



# AEN Conference 2003

December 11-12, 2003

at Tokyo Bay Ariake Washington Hotel

Organizer:

AEN Promotion Committee, JAPAN

With the cooperation of:

Ministry of Economy, Trade and Industry (METI), JAPAN

Advanced Learning Infrastructure Consortium (ALIC), JAPAN

National Institute of Multimedia Education (NIME), JAPAN

## Asia e-Learning Network

# **AEN Conference 2003**

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*Greetings from the Minister of Economy, Trade and Industry*



It is my great pleasure to welcome you to the 2003 Asia e-learning Network Conference. As you are aware, the Asia e-Learning Network (AEN) is a component of the Asia e-Learning Initiative. It was proposed by my predecessor at the Ministry of Economy, Trade and Industry (METI), and approved in 2001 at the ASEAN+3 Economic Ministers Meeting (ASEAN + the People's Republic of China, the Republic of Korea, and Japan).

In the context of the Asia e-Learning Initiative, the 2002 AEN Conference was held in July 2002, and participating countries conducted six experimental projects last fiscal year. These projects were successful, primarily due to generous and unfaltering support for AEN activities on the part of each participating country. Based on the experiences of the past year, we are continuing our efforts to expand e-learning activities and increase knowledge sharing throughout Asia, and toward this end have established a number of working groups focused on promoting such activities.

The Asia e-Learning Initiative aims to promote cooperation among Asian countries in creating an environment for developing e-learning content and services, and thereby encourage the smooth implementation and widespread use of e-learning. METI itself is taking steps to create conditions conducive to the expansion of e-learning, through coordinated efforts with other Asian countries in such areas as the cultivation of human resources, and support for standardization efforts.

The overall goal of this conference is to promote the development of the Asia e-learning Network through sharing information concerning e-learning activities. It is my sincere hope that participants will strive for increased mutual understanding, and in this way contribute to the development of human resources in the Asian region.

I wish you a stimulating, productive conference.

**Shoichi Nakagawa**  
*Minister of Economy, Trade and Industry*  
*Japan*

## *Greetings from the ALIC President*



On behalf of ALIC, I would like to express our sincere gratitude to all participants at the AEN Conference 2003.

In the past three years, e-Learning has developed rapidly throughout the world. In Japan, the e-Japan program 2002 has made progress on the basis of the e-Japan Priority Policy, which was announced in May 2001. In June 2002, the e-Japan Program 2002 was reorganized, and five policy field foci were identified: establishment of the most advanced information and communication network; promotion of the education and cultivation of human resources; promotion of e-commerce; promotion of ICT in the public sectors; and the establishment of security and reliability in information and communication networks.

In this plan, six practical tasks were identified: consolidation of the IT environment in schools; promotion of substantial practice of IT based education; enhancement of IT teaching capacity; consolidation and diffusion of educational content; consolidation of the system for providing educational information; and services for children with disabilities. Almost all of these foci are closely related to e-Learning. In July 2003, the e-Japan Strategy Statement II was issued. It emphasized the necessity of enhancing human resources with information skills and promoting e-learning in higher and industrial education. As a result, e-Learning is now one of the most important national policies in Japan.

Throughout the world, e-Learning addresses important practical and developmental problems in the fields of higher education and industrial training. Several universities in technologically advanced countries such as the USA, Canada, Australia, UK, Singapore and Korea are interested in e-Learning. These countries have stable educational systems, and they have amassed expertise and experience, developed web courses, and promoted access to public and financial assistance. Some are targeting Asian educational markets.

Asian countries themselves should contribute to reforms in higher education by providing accumulated wisdom via e-Learning. They should also promote the flow of information to the higher and industrial education communities within the member countries. In 2002, thirteen higher education systems in six countries developed and utilized e-learning materials to train IT personnel or IT technicians. In 2003, four working groups work together on an internationally collaborative basis. It is very important for government, industry and the academic community to collaborate and promote educational innovation in Asia and throughout the world. Recently world wide net work systems for collecting, storing, retrieving and providing digital learning content are being developed and utilized in the organizations or consortia such as GEM, IMS, ARIADNE and Merlot.

We hope this conference will be a good opportunity for the AEN collaborative effort to promote educational reforms in Asia and the world.

**Takashi SAKAMOTO, Ph.D.**

*President, ALIC*

*Director-General, National Institute of Multimedia Education*



*defining the Internet architecture for learning*

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Dr. Takashi Sakamoto  
Chairman,  
AEN Promotion Committee

Dear Dr. Sakamoto,

It is an honor to greet you and all of the participants in the Asia E-Learning Network 2003 Conference. Your gathering to examine case studies and exchange country reports of activity is an important contribution to the development of learning technology and international standards. Sharing and discussing such information is critical to increasing the knowledge that is incorporated in international standards to advance computer and network based education.

As you know, IMS enjoys close working relationships with several participants in the AEN, and ALIC is a formal Affiliate of IMS. This worldwide community of educators, administrators, vendors, and government bodies is engaged in gathering requirements for teaching and learning, developing technical specifications, implementing products, and promoting the adoption and use of learning technology throughout education and training in all sectors. The role of AEN participants in this work is highly valuable.

We congratulate you and your colleagues on the 2003 Conference and on the progress you have made. We look forward to many future occasions for interaction between our organizations.

Best wishes for the success of the Conference.

Sincerely,



**Edward C. T. Walker**  
*Chief Executive Officer*  
*IMS Global Learning Consortium, Inc.*



# Asia e-Learning Network 2003

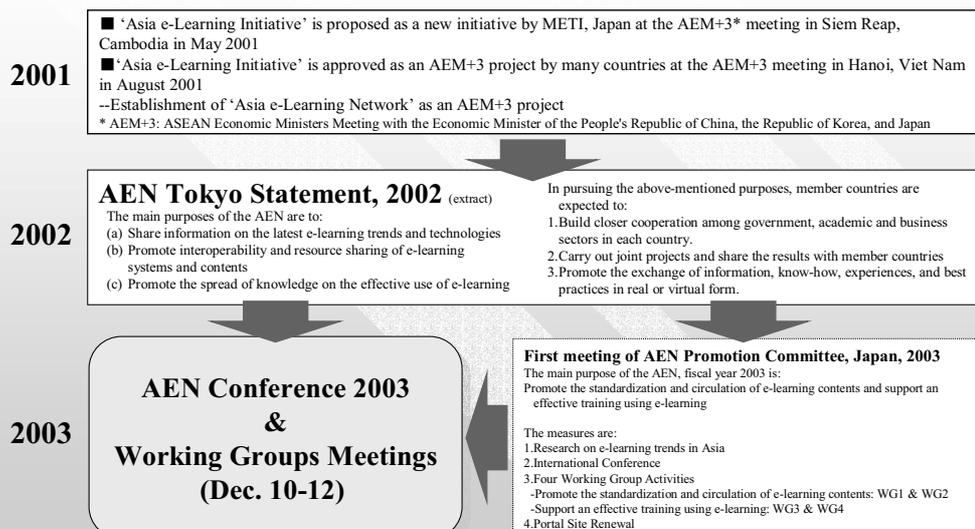
~ Network for promoting e-Learning in Asia ~

Asia e-learning Network Conference 2003  
December 11, 2003, Tokyo

Shuichi TASHIRO  
Director for Asia e-learning  
Ministry of Economy, Trade and Industry

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## The History of AEN



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## AEN Activities from 2002 to 2003



In 2003, AEN has four major activities: Research, International conference, Working Group Activities, and Portal Site Renewal

2002

**A) Research**  
**B) International Conference**  
 (July 24-25, 2002 at Tokyo) 50 people from 12 countries  
**C) Five Experimental Projects**

Project Topic	Counterparts
1 Malaysia Japan e-Learning Network Project - Interoperability experiment of WBT contents	Malaysia
2 International Experiment Project on Asynchronous Collaborative Learning Method	Philippines
3 Examination of effectiveness regarding international distance learning program and its WBT material	Singapore
4 Synchronous and Asynchronous Distance Education of Graduate Programs	Thailand
5 Development of "e-Courses" in the Non-Skill-Transfer Fields for E-learning	Vietnam

2003

**A) Research** : ex. Case studies  
**B) International Conference**  
 (December 11-12, 2003 at Tokyo)  
**C) Four Working Group Activities**

Working Group Topic	Participants
1 Technology Standards & Conformance	Asia and Japan
2 Technique for Native Language Supported Contents Development	
3 e-Learning Instructional Designer for Corporate Education and Higher Education	
4 Quality Assurance for e-Learning	

- Six Development and Experimental Projects to concrete WG Activities  
 --- just started on November

**E) Portal Site Renewal**

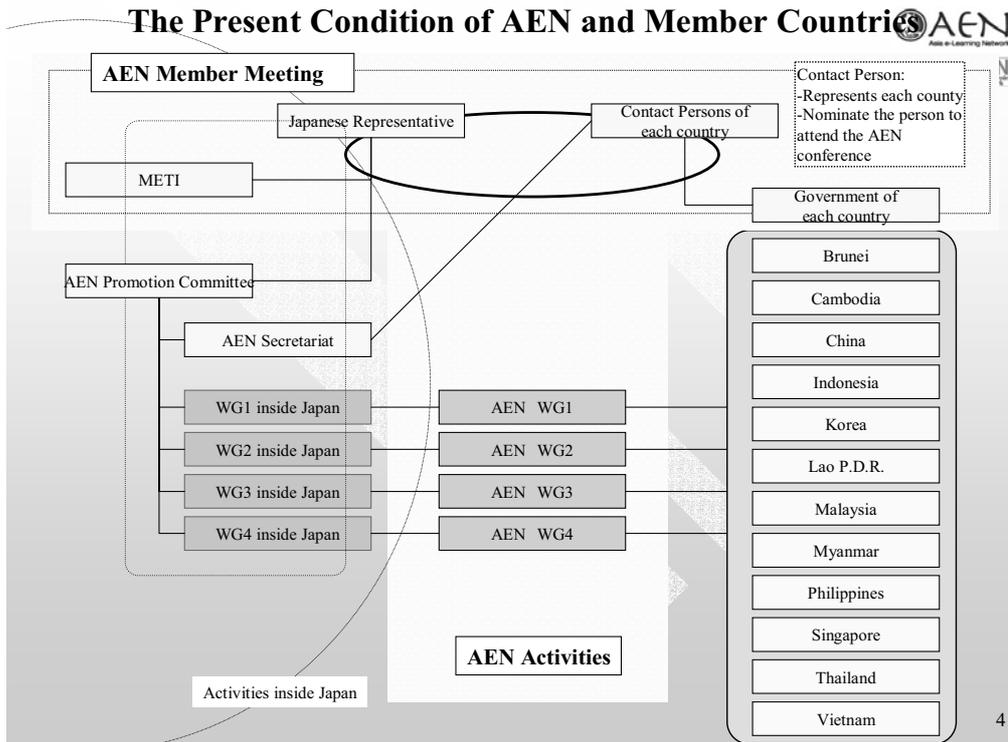
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## Working Group Activities in 2003 (Detail)



