OS. The format is public and fully specified, not proprietary or copyrighted.

Open content can be used in infinity of ways, restricted only by the imagination of the user. One of the most significant uses is to support instruction and helping people to learn. The open external resources for e-learning must be checked with the following criteria amongst others:

- Accuracy: is the content clear or reliable?
- Authority: is the author qualified?
- Objectivity: does the information show bias?
- Currency: is the page dated? If so, when was the last update?
- Coverage: how in depth is the material?

In enhancing teaching, external resources like rare data, latest research, expensive multimedia and international experts can be searched by using high quality Internet resources for learning, teaching and research.

Resource Sharing in an Open Source Environment

The challenges in e-learning development that however face the creation of the rich online content is the time required to create the learning environments. In order to achieve the same richness in content, the re-usable learning resources and free open source software can provide a platform for individualize testing and eventual adoption. These supplements can be customized, as they are very numerous on the net that covers so many subject areas. This method will afford an average higher-education institution teaching professional simply to have more time to maintaining an active research program.

Conclusions and Recommendations

After reviewing the various sides of e-learning aspects in Thailand, it is found that there are numerous areas of concern that need corrective actions. The limited learning resources are not properly channeled and utilized and there are misplaced priorities. The challenges in e-learning development face the creation of the rich online content is the time required to create the learning environments. In order to achieve the same richness

in content, the re-usable learning resources and free open source software can provide a platform for individualize testing and eventual adoption.

Thailand's next stage of e-Learning development is the nation's ultimate goal to transfer resource-based economics to knowledge-based economics. It can easily manage a large groups spread all over the country. An important factor to be considered is how to achieve the entire goal at the best cost-effective way. To support the foundation, SIPA's provision of localized OSS in conjunct with the infrastructure for creating and maintaining open resources is one of the key enabling factors of e-Learning progress as to ensure that the education communities obtain the best value for money in selecting e-Learning solutions and maintaining the learning content. Open source for the content should carry the largest percentage of content development and evolvement of standardization in the content development. The key is the setup across borders collaborative efforts to achieve standardization, optimization of cost/benefit ratio, avoidance of duplication of resources, as well as maintaining a central pool of open-source resources for streamlining maintenance support activities on the basis of cost effectiveness. This could only be achieved by emphasizing the use of the 'Open Source & Open Access' approach in planning and deploying e-learning infrastructures.