WG name	Scope and Outcome	Participants From Japan	Participants From Asia
<b>WG1: Technology Standards &amp; Conformance</b>	<b>Scope:</b> Development of a conformance testing program of e-learning products which is based on standards for e-learning system in order to improve interoperability, productivity and usability of e-learning contents through Asia. <b>Output:</b> -Specification for conformance testing program -Specification for test bed development	-Keio Univ. -NTT-X -Fujitsu -NEC -Learning Architecture Lab	-Korea -Malaysia -Philippines -Singapore -Thailand -Vietnam
<b>WG2: Technique for Native Language Supported Contents Development</b>	<b>Scope:</b> Establishment of the architecture for multilingual contents development in Asia in order to improve interoperability of e-learning contents in Asia where different languages exist. <b>Output:</b> -Methods in creating multilingual content	-Learning Architecture Lab -Keio Univ. -Waseda Univ.	-Korea -Malaysia -Philippines -Singapore -Thailand -Vietnam
<b>WG3: e-Learning Instructional Designer</b>	<b>Scope:</b> Development of curriculum for e-learning instructional designers with which they can improve their skills in producing high quality e-learning courses and contents in Asia. <b>Output:</b> -Survey for needs of instructional designers -Framework of skills for instructional designers	-Aoyama Gakuin Univ. -HTTACHI -Keio Univ. -Waseda Univ. -Tokyo Institute of Technology -Nihon Unisys -Sanno Institute of Management -Learning Architecture Lab	-Brunei -China -Korea -Malaysia -Philippines -Singapore -Thailand -Vietnam
<b>WG4: Quality Assurance for e-Learning</b>	<b>Scope:</b> Development of a quality assurance standard in order to distribute high quality e-learning courses and contents throughout Asia. <b>Output:</b> -Quality assurance standard for e-learning	-Sanno Institute of Management -Keio Univ.	-Brunei -Cambodia -China -Indonesia -Korea -Malaysia -Philippines -Singapore -Thailand -Vietnam

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### Six Development and Experimental Projects in Japan

--- just started in November

	Project Abstract	Related WG
(1)	<u>Multilingualization of SCORM v.1.2 conformance test suite, and interoperability testing</u> This project aims to enhance the interoperability of e-learning platforms and contents available in Japan and other multibyte user countries in the Asia region, to promote content circulation, and to expand the range of platforms and contents that service vendors and corporate/school education officers can select from. This project will work on the multilingualization of SCORM v.1.2 conformance testing program, and conduct interoperability testing.	<b>WG1: Technology Standards &amp; Conformance</b>
(2)	<u>Research and development related to content license management and personal data protection</u> This project aims to reduce the burden of licensing management and personal data protection assumed by service vendors and corporate/school education officers, to allow content vendors to work with less concerns, and to enhance learner's confidence in contents. This project will conduct research on the rights of content creators, content licensing and how to implement learners' data protection, and develop general-purpose software applications capable of being flexibly integrated into various e-learning platforms.	
(3)	<u>Development of a model for native language supported contents development</u> This project, focusing on the Asia region, and multibyte user countries in particular, aims to enable content vendors to reduce development costs, to lower the prices of contents, to promote content circulation in the region, and to contribute to expanding the e-learning market. This project will conduct research on the technological feasibility of making a model for content development that allows easier interpretation and implantation in native language support (NLS).	<b>WG2: Technique for Native Language Supported Contents Development</b>
(4)	<u>Development of curriculum for e-learning professionals training in corporate education, and its experiment</u> This project aims to enable corporate education officers to create e-learning curriculum consistent with human resource development strategies, and to enable employees to participate in education and training that meet their various needs. This project will develop curriculum for the training of instructional designers, who play a crucial role in corporate education as e-learning professionals, evaluate the effectiveness of developed curriculum, and develop guidelines on how to adopt instructional design to corporate education.	<b>WG3: e-Learning Instructional Designer</b>
(5)	<u>Development of a model for instructional design in higher education, and its experiment</u> This project aims to enable faculties engaged in higher education (HE) to provide e-learning that satisfies the standards of credit accreditation, to enable HE faculties to make learners capable of responding to social needs, and to enable HE learners to participate in education and training that meet their various needs. This project will develop instructional design models, evaluate the effectiveness of developed instructional design models, and develop guidelines on how to adopt instructional design to HE.	
(6)	<u>Development of learning evaluation functions based on the international standards, and the experiment of their effectiveness</u> This project aims to enable platform and content vendors to expand the e-learning market by taking advantage of online testing functions built upon the latest e-learning testing standards, and to enable service vendors to do quantitative analysis, evaluation and improvement. This project will develop online testing functions based on the IMS-QTI Ver. 1.2, and experiment quantitatively on their effectiveness in learning and material evaluation.	<b>WG4: Quality Assurance for e-Learning</b>

***Organizer:***

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National Institute of Multimedia Education (NIME), Japan

***Date:***

December 10 (Wednesday) to 12 (Friday), 2003

***Venue:***

Tokyo Bay Ariake Washington Hotel

## **December 10 (Wednesday), 2003**

### ***AEN Working Group Meeting (for WG Members only) • • • 9:30 - 17:00***

9:30 - 17:00 -Reports and discussion (including interim reports of activities) in line with each Working Group agenda

## **December 11 (Thursday), 2003**

### ***AEN Conference 2003 Open Session • • • 9:30 - 17:05***

#### ***[Session I • • • 9:30 - 11:30]***

- 9:30 - 9:45 Opening Remarks  
(Mr. Masakazu TOYODA, Director-General, Commerce and Information Policy Bureau, Ministry of Economy, Trade and Industry, Japan)
- 9:45 - 10:00 Opening Remarks  
(Dr. Takashi SAKAMOTO, Chair Person, AEN Promotion Committee; National Institute of Multimedia Education, Japan)
- 10:00 - 10:15 Address by AEN Project Leader  
(Dr. Shuichi TASHIRO, Director for Asia e-Learning, Ministry of Economy, Trade and Industry, Japan)
- 10:15 - 11:30 Keynote Address
- China  
“The Research of e-Learning Standardization in China”  
(Dr. Ronghuai HUANG, Beijing Normal University)
  - Korea  
“e-Learning Policy in Korea”  
(Mr. Chang-Han LEE, e-commerce policy division, Ministry of Commerce, Industry and Energy)
  - Singapore  
“e-Learning Early Adopters Programme of Singapore (ELEAP)”  
(Mr. LIM Kin Chew, E-learning Competency Centre)

## **Program**

### **[Session II • • • 11:30 - 12:30]**

11:30 - 12:30 Working Group Activity Interim Report by WG Chair  
WG1: Mr. Kiyoshi NAKABAYASHI (NTT-X, Japan)  
WG2: Mr. Shuji MIYAZAWA (LA-Lab, Japan)  
WG3: Dr. Yutaka SAYEKI (Aoyama Gakuin University, Japan)  
WG4: Dr. Kenji HIRATA (SANNO Institute of Management, Japan)

12:30 - 14:00 Lunch

### **[Session III • • • 14:00 - 16:00]**

14:00 - 16:00 Case Study Presentation (20 min. each)

- Thailand  
“e-Learning, A Nova Education Evolution; Development and Evaluation”  
(Dr. Virach SORNLERLAMVANICH, Thai Computational Linguistics Laboratory)
- Philippines  
“Developing Standards for Quality Assurance in e-Learning”  
(Dr. Benito TEEHANKEE, De La Salle University Professional Schools)
- Brunei Darussalam  
“e-Learning Roadmap for the Ministry of Education in Brunei”  
(Dr. YONG Chee Tuan, ICT Center, Universiti Brunei Darussalam and  
Mr. Hj Abd Ghani Bin OMAR, ICT Department, Ministry of Education Brunei)
- Vietnam  
“Survey on R&D of e-Learning in Vietnam and Some Suggestions”  
(Mr. NGUYEN Ngoc Binh, Hanoi University of Technology and  
Dr. QUACH Tuan Ngoc, Centre for IT, Ministry of Education and Training)
- Malaysia  
“e-Learning Initiatives in Malaysia”  
(Mr. David ASIRVATHAM, Multimedia University)
- Myanmar  
“Current Status of e-Education and e-Learning in Myanmar”  
(Dr. Pyke TIN, University of Computer Studies, Yangon)

### **[Session IV • • • 16:00 - 17:05]**

16:00 - 17:00 Country Reports (15 min. each)

- Indonesia  
“Strategy of e-learning development in the Network of Technical and Vocational Education in Indonesia”  
(Mr. Binsar SIAGIAN, Technical Education Development Centre, Bandung)

- Cambodia  
“e-Learning in Cambodia: Perspectives, Strategies and Next Steps”  
(Mr. Sok THA, Ministry of Education, Youth and Sports)
- Lao P.D.R.  
(Mr. Chit THAVISAY, Sengsavanh College)
- Japan  
“Japanese e-Learning Market”  
(Mr. Kiyoshi HARA, ALIC; Nihon Unisys)

17:00 - 17:05 Closing Remarks  
(Mr. Yoshimi FUKUHARA, Vice Chair Person, AEN Promotion Committee;  
NTT-X)

**[Reception • • • 18:00 - 20:00]**

18:00 - Opening Remarks  
(Dr. Yutaka SAYEKI, Vice Chair Person, AEN Promotion Committee; Ao-  
yama Gakuin University)

## **December 12 (Friday), 2003**

**AEN Members Meeting (for officially nominated delegates of each country only) • • • 10:00 - 12:20**

10:00 - 12:20 Opening Remarks  
(Mr. SHIMADA, Director, Information Services Industry Division, Com-  
merce and Information Policy Bureau, Ministry of Economy, Trade and In-  
dustry, Japan)  
Introduction of each participant country (20 min.)  
Discussion on WG activities (40 min.)  
Discussion on vision of AEN: Toward the goal of AEN, 2005 (40 min.)  
Call for hosting of next year’s AEN conference (host country, time, theme  
and so forth) (10 min.)  
AEN Tokyo joint statement (20 min.)  
Closing Remarks  
(Dr. Shuichi TASHIRO, Director for Asia e-Learning, Ministry of Economy,  
Trade and Industry, Japan)

**Photo Session**

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## ***[ Keynote Addresses & Presentations ]***

**[Keynote Address] “The Research of e-Learning Standardization in China”**  
(Dr. Ronghuai HUANG, Beijing Normal University, China)

**[Keynote Address] “e-Learning Policy in Korea”**

(Mr. Chang-Han LEE, e-Commerce Policy Division, Ministry of Commerce, Industry and Energy, Korea)

**[Keynote Address] “e-Learning Early Adopters Programme of Singapore (ELEAP)”**

(Mr. LIM Kin Chew, e-Learning Competency Centre, Singapore)

## ***[ Working Groups ]***

**[Working Group 1] “Technology Standards & Conformance”**

**[Working Group 2] “Technique for Native Language Supported Contents Development”**

**[Working Group 3] “e-Learning Instructional Designer”**

**[Working Group 4] “Quality Assurance for e-Learning”**

# *Keynote Address*

**“The Research of e-Learning Standardization in China”**

Dr. Ronghuai HUANG, Professor,  
College of Information Science, Beijing Normal University, China

**“e-Learning Policy in Korea”**

Mr. Chang-Han LEE, Director,  
e-Commerce Policy Division, Ministry of Commerce, Industry and Energy, Korea

**“e-Learning Early Adopters Programme of Singapore (ELEAP)”**

Mr. LIM Kin Chew, Executive Manager,  
e-Learning Competency Centre, Singapore

## *The Research of e-Learning Standardization in China*

**Dr. Ronghuai HUANG**

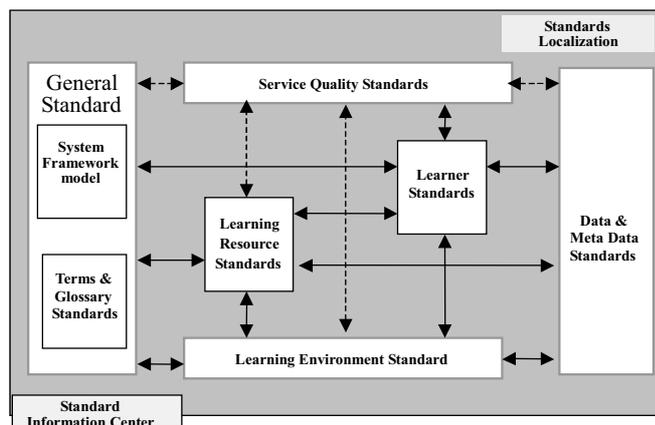
**Professor, College of Information Science, Beijing Normal University, China**

With the fast development of economy, education in china enters fast development period, e-learning in China having made great progress and gotten rapid development. With the aim to create a good environment for e-learning and promote its development, China pays more attention to the research of e-learning quality assurance standards and has got some achievements.

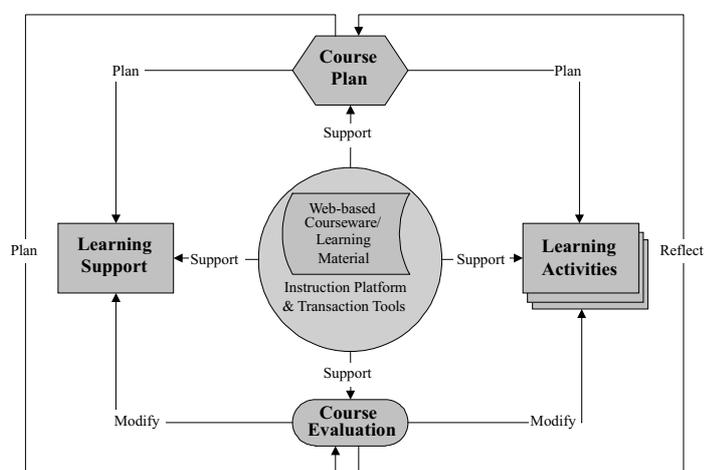
Points of the presentation:

1. Brief introduction about pilot universities engaged in networked education, including schools, learning centres, students, specialties and courses, etc
2. Introduction about research and current situations of CELTSC (Chinese E-Learning Technology Standardization Committee)
3. Research on quality certifications and assurance of e-learning, especially the certification about web-based courses quality

### *Frameworks of E-Learning Technology Standards*



### *PASE Mode of E-learning Course Process*



## *E-Learning Policy and Market status in Korea*

**Mr. Chang-Han LEE**

**Director, e-Commerce Policy Division, Ministry of Commerce, Industry and Energy, Korea**

### 1. e-Learning

e-Learning is becoming increasingly important not only in education and the fostering of human resources but also in knowledge-sharing and human resource development in business. Because of its advantage, i.e., anyone can receive education anywhere just by logging on to the network, businesses now consider e-Learning a critical tool for saving money and improving productivity. It has also been used to facilitate learning, not only for individuals but also organizations in Korea, a country where learning and education are extremely valued. Furthermore, e-Learning is a remarkable vehicle that can potentially narrow the knowledge gap between social classes and regions, increase economic productivity, and ultimately contribute to enhancing national competitiveness.

### 2. Market Size of e-Learning

<Table 12> *Expected growth in Domestic Online Private Education Market for Elementary and Middle School Students*

(Unit: 1 billion won)

	2002	2003	2004	2005
Size of private education market utilizing e-Learning	910	2,282	3,856	5,652

Source: Bank of Korea, Korea Educational Development Institute, 2002

Although no official statistics on e-Learning are available at this time, the size of the domestic e-Learning market in 2000 is estimated at 1 trillion won, and that figure is expected to increase to about 2.5 trillion won for the year 2003, according to KIET and Korea IT Industry Promotion Agency.

In November 2002, 10.7% of enterprises have already adopted e-Learning, with the 1,593 enterprises surveyed. Enterprises accounted for 39.7%, representing high rating, whereas, SME took 4.7%.

According to a survey released by Ministry of Labor, in 1999, the number of registration for Internet training grew from around twenty thousands in 1999 to five hundreds seventy thousands in 2002. In the number of training course, it grew from 223 to 2,985 showed the greatest increase.

### 3. e-Learning related Laws

Since the Elementary and Secondary Education Act and the Higher Education Act approved the use of broadcasting or communications for education purposes, schools now have Internet access that can be utilized for e-Learning. As schools increasingly emphasize the importance of leverag-

ing ICT for education purposes, e-Learning is expected to grow even further.

In addition, 16 cyber universities have obtained approval from the Ministry of Education to provide education, thanks to the Cyber University Provision in the Lifelong Education Act. Furthermore, according to the “Internet Communications Training System” of the Vocational Training Promotion Act, workers can be reimbursed for course fees when they take pre-approved Internet classes based on employment insurance.

Meanwhile, a provision called “Support for e-Learning in Small and Medium Enterprises” in the Special Act on HR Support for Small and Medium Enterprises promotes governmental assistance to smaller companies in securing e-Learning related systems so they, too, can foster proper training, thereby enhancing productivity and worker’s skills.

Recently, a provision called “e-Learning Industry Development act” which defines e-Learning and e-Learning industry concretely and promotes e-Learning industry is being discussed in the National Assembly. Moreover, this provision prescribes supporting a standards and human resource training for e-Learning industry and promoting e-Learning program such as e-Learning supporting center at the national level.

#### **4. Support for the Development of the e-Learning Industry**

In April 2000, “Expert Committee for ISO JTC1/SC 36” was formed to assist efforts to standardize by Ministry of Commerce, Industry and Energy. Moreover, e-Learning Standards Forum was organized among industries, universities and research institutes in July 2003. This forum is made of the four fields, which are contents, system, learning environment and research. Each field is practicing its own study.

In order to provide R&D support for the e-Learning industry, MOCIE announced the “Roadmap for the Development of e-Learning Technologies” last April. The ministry also named key tasks designed to promote the growth of the industry and plans to provide R&D support to two tasks each year.

The government also opened the e-Learning supporting center at the Korea e-Learning Industry Association. Over the next five years, the center will be conducting programs such as fostering e-Learning human resources, research & surveys and development of success e-Learning business models.

In other efforts, the Korean Academy of Cyber Education (KAOCE) organized the Quality Certification Board for Korean Education Contents in May 2002, in order to secure quality contents and enhance consumer trust. The board is currently working on a project related to the certification of excellent contents.

In order to raise public awareness for e-Learning, the first “Korea e-Learning” was held in 2002. It included awards for excellent contents and seminars on e-Learning. From this year, e-Learning

EXPO will be organized to exhibit related products and hold product demonstrations. In addition, MOCIE and KAOCE published the White Paper on e-Learning in August this year to introduce the domestic e-Learning market, the status of the industry and related policies.

#### 5. Utilizing e-Learning in Human resource development

e-Learning is utilized for training human resources in Life-time education and enterprise education as well as school or universities in Korea.

Ministry of Commerce, Industry and Energy provides “e-business Woman Cyber academy” which offer course on e-business through on-line in alliance with ewha universities.

Ministry of Government Administration and Home Affairs is running “ government official cyber education” to lessen the education cost and to enhance the function of government official education since launching in May 2001 and as of 2003, 21 class is being offered.

In addition, regional government supports education programs related to IT by “e-Learning Center”

#### 6. Related Government Agencies

##### <Official Government Agencies>

- Korea Education and Research Information Service support public schools in creating and operating cyber education systems using Edu-Net, and is responsible for managing NEIS. It also provides resources to digitize school’s administrative matters and helps to disseminate educational contents.
- Korean Educational Development Institute conducts various studies on e-Learning to facilitate lifelong learning.
- Korea Research Institute for Vocational Education and Training is an agency specializing vocational education for the Ministry of Labor and works to develop e-learning as a new tool for job training.

##### <Private Organizations>

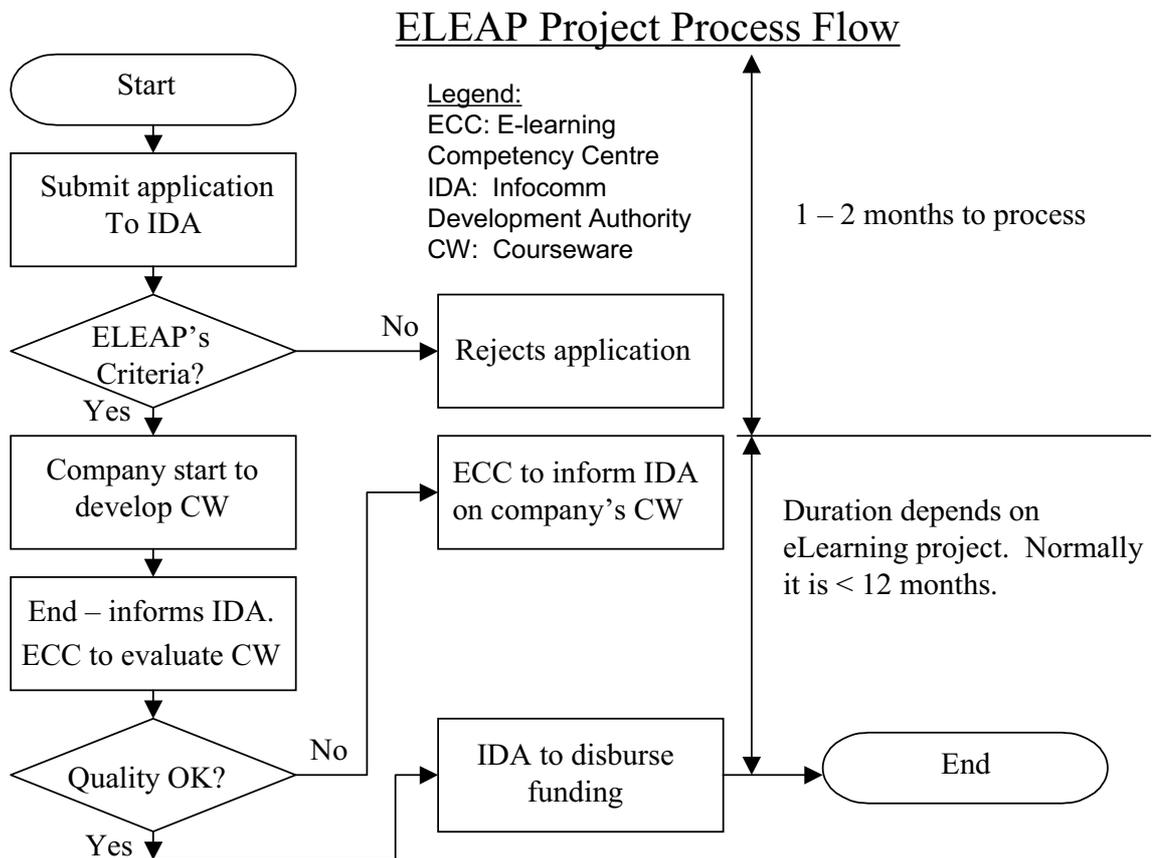
- Korea Association Of Cyber Education: founded in April 2001, President – Sanghi Lee, Congressman
  - Conducts studies on legislating e-Learning and education industry as well as academic research
- Korea e-Learning Industry Association: established in September 2002. President –Ilhong Jang
  - Consists of about 60 e-learning specializing entities. Also initiates collaboration with educational institutes and R&D’s.

## *e-Learning Early Adopters Programme of Singapore (ELEAP)*

Mr. LIM Kin Chew

Executive Manager, E-learning Competency Centre, Singapore

Corporate bodies are slow to adopt e-Learning primarily because of cost and development time issues. Knowing these issues, Singapore introduced the eLEAP (e-Learning Early Adopters Programme) in 2002. Its intention is to encourage companies to incorporate e-Learning into their corporate training. So far many companies have participated in this programme. This presentation reviews the different types of e-Learning courses deployed by the participating companies, the types of training approaches used as well as the challenges, the benefits and the learning outcomes.



# ***Working Groups***

**[Working Group 1]**

***“Technology Standards & Conformance”***

Mr. Kiyoshi NAKABAYASHI

NTT-X

**[Working Group 2]**

***“Technique for Native Language Supported Contents Development”***

Mr. Shuji MIYAZAWA

LA-Lab

**[Working Group 3]**

***“e-Learning Instructional Designer”***

Dr. Yutaka SAYEKI

Aoyama Gakuin University

**[Working Group 4]**

***“Quality Assurance for e-Learning”***

Dr. Kenji HIRATA

SANNO Institute of Management

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## ***WG1 : Technology Standards & Conformance***

### **Background**

- SCORM and other e-learning standard specifications are becoming popular in the Asian region. Accompanying this trend, interoperability issues are getting common problem with the actual implementations.
- With the promotion of e-learning, IPR and privacy protection issues in this field are becoming of common concern.

### **Objective**

- To establish technical and organizational framework of conformance for e-learning specification including SCORM, in cooperation with the activities in US and Europe.
- To establish common framework in the Asian region in the field of IPR and privacy protection by information exchange and research about technologies and policies in the field.

### **2003 Activities**

- Conformance
  - Contact with and research about the activities in US and Europe
  - Discussion between AEN countries about technical and organizational framework of conformance
  - Interoperability experiment if possible
- IPR and privacy protection
  - Contact with and research about the activities in US and Europe
  - Survey about legal and technical requirement in the Asian region
  - Research about related technical trends including DRM
- Through email : information exchange and discussion
- In-person meeting : one-day meeting is under consideration (before AEN conference December, 2003)
- Other activities (experimental study, development etc.)

### **2003 Outcome (expected)**

- Conformance
  - Report about the activities in US and Europe
  - Proposal about technical and organizational framework of conformance
  - Report about interoperability experiment if possible
- IPR and privacy protection
  - Report about the activities in US and Europe
  - Report about legal and technical requirement in the Asian region
  - Report about related technical trends including DRM

Tentative

## WG1

- Vision
  - Establish an e-learning technology community in the Asian region
    - Share technical information and issues about platform and content in terms of e-learning standards
    - Cooperate with US and Europe based communities by exchanging information and requirements on standards
- Scope
  - Platform and content conformance program
  - Intellectual property rights and Privacy protection
  - Standards promotion

2003/12/11

AEN WG1

1

Tentative

## WG1 Current Activity

- Conformance
  - Exchange information about each countries' situation
  - Exchange information with ADL and ICP
  - Hold playfest on SCORM platform and content in 2004-01
- IRP/PP
  - Exchange information about each countries' situation
  - Summarize use cases and requirement
  - Exchange information with IEEE LTSC and SC36 in 2004-03  
Canada meeting

2003/12/11

AEN WG1

2

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## ***WG2 : Technique for Native Language Supported Contents Development***

### **Background**

- Most of the e-Learning contents are made for English but e-Learning user wants to study by the native language, so that supply-and-demand mismatch in the field of language expression and this is a barrier for market expansion.
- Asian country such as Singapore and Hong Kong uses English for developing e-Learning. In Europe, the project already turned to Native Language Supported(NLS) is progressing.
- A contents vender can expect market expansion by NLS contents. Moreover, the development of NLS contents will lead to the development cost cut and increase user merit.
- For 2002 AEN Experiment, we used SCORM standard contents as the teaching materials to experiment localization of e-Learning contents into Japanese => English => Thai. As a result, native-language teaching materials needs are actualising.
- Domestic Situation (by ALIC)  
Each contents are localized to the native language by translation
- WG2 Objective  
Cooperation of each country of the NLS contents development technique in the Asian bloc is carried out, and it is established.

### **Objective**

- To Develop a sharable contents among Asian countries to secure inexpensive development resource.
- To contributes for standardization of the contents development architecture under multilingual (Native language supported) environment.
- The progress and improvement of contents development technology in Japan and will lead to its industrial growth

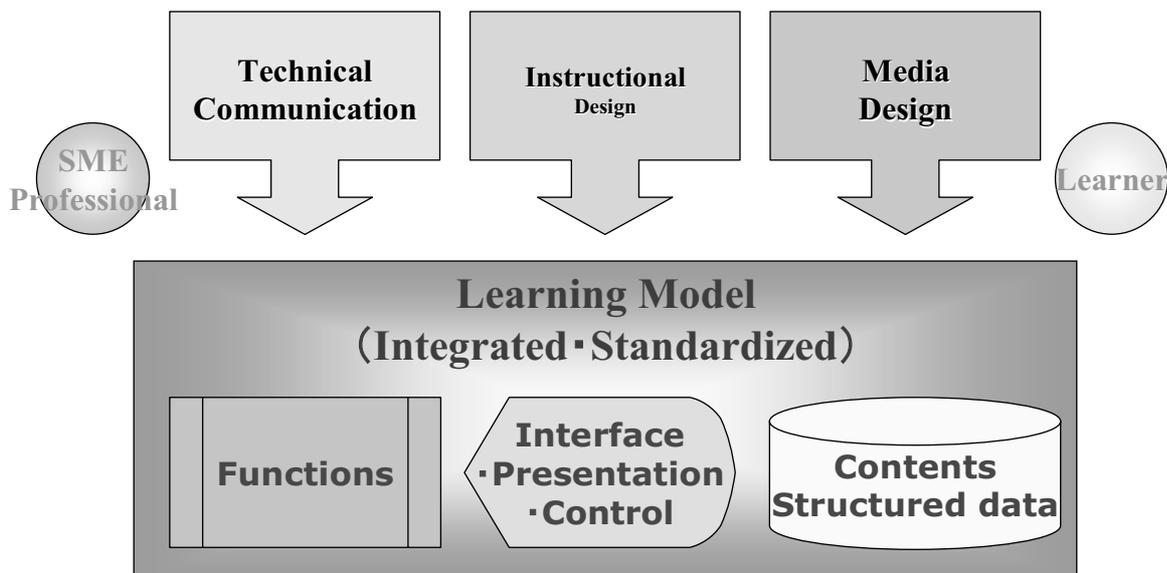
### **2003 Activities**

- To investigate the contents development situation of each country and future demand.
- To investigate the request and requirements for Native Language Supported (NLS) contents development and translated contents development.
- To prepare a manual for NLS correspondence contents production.
- Through email : information exchange and discussion
- In-person meeting : one-day meeting is under consideration (before AEN conference December, 2003)

### **2003 Outcome (expected)**

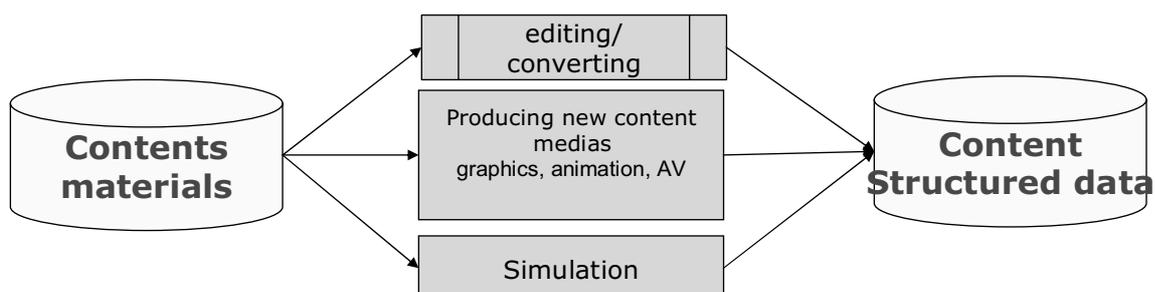
- Specification of AEN-NLSCDA
- To defined Data Model
- To defined Development Process
- Investigation Report of contents development situation of each country and future demand
- To investigate the request and requirements for multilingual contents development and translation contents development.
- To contributes for standardization of the contents development architecture under multilingual (Native language supported) environment.

## Learning MODEL (Example)



## NLS Contents Development Process

- Content structured data Development Process
  - Editing and converting materials for making up contents
  - Producing new content medias (graphics, animation, AV)
  - Adding new learning activities (simulation etc.)



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## ***WG3 : e-Learning Instructional Designer for Corporate Education and Higher Education***

### **Background**

E-Learning Instructional Designer is indispensable for providing high quality courses and contents. E-Learning Instructional Designer has special knowledge of course designing techniques and assists to plan and produces contents to satisfy potential learners' needs. E-Learning Instructional Designer takes significant rolls for designing, executing and evaluating courses to assure learning efficiency. Training excellent e-Learning Instructional Designer over the whole Asian countries will contribute in expanding e-Learning markets in Asia and promoting knowledge and skills of the targets.

### **Objectives**

The objective of this “WG3” is cultivating e-Learning professionals for both corporate education and higher education. For that purpose, WG3 creates the maps of skill and knowledge required for e-Learning Instructional Designer, develops educational programs and establishes authorizing systems of e-Learning Instructional Designer qualification.

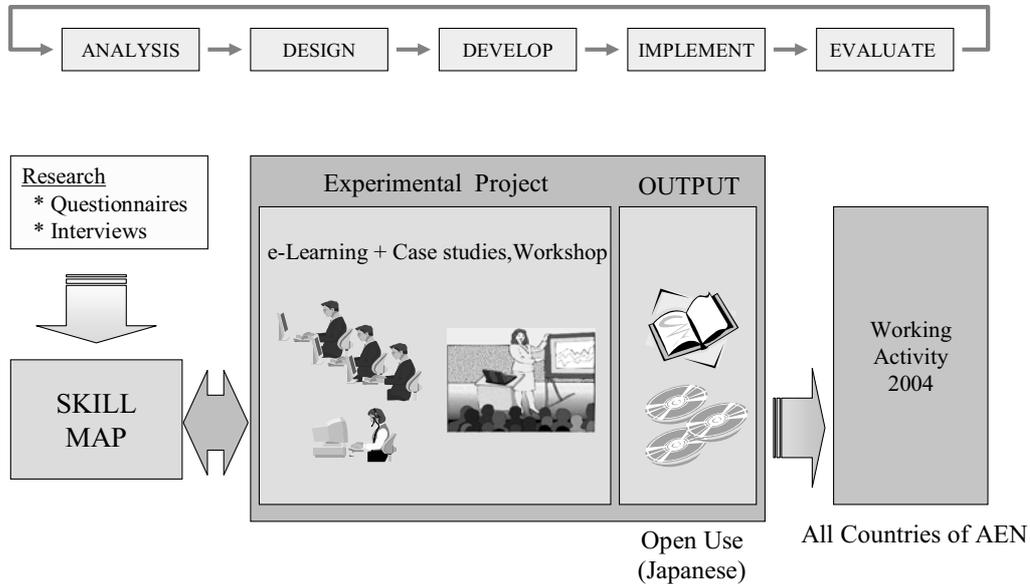
### **2003 Activities**

- Systematization of making the skill and knowledge maps required for the standard and advanced e-Learning Instructional Designer qualification.
- Editing guidelines for methods of instructional design according to e-Learning Instructional Designer process(analyzing, designing, developing, executing and evaluating), in response to the systematized maps.
- Inquiry and study on educational programs according to the systematized maps for standard and advanced e-Learning Instructional Designer.

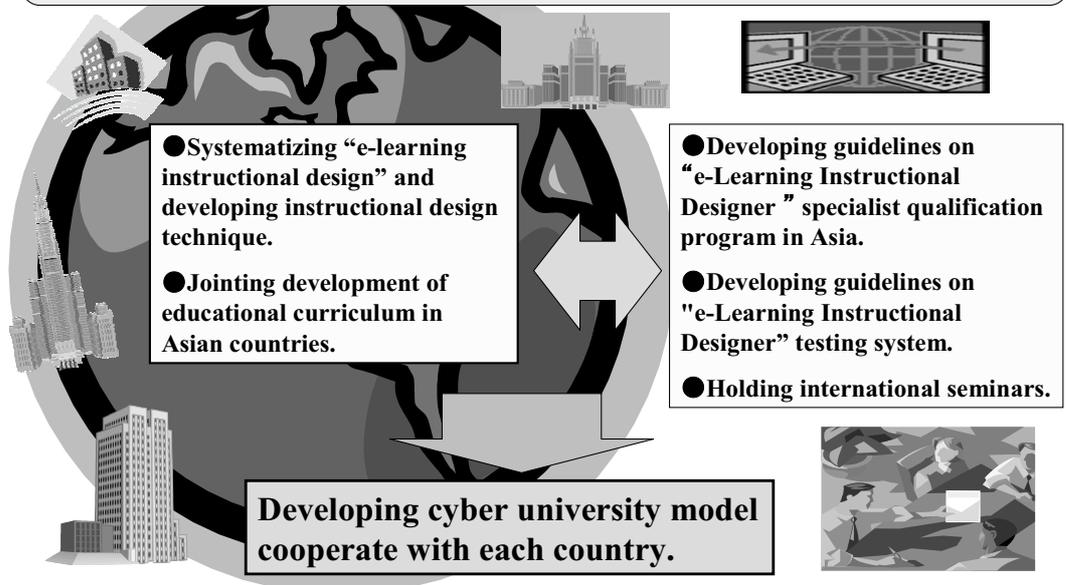
### **2003 Outcome (expected)**

- Output Expectation, training e-Learning Instructional Designer for both higher education and corporate training:
- International inquiry report of noteworthy examples in Western countries.
- Needs inquiry report in Asian countries.
- Systematized skill and knowledge maps required for standard e-Learning Instructional Designer qualification.
- Guidelines for methods of instructional design according to the standard ID process in response to the systematized maps.
- Inquiry report and proposal of educational curriculums for training the standard e-Learning Instructional Designer.

Working Activity 2003 in Japan - e-Learning Instructional Designer for Corporate Education and Higher Education Instructional Designer -



**WG3 Tentative Vision**  
 AEN WG3 will work toward cultivating e-Learning professionals in Asia, launch a joint development for educational curriculum of "e-Learning Instructional Designer."



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## ***WG4 : Quality Assurance for e-Learning***

### **Background**

For the market formation of e-Learning, quality improvement and maintenance of learning contents is indispensable. By the issue of quality, quantitative promotion (efficiency) and appropriate direction (effectiveness) are important.

The former, a lot of users of e-Learning contents; teacher, student, content developer, educational/learning designer, and e-Learning system vender, can use these easily, feel attraction in e-Learning contents, and are not put at disadvantages. Therefore it is necessary for the following information to be disclosed, that is, information about content itself (entity), information about each activity on life cycle process for developing e-Learning contents, and information about organizational system for quality management.

The latter, e-Learning content provider should promote quality control and management activities. When a problem on quality or a disadvantage for user is occurred, they must do appropriate tackling. Therefore, the information about structure and operation system related to quality control and management, as quality assurance, is needed.

About "Quality Assurance" of e-Learning, examination advances to ISO/IEC, CEN ISSS, ASTD, and some Asian countries including Japan. However, ISO/IEC does not reach mutual agreement, and serious discussions are necessary from now on. As Asia through AEN, discussing on a view and a policy of quality assurance about e-Learning is significance.

### **Objective**

In the WG4, we are going to gather, arrange, select, and define information of quality assurance for e-Learning contents. In addition, we explicate on definition of quality assurance information in order to agree and understand more each country, and also show a guideline in order to use it in practice.

### **2003 Activities**

#### **WG establishment / administration**

- Holding / management of a project committee
- Decision such as a purpose / activity / a role of a project
- Selection WG4 Chair

#### **Research for standard specification**

- Research for standard specification
- A CEN ISSS QA standard
- An ASTD ECC standard
- An IMS LD standard
- A Sloan-C standard
- Contents indication standard (Japan)
- Other standard

#### QA activity survey of Asia-Pacific project and cooperation

- Australia
- Brunei
- Philippines
- Korea
- Japan
- Malaysia
- Singapore
- Vietnam
- Other countries

#### Discussion of QA information

- Discussion of QA information
- A point of view and policy of QA
- Attribute or category of QA
- Element or item of QA
- Guideline about QA

Through email : information exchange and discussion

In-person meeting: one-day meeting is under consideration (before AEN conference December, 2003)

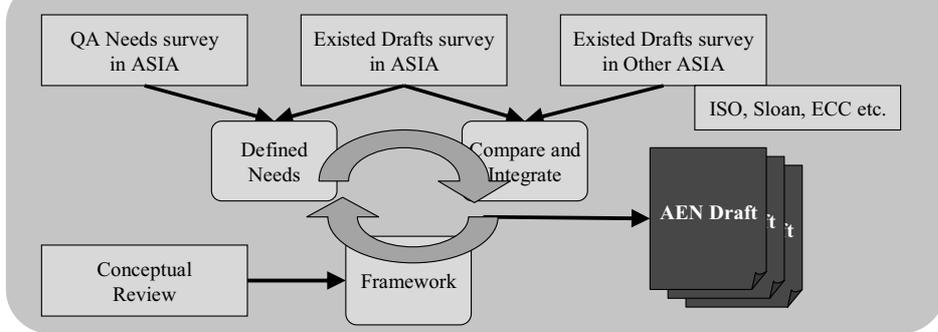
Other activities (experimental study, development etc.)

#### 2003 Outcome (expected)

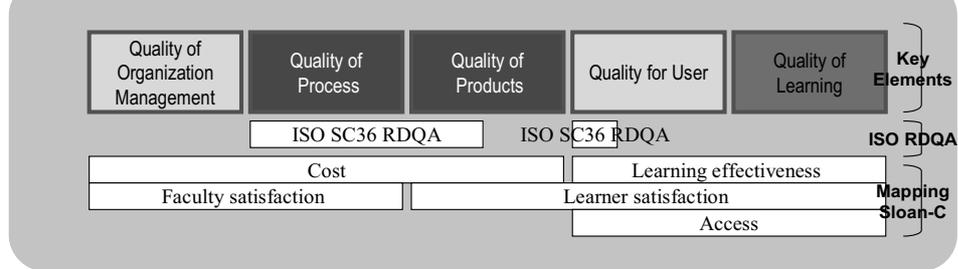
- Research report on existing QA standard specifications
- Research report on QA need in Asia
- Research report on QA information in Asia
- A guideline of QA in Asia: including future issues and suggestions of the cooperation in AEN

# Conceptual Activity Model

## Structure Model



## Content Model



# QA WG Vision (proposal)

**• Issue**

– Quality Assurance in e-Learning Contents and Services

**• Purpose**

- To collect and share wisdom related to quality improvement among Asian countries . Knowledge, Skill, Theory, Method and Experience are included in Wisdom.
- To make e-Learning contents and services circulate and reuse in order to develop e-Learning market in Asia.

**• Orientation**

– Orientation of WG activities are three area. Sharing advanced technology, Technology development in collaboration, and application and spread the technology in the Quality of e-Learning contents and services globally.

**• Scope & Words**

- **e-Learning** : A education style using educational system or learning support system based on internet technology.
- **Educational contents** :Digitalized educational resources, tests, and Learning Resource Metadeata(LOM).
  - Educational resources are not included law materials and/or assets. The smallest resource is Unit level, that means a SCO with SCORM specification. If a unit is not based on SCORM, as a unit, more than 2 assets aggregated with educational intention are needed at least. Other resources are course level and curriculum level. Curriculum level is largest one.
  - There are several type of tests. For example, there are a test that included in educational resources, or other one to be independent itself. There are a test in order to evaluate learning result, or other one in order to assess performance or ability. The smallest test level is a set of items , that means a section based on QIT specification.

– **Educational services** :The system in order to support or accelerate teaching and learning except the function to teach directly.The services are included following functions, Performance record management, learning schedule management, mentoring, tutoring, learning log data management, and motivating.. These function should be provided user with using information and communication technology.

– **Quality Assurance** :To provide adequate confidence as quality that the product or service optimally fulfils customer/user’s requirement.

– **Quality** :Quality is a totality of characteristics of an entity (a process, a product, an organization or any combination thereof) that bear on its ability to satisfy stated and implied needs. (ISO 8402) . In other word in e-Learning, we can say that quality is ability to reach a specific goal in efficiency, effectively, safe and/or satisfaction at specific user situation, that is education, learning, development, assessment, or management (reference ISO/IEC9126-4).

**• Objectives for 2005**

- In the area of Quality in e-Learning contents and services,
  - The system that can regularly communicate and share information related to quality in Asian countries will be organized construct.
  - The WG Orientation what WG should be and should do by global level technically will be reach in agreement
  - The WG will initiate to research and practice by global level in Asian countries collaborately
  - The WG Will be able to contribute to other international organizations though the researches and practices based on WG activities.

# *Results of AEN Experimental Projects in 2002*

Extracted from AEN portal site  
[http://www.asia-elearning.net/content/relatedInfo/aen\\_project.html](http://www.asia-elearning.net/content/relatedInfo/aen_project.html)

## **[Singapore - Japan]**

*Asia e-Learning Network Japan-Singapore:  
"Issues surrounding e-Government and e-Commerce in Singapore and Japan"*

Nanyang Technological University (NTU)  
The University of Tokyo / National Institute of Multimedia Education (NIME)  
Supported by IBM Japan, Ltd.

## **[Thailand - Japan]**

*Synchronous and Asynchronous Distance Education of Graduate Programs  
between AIT and Tokyo Tech.*

National Science and Technology Development Agency (NSTDA)  
Asian Institute of Technology (AIT)  
King Mongkut's Institute of Technology Ladkrabang (KMITL)  
Tokyo Institute of Technology (Tokyo Tech)  
Supported by Hitachi Electronics Services Co., Ltd.

## **[Vietnam - Japan]**

*Development of "e-Courses" in the Non-Skill-Transfer Fields for e-learning*

Hanoi University of Technology / Vietnam National University  
Keio University  
Supported by Hitachi, Ltd.

## **[Philippines - Japan]**

*International Experiment Project on Asynchronous Collaborative Learning Method*

De La Salle University  
Aoyama Gakuin University  
Supported by Nihon Unisys, Ltd.

## **[Malaysia - Japan]**

*MJeN: Malaysia Japan e-Learning Network Project*

Multimedia University  
Kyoto University / Waseda University  
Supported by NTT-X, Inc.

## **[Thailand - Japan]**

*Demonstration for Effectiveness of e-Learning Sharable Resources*

National Electronics and Computer Technology Center (NECTEC)  
ITEC INC. (ITEC)

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***Asia e-Learning Network Japan-Singapore:  
"Issues surrounding e-Government and e-Commerce in Singapore  
and Japan"***

**Singapore**

**Nanyang Technological University (NTU)**

**Japan**

**The University of Tokyo**

**National Institute of Multimedia Education (NIME)**

Supported by: IBM Japan, Ltd.

**Abstract**

The University of Tokyo and the National Institute of Multimedia Education, Japan, together with Nanyang Technological University, Singapore, developed an international distance-learning program to educate test subjects regarding e-commerce and e-government. There were 20 participants from each country, and systems such as SCORM-based WBT materials, and a bulletin board system were used. Effectiveness of this program was examined by analysing various data acquired during the program.

**The Experiment**

This project was prepared to meet the following five objectives:

1. Examine the effectiveness of the SCORM-based WBT materials.
2. Examine the effectiveness of the WBT-CSCL integrated distance-learning program.
3. Develop an evaluation system in the CSCL program and its evaluation.
4. Examine whether cultural differences and problems exist among the participants of the CSCL program in Japan and Singapore.
5. Examine the effectiveness of the WBT-video conference integrated distance-learning program.

A learning program was developed covering various topics of e-commerce and e-government issues. The content of the program consisted of the following:

1. On-demand lectures using streaming videos.
2. Web-based training materials with tests and questionnaires.
3. Asynchronous discussions using a bulletin board system.
4. Synchronous discussions using a videoconference system.

**Unit 4 Mobile and Wireless commerce**

### Future of Mobile Phone Technology

**cdma2000**

If data to be transmitted by wireless circuit is like the cargo, then the wireless circuit is the road, and the transmission frequency is like the truck that delivers the cargo.

**W-CDMA**

In case of cdma2000, just as the road planning by an actual city, there is the merit of existing roads being expanded with increase of lanes for advancing the speed so that large vehicles (meaning transmission of large amounts of data) can go through more smoothly.

**Transmission Speed**

- Highway
- Mid level
- Lower level

3.75 MHz Width  
1.25 MHz X 3

1.25 MHz Width

Up

Down

**cdma2000 IX series A5301T**  
Moving Images Mail / GPS  
Compatible Mail  
(As of September 2002,  
sales launch scheduled  
soon)

Source: <http://www.inteq.or.jp/blue/rh333/W-2000.htm>

cdma2000 Upstream/Downstream Circuits Are Non-Symmetrical.  
Source: <http://www.inteq.or.jp/blue/rh333/W-200.htm>

Technology that concerns mobile phone is reaching fast-pitched development. In one projection, by year 2010 there will be approximately 360 million users, both 120 million people and 100 million cars, which will become the market demand of moving telecommunications including mobile phones.  
What is the trend of mobile technology, besides mobile phones?

◀ Prev. Next ▶ Quit

WBT unit

AEN - Microsoft Internet Explorer

ファイル(F) 編集(E) 表示(V) お気に入り(A) ツール(T) ヘルプ(H)

戻る 検索 お気に入り メディア

Lotus LearningSpace  
**Discussion Board**

New Main Topic Move to Trash Empty Trash Search

**By Category**

Topic

- ▼ Cryptography
  - 1 ▼ Cryptography - good or bad? (Rueeck Gabriel (gabriel))  
cryptography for business purposes (Desbarats Andrew Alan (adesbarats) 11/24)
- ▼ e-commerce
  - Start discussions on e-commerce (Admin Admin (admin))
- ▼ e-government
  - Security and Information Disclosure (Admin Admin (admin))
  - 1 ▼ M-Commerce/ e-Government in Estonia (Zumi Yasuo (yizumi))  
RE:M-Commerce/ e-Government in Estonia (Ezaki Kayo (kezaki) 12/10)
  - 5 ▼ e-application (Takashige Haruka (takashige))
    - ▼ (Sshiki Yuri (ysshiki) 12/03)
      - Re:e-application (Takahashi Teruko (ttakahashi) 12/04)  
(Morigaki Tsutomu (tmorigaki) 12/24)
      - ▼ (He Pei Ru Julie (prihe) 12/05)  
(Takashige Haruka (takashige) 12/08)
  - ▼ I-mode success in Japan
    - 16 ▼ The reason for i-mode success in Japan (Rueeck Gabriel (gabriel))
      - ▼ Difference in cultures is important (Ezaki Kayo (kezaki) 11/13)
        - ▼ i-mode it's like a Minitel (Asakawa Tetsuji (tasakawa) 11/14)  
(Rueeck Gabriel (gabriel) 11/16)
        - ▼ How do people use mobile phones in Europe and Singapore (Sshiki Yuri (ysshiki) 11/14)
        - ▼ Please discuss in Europe (Rueeck Gabriel (gabriel))

AEN

ページが表示されました インターネット

Discussions on a bulletin board system

Analyses were conducted based on various data, including the test results of the learners, discussion data in CSCL such as bulletin board logs, and answers to the questionnaires.

### Outcome

Positive results were observed from the analyses, though certain problems existed.

1. Test results indicate that it was effective for participants' learning, both in Japan and Singapore.
2. More than half of the messages on the discussion bulletin board system were advanced in level. Therefore, the content learned in WBT was utilized effectively in CSCL.
3. Analyses by the developed evaluation system presented high accuracy. It generally agreed with the subjective evaluation by the learners and by the third party.
4. Some cultural differences were found. For example, there were different reactions when counterarguments occurred during the discussion where Japanese participants tended to emphasize harmonization.
5. The knowledge acquired in WBT was effectively applied in discussions using the videoconference. However, audio problems from IP-based communication made the discussion difficult.

Evaluating this project as a whole, the following was concluded: methods used in this program work effectively for educational purposes, but concerning the system, though it operates without any major problem, improvements shall be made on its usability and adaptation to the users' environment.

## *Synchronous and Asynchronous Distance Education of Graduate Programs between AIT and Tokyo Tech.*

**Thailand**

**National Science and Technology Development Agency (NSTDA)  
Asian Institute of Technology (AIT)  
King Mongkut's Institute of Technology Ladkrabang (KMITL)**

**Japan**

**Tokyo Institute of Technology (Tokyo Tech)**

Supported by: Hitachi Electronics Services Co., Ltd.

### Abstract

The Tokyo Institute of Technology provided four lectures for the Asian Institute of Technology (AIT) and King Mongkut's Institute of Technology Ladkrabang (KMITL), Bangkok, Thailand. In this project, three experiments were conducted to develop a procedure to produce learning contents and to examine the effective use of SCORM based log data.

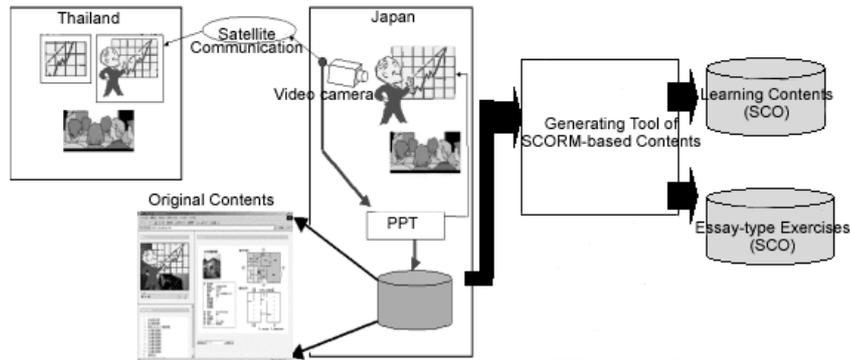
### The Experiments

The Tokyo Institute of Technology had been providing lectures for AIT and KMITL (lectures were credited in both institute) simultaneously through satellite. With this synchronous distance-learning environment, three experiments were conducted with the following objectives:

1. Develop procedure to produce SCORM-based asynchronous learning content.
2. Examine validity of SCORM based data description for asynchronous learning and exercise.
3. Examine the effectiveness of learning support on CSCL for asynchronous learning.

### Experiment 1

A tool that generates asynchronous learning contents from synchronous lectures was developed. This tool divides lecture contents (sound, video, and PowerPoint presentations) into SCOs, and generates essay-type exercises by using keywords from the PPT presentations. This procedure was applied to 66 hours of four lectures, and the time it took to produce the material was measured.



### Experiment 2

For this experiment, 309 hours of SCORM-based learners' log data during asynchronous learning was collected. To help lecturers and teaching assistants to analyze learners' learning process, a tool to view the data was also developed.

Advanced Signal Processing  
SP 2. Digital Filter Design  
lxxxx

	TOP	SP2-1	SP2-2	SP2-3	SP2-4	SP2-5
TOP	1	0:00:03				
TOP	2	0:00:04				
SP2-1	3	0:00:08				
SP2-2	4		0:00:22			
SP2-3	5			0:00:30		
SP2-4	6				0:00:08	
SP2-5	7					0:00:20
TOP	8	0:01:02				
SP2-1	9	0:39:08				
SP2-2	10		0:30:20			
SP2-3	11			0:04:22		
SP2-3	12			0:05:44		
SP2-3	13			0:23:29		
SP2-4	14				0:15:59	
SP2-4	15				0:24:26	
SP2-5	16					0:20:07
TOP	17	0:00:02				
SP2-1	18	0:00:08				
SP2-2	19		0:00:04			
SP2-3	20			0:04:28		
SP2-4	21				0:00:06	
SP2-5	22					0:00:05
SP2-4	23				0:02:58	
		4	3	3	5	3
累積学習時間		0:39:24	0:30:46	0:38:33	0:43:37	0:20:32
標準学習時間		0:14:36	0:18:28	0:09:47	0:19:01	0:08:37

Material information  
SCORM-based log data  
Expected time

### Experiment 3

SCORM-based log data was revised to examine the right time to provide mentor support for the learners. In addition, recording format of communication log data including e-mail, bulletin board and chat messages was established, and its effective use was pursued.

### Outcome

#### Experiment 1

Compared to the conventional method in producing the learning content, time required in producing the content was reduced to 45% by using the generating tool. The method was evaluated positively by most lecturers and learners. However, there is a need for an improvement in generating essay-type exercises; an environment that accepts answers in mathematical expressions, for example, is required.

**Experiment 2**

This experiment proved that tracking learners' learning behavior is possible by using SCORM-based log data, together with related information regarding the material structure and the expected amount of learning time. It also presented a need to take the habit of the individual into consideration when analyzing the learners' behavior.

**Experiment 3**

Mentoring to the groups was effective, but proper timing for individual mentoring was not found. A standard must be created in using the information regarding the learning progress of the individual. There is also a need for the mentors to be trained in supporting the learners. The effective use of communication log data was not found.

Based on the information acquired from these experiments, Tokyo Tech aims to improve the asynchronous learning system, explore how the learning log data can be used effectively, and establish the methods in training the mentors. In 2003, Tokyo Tech will examine the following:

1. Study the effective blending of synchronous and asynchronous learning.
2. Examine whether asynchronous learning alone can work effectively.

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## *Development of "e-Courses" in the Non-Skill-Transfer Fields for e-learning*

**Vietnam**

**Hanoi University of Technology  
Vietnam National University**

**Japan**

**Keio University**

Supported by: Hitachi, Ltd.

### **Abstract**

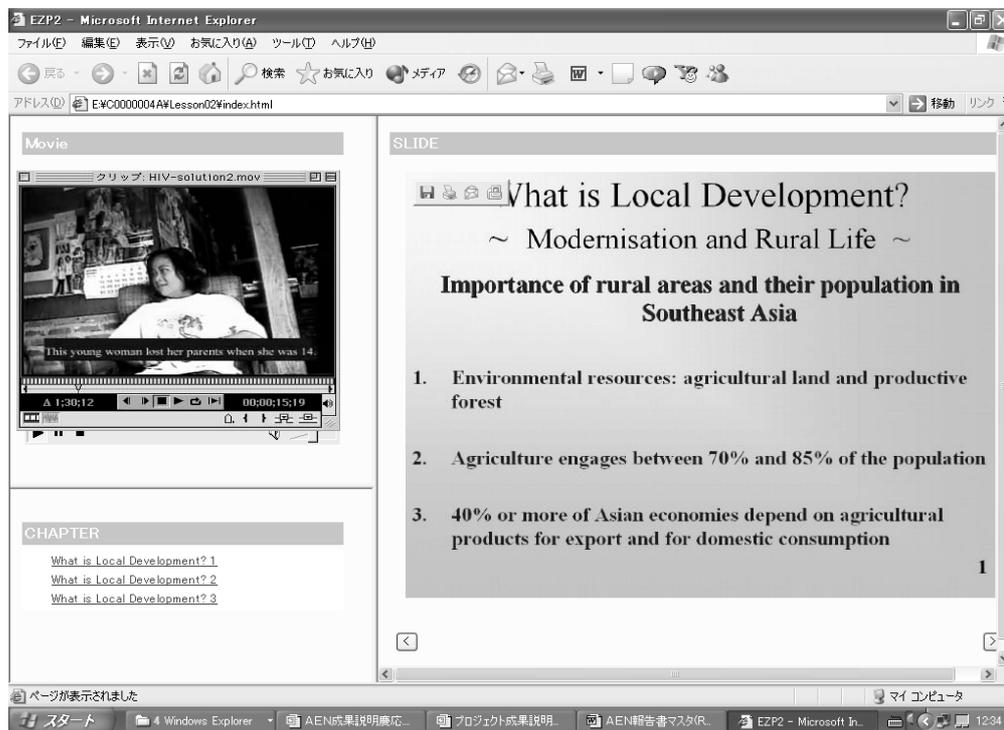
Keio University provided two WBT programs in social sciences and humanities to 20 students of the Institute of International Relations, Hanoi, Vietnam. The objective was to explore the possibilities of e-Learning in non-skill-transfer courses.

### **The Experiment**

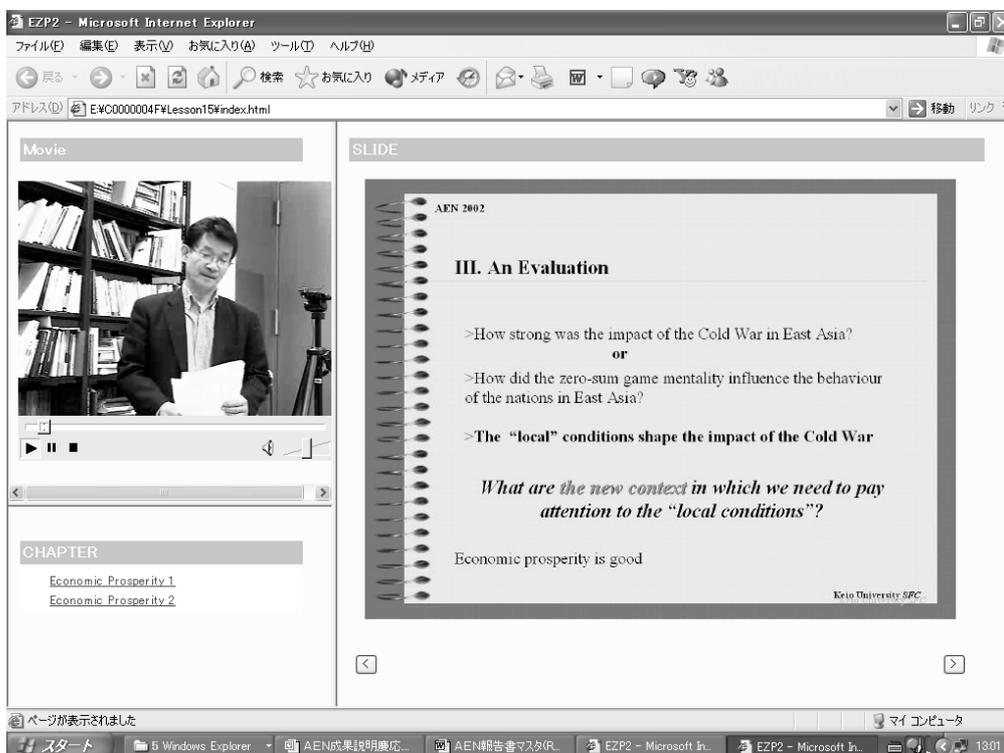
The majority of the social sciences and humanities courses provided at college and university level are considered non-skill-transfer courses (hereinafter referred to as NSTCs), where various competing "answers" are expected. On the other hand, the SCORM-based platform is suited for skill-transferring, where the same results among learners are expected. This project was conducted to explore the possibilities of introducing e-Learning in NSTCs.

In this experiment, the following two programs were provided: "Interactive Fieldwork" and "Postwar Origins of East Asian Development". Both courses covered topics that can be studied across the region. Four institutions in Vietnam and two in Thailand participated in creating the materials. The following issues concerning NSTCs were examined in these programs:

- Effects of using multimedia materials.
- Learners' learning attitude and quality of the material.
- Function of the learning support system, such as teaching assistants.
- How to evaluate the consequence of learning.
- Effectiveness of the SCORM-based platform.



*Interactive Fieldwork*



*Postwar Origins of East Asian Development*

### Outcome

The results obtained from this project.

- Learners' level of interest differed greatly among various multimedia materials. Thus, to stimulate the learners' intellectual curiosity, visual materials must be incorporated into the content more systematically. The learners' learning attitude was analyzed from questions and answers, chat, and WBT logs. From these analyses, the quality of the materials can be examined.
- Regarding support systems, the possibility of web contact and online "office hour" was suggested.
- There is a need to devise methods to evaluate the consequences of learning, other than the conventional text-based reports and the exclusive evaluation by the instructors. This presents a need for cooperative learning.
- To utilize the SCORM-based WBT logs more effectively, it must be customized. For example, synchronization between WBT logs and PowerPoint slides will be useful in evaluating the effects of specific materials.

For further development, Keio University plans to extend the program throughout Vietnam. They also hope to increase the topics in NSTCs, and find ways of evaluation by introducing cooperative learning, customize WBT logs, and create multilingual contents.

# *International Experiment Project on Asynchronous Collaborative Learning Method*

Philippines

De La Salle University

Japan

Aoyama Gakuin University

Supported by: Nihon Unisys, Ltd.

## Abstract

Aoyama Gakuin University, together with Hiroshima University, Japan, provided a course to Graduate School of Business, De La Salle University, Philippines, and conducted a study to examine asynchronous learning method. De La Salle University credited the course with evaluation standards of Aoyama Gakuin University, in view of mutual recognition of credits on a global scale.

## The Experiment

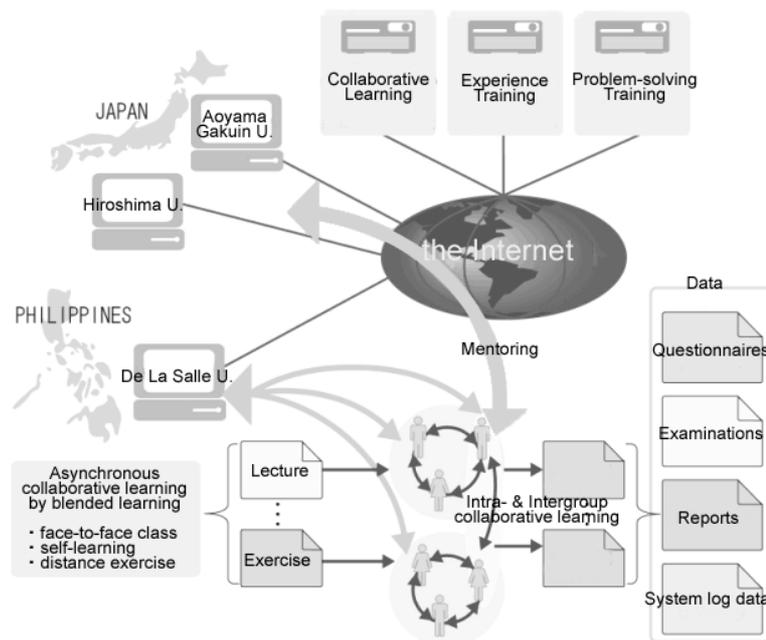
This project was conducted with the following objectives:

- Verify the validity of the asynchronous collaborative learning method in the international environment.
- Verify the feasibility of the international learning environment.
- Verify the feasibility of the international standard

The experiment was conducted in two phases. In the first phase, the aim was to develop the asynchronous collaborative learning method in the international environment, and to establish the appropriate e-Learning system.

Asynchronous collaborative learning is a new learning method, which is a combination of collaborative learning, experience training, and problem-solving training. It is achieved by a blended learning of face-to-face classes, self-learning, and distance exercises. In this experiment, the content taught was about production planning (MRP) systems, a foundation of the business model in the manufacturing industries. Learners solved the problems registered in the LMS, as they simulated on learning software, and held intra-group and inter-group discussions through network communication. Distance mentoring from Hiroshima University was provided.

Data obtained from this experiment were analyzed to examine if asynchronous collaborative learning is established, and if the method and the SCORM-based materials are effective. The system used in this experiment was also evaluated.



In the second phase, the feasibility of international standards of asynchronous collaborative learning, content materials, and LMS, was examined. The materials used in the first phase were SCORM-conformant. "Collaborative workplace" standard was also applied, which Japan took the lead in its suggestion. Six students of Aoyama Gakuin University Graduate School participated in this experiment as learners. Data from short examinations, post-questionnaires, and inquiries made to the professors were collected.

### Outcome

#### The first phase:

Data from logs and post-questionnaires indicated that asynchronous collaborative learning can be established, and the method was effective. Active intra-group discussions were observed, but improvement must be made for inter-group discussion and mentoring from Japan. Regarding the materials, the effect of learning among various learners was almost the same. Therefore, they are effective as self-learning materials. General feasibility of the system was confirmed, where its usability in particular was highly valued.

#### The second phase:

Regarding the possibility of a collaborative workplace in asynchronous collaborative learning, it was proved that LMS creates a collaborative workplace environment, and its operability was confirmed. Interfaces were highly valued by the users. As for the collaborative log format, the professors recognized the convenience of log management function, but they requested more functions that should be added.

For further development, Aoyama Gakuin University plans to extend the second phase of the experiment to the international environment, and develop the analysis system for data from the collaborative workplace.

## MJeN: Malaysia Japan e-Learning Network Project

Malaysia

Multimedia University

Japan

Kyoto University

Waseda University

Supported by: NTT-X, Inc.

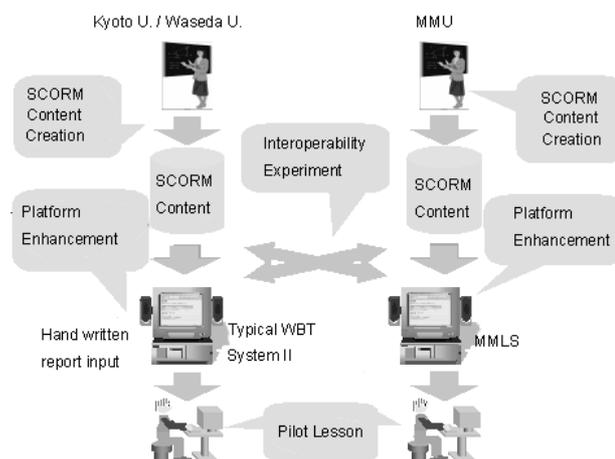
### Abstract

MJeN (Malaysia Japan e-Learning Network) is a project involving Multimedia University, Malaysia, Kyoto University and Waseda University, Japan. A series of work including material development, platform enhancement, material exchange, and pilot lessons, was performed.

### The Experiment

The objectives of this project were as follows:

1. Share the experiences of creating, designing, and operating a SCORM-compliant e-Learning platform and contents, which includes system enhancement such as hand written report input.
2. Build a common understanding for the use of e-Learning in university education. Brief image of the project is shown below:



- Each university created materials using their own knowledge and experiences.

Kyoto University:

Digital Image Processing and Analysis

Waseda University:

Multimedia Content Processing for Telecommunication

Multimedia University:

SCORM-compliant Java material, for MMLS (Multimedia Learning System, developed by Multimedia University)

- As platform enhancement, hand written report input, which enables input of mathematical expressions, was developed as a learning object and was added to Typical WBT system II. As for MMLS, it was made SCORM-compliant.



*Hand-written report input*

- An experiment on interoperability was conducted. The developed materials were exchanged between the Typical WBT system II and MMLS, and tested to see if they run on both platforms.



*SCORM-compliant material run on MMLS*

- Pilot lessons were conducted in each university, and data was collected from questionnaires and inquiries made to the participants. Data was examined to evaluate the applicability of the Typical WBT system II to classes, and analyzed to find problems and accumulate the know-how in the use of system and contents.

### Outcome

Material creation method and interoperability test method, with interuniversity cooperation in view, were established. Data acquired from the questionnaires indicated that many learners were interested in materials created by other universities. Regarding hand written report input, new ideas were suggested, such as analyzing functions of the input process. Also, learners' participation in various activities of self-learning, such as communication between other students, were observed, indicating system support integrating self-learning and communication function would be beneficial to further improve the effect of learning.

For further development, Kyoto University and Waseda University plan to pursue cooperation with the e-Learning Steering Committee established in Malaysia. As a technological development based on the interoperability, they are considering to promote collaboration in material creation and to build a community. Further development on Typical WBT system II is also expected.

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## *Demonstration for Effectiveness of e-Learning Sharable Resources*

**Thailand**

**National Electronics and Computer Technology Center (NECTEC)**

**Japan**

**ITEC INC. (ITEC)**

### **Abstract**

ITEC Inc., Japan, together with National Electronics and Computer Technology Center (NECTEC), Thailand, conducted an e-Learning course to prepare the learners for IT Professional Examination. Possibilities and challenges were examined in operating a multilingual e-Learning course in a Thai environment.

### **The Experiment**

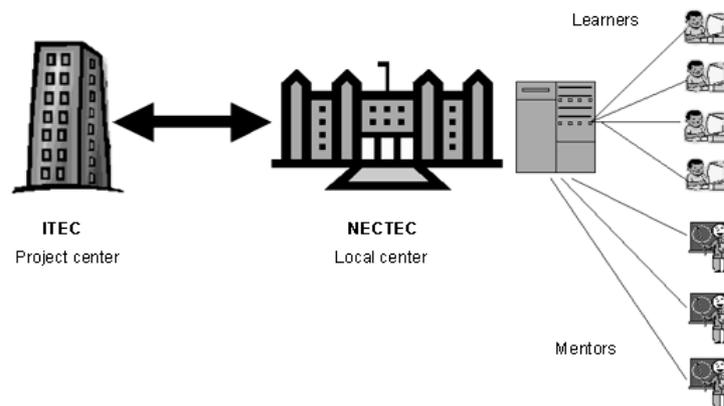
In accordance with the AEN mission, to share e-Learning resources and skills, the objective of this project was to examine if e-Learning sharable resources are for practical use. In this project, the content was preparation for the Fundamental Information Technology Engineer Examination (FE), given by Japan Information-Technology Engineers Examination Center (JITEC). The original English content was translated and localized to the Thai environment, and was utilized to develop human resources capable of content creation and system operation in Thailand. By providing operational support and mentoring from Japan, transfer of know-how was also intended.

### **Experiment 1 - Content Development**

The IT Professional Examination (ITPE) in June 2003, was prepared in two languages (i.e., English and Thai), and preparatory content was created by localizing the English preparatory e-Learning contents of FE. Problems in creating multilingual content were examined in this process.

### **Experiment 2 - Content Operation**

The English FE content and the developed Thai FE content were operated on the Typical WBT II system. Problems in operating multilingual content were gathered by collecting data on the learners' level of understanding and satisfaction through mentoring support. The effectiveness of operating multilingual contents and possibilities of running e-Learning independently were examined.



### Experiment 3 - Learning Effect

Learning effect was objectively measured by pre- and post-examination, using item response theory.

#### Outcome

Results obtained through this project:

#### Experiment 1

1. Multilingual contents of the same quality cannot be effectively developed by mere translation.
2. Multilingual environments must be ensured not only in texts, but also in tools used in content display and operation.
3. For multilingual development, an environment capable of mutual conversion must be provided by designing the development tools from the beginning.
4. As for content designing, the object-oriented design such as SCORM is effective, but it must be made completely independent of the main program.

#### Experiment 2

1. Several problems occurred because the LMS used did not support a multilingual environment. The need was made clear for preparing manuals for server construction and operation.
2. For engineers who have never developed LMS before, it is beneficial to construct the environment from the first phase with all the elements open, including source code. This way, they can achieve better understanding of the LMS mechanism and positive effect of learning.

#### Experiment 3

1. Scores on post-examination was higher than the scores achieved on pre-examination for a group of learners who studied more, and vice versa for a group of learners who studied less.
2. Therefore, by putting more hours into learning with e-Learning, more effective learning achievement can be obtained.
3. Further improvement in precise designing is necessary.

ITEC Inc. plans to further promote content development, e-Learning operation, and development of human resources in IT.



## The Result of Questionnaire about AEN Activities

Thank you for your cooperation on our first survey "Questionnaire about AEN Activities" in May 2003. We received responses from 13 persons of 8 countries as shown below. Thanks to their responses, we could get valuable information that is necessary to plan AEN activities for this year.

**Table 1. Responses for the questionnaire**

	Country	Organization
1	Thailand	Asian Institute of Technology
2		Chiang Mai University
3		Thai Computational Linguistics Laboratory
4		Ministry of Science, National Electronics and Computer Technology Center
5	Brunei	Ministry of Education
6	Vietnam	Hanoi University of Technology
7		Ministry of Education and Training
8	Singapore	Nanyang Technological University
9		E-learning Competency Centre
10	Indonesia	Technical Education Development Center
11	Malaysia	Multimedia University
12	Korea	KALIC (Korea Advanced e-learning infrastructure Center)
13	Philippine	De La Salle University

In the questionnaire, there were three questions regarding "I. AEN Activities (Current and Future)", "II. AEN Conference 2003" and "III. Information Exchange (AEN portal site)". The result of these three questions is shown in the following pages.

As for working groups, the result of "I. AEN Activities (Current and Future)" indicates that there will be enough participants for each working group and WG activities has been launched as announced before. As for AEN conference, the result of "II. AEN Conference 2003" indicates that many persons are interested in "best practices" of e-learning and they are willing to make presentations about this topic. That is the reason why we are calling for presentations regarding case studies in this questionnaire. As for AEN portal site, we are preparing the portal site considering the result of "III. Information Exchange (AEN portal site)".

I. AEN Activities (Current and Future)

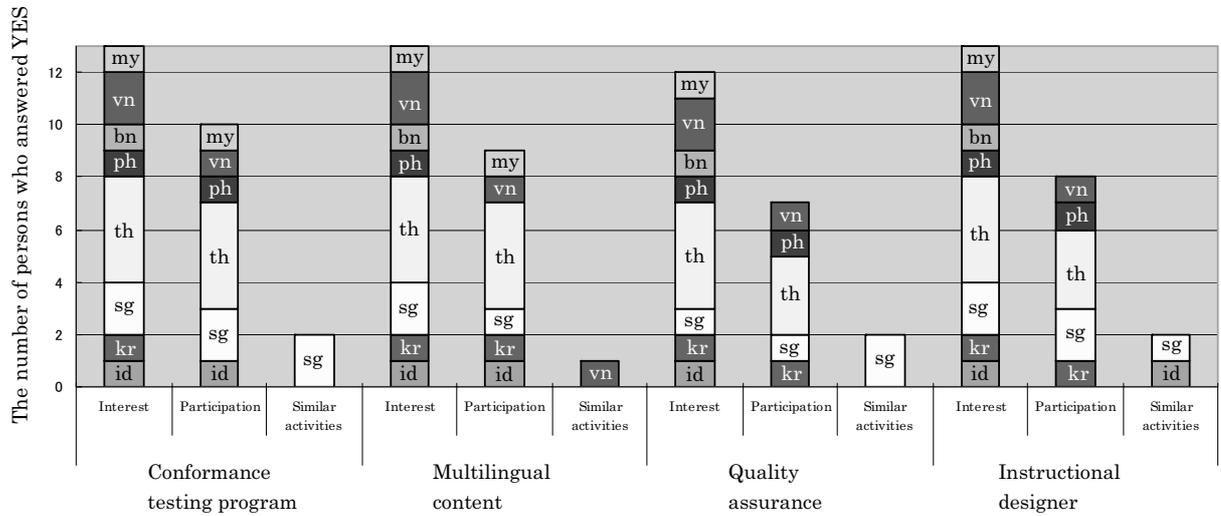


Figure 1. The result of the questionnaire regarding AEN WGs

bn: Brunei  
id: Indonesia  
kr: Korea  
my: Malaysia  
ph: Philippines  
sg: Singapore  
th: Thailand  
vn: Vietnam

II. AEN Conference 2003

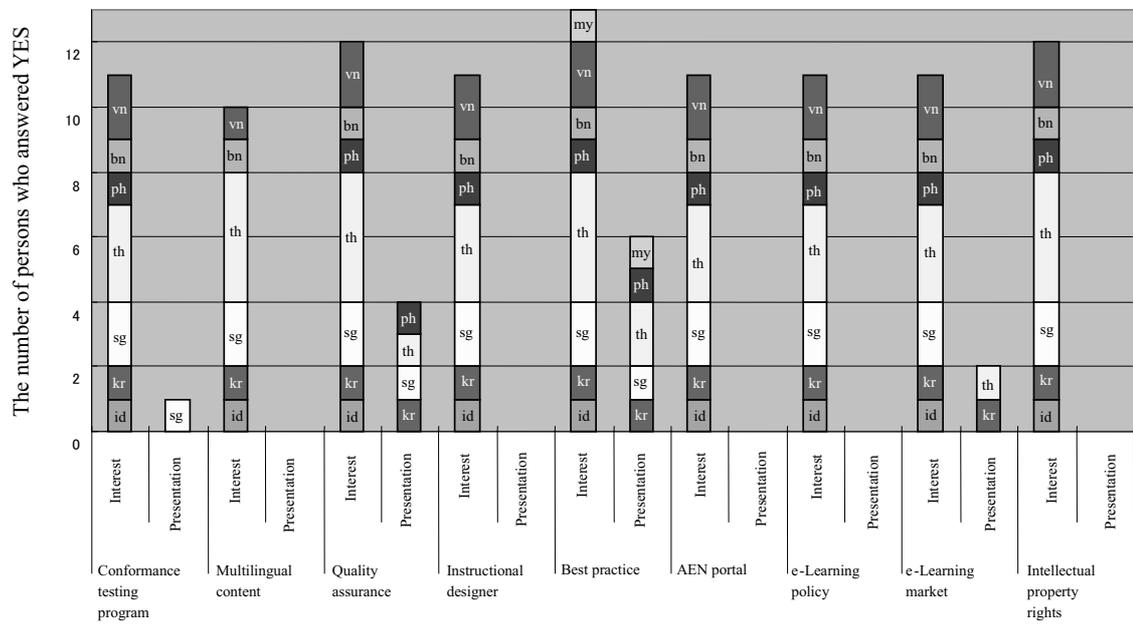


Figure 2. The result of the questionnaire regarding AEN conference 2003

bn: Brunei  
id: Indonesia  
kr: Korea  
my: Malaysia  
ph: Philippines  
sg: Singapore  
th: Thailand  
vn: Vietnam

III. Information Exchange (AEN portal site)

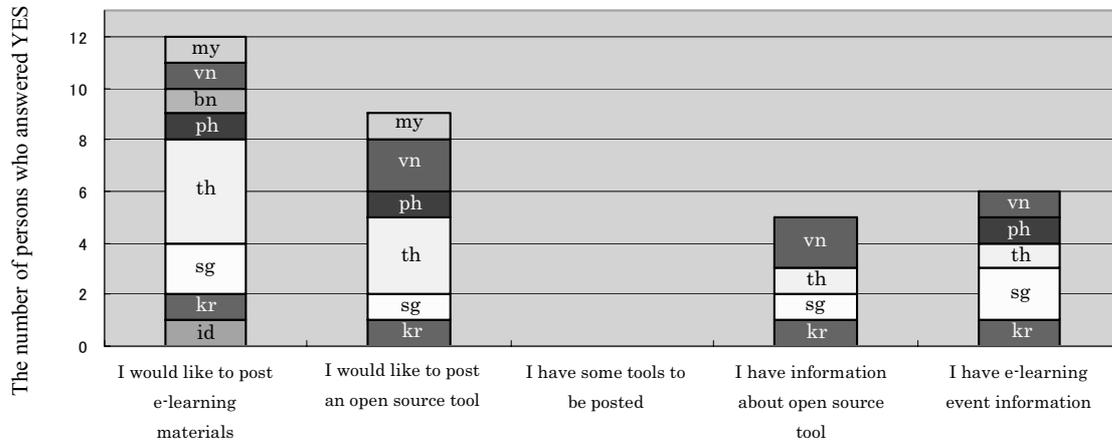


Figure 3. The result of the questionnaire regarding AEN portal site

bn: Brunei	ph: Philippines
id: Indonesia	sg: Singapore
kr: Korea	th: Thailand
my: Malaysia	vn: Vietnam



<http://www.asia-elearning.net/>