

## 2.1-2 韓国（国立教育研究情報院）との共同研究 —東アジア連携構想に向けて（2）

### The Status of Cyber Education in Korean higher Education: A Potential for East Asian Linkage in Higher Education\*

National Institute of Multimedia Education (NIME) Toshio Kobayashi  
Korea Education and Research Information Service (KERIS) Yong Soon Kim

#### Abstract

It has been a while since the concept of “Virtual University” has become a world-wide topic in the circles of distance education. In promoting the concept into practice, however, there are a number of problems yet to be addressed. This report is based on the investigative study of the case of Korea where they prefer the term “cyber” to “virtual” and seem to have succeeded in getting their cyber education off the ground. In this report we introduce the current status of the nation-wide integral cyber education in Korea and discuss their successful programs and technical support systems as well as the issues confronting Korean cyber education. Also, we explore a potential of the Korean system for linking higher education in Asia.

**<Keywords>** distance education, virtual/cyber university, recurrent education, educational reform, Korean superhighway

\* This report is a rewritten version of the presentation jointly made at the 6<sup>th</sup> Joint Conference on Educational Technology (JCET2000) on the campus of Naruto University of Education with Korean colleague, Ms. Yong Soon Kim of Korea Education & Research Information Service (KERIS). Much of the materials used for the report were contributed by her and Dr. David Hwang of Open Cyber University, Korea.

#### 1. The Investigative Research

This report was written on the basis of the site-visits in January, 2000 as follows:

- Korea Education and Research Information Service (KERIS), <http://www.keris.or.kr>
- Member universities/institutions of Open Cyber University and Korea Virtual University

URLs: <http://www.ocu.ac.kr>,  
[www.knou.ac.kr](http://www.knou.ac.kr),  
[www.ewha.ac.jp](http://www.ewha.ac.jp)

URLs: <http://www.sookmyung.ac.kr>  
[www.knu.ac.kr](http://www.knu.ac.kr)  
[www.kongju.ac.kr](http://www.kongju.ac.kr)

## 2. Introduction

The world trend in higher education is towards online computer-, and network-mediated learning based on computer network centering in the West. Out of this trend has the concept of virtual university emerged and prevailed in educational circles. Rapid change is taking place in higher education worldwide.

The countries in Asia are no exception. In Korea, as in Japan and elsewhere, the government promotes educational reform. This is the main reason for the rapid emergence of cyber education. The Korean Government has been striving to solve the traditional problem in higher education. One of them is the high competition to enter universities. The entry level is so high that every year many fail. To provide the effective educational environment, the government appropriates budget to the traditional universities to implement cyber education.

Also, whether the universities like or not, they must change their education system for survival. Otherwise, their students could be lured away by virtual universities in the West.

## 3. The Overview of Cyber Education in Korea

As shown in the Table 1, the history of cyber education in Korea is relatively short but its commitment to cyber education is as strong as any other countries in the world. The promotion of cyber education in Korea was led not by educational institutions but the Government. In 1996 the Korea Education Reform Committee under the Ministry of Education announced the implementation and operation of Cyber University to prepare for the coming 21<sup>st</sup>

**Table 1. History**

- 
- Education Renovation Plan ('96.8.20)
  - Research on Cyber Education supported by Ministry of Education: ('96.10-'97.5)  
"Feasibility Study of IT based Public Schools and Cyber Universities in Korea"
  - Public Hearing held ('97.6.30)
  - Guideline and Screening Committee Organized ('97.7.23)
  - Evaluation on Proposals from Cyber Universities was done ('97.10.21)
  - 5 Major Cyber Universities was selected ('98.2)
  - Running Pilot Project on Cyber University ('98.3 – 2000.2)
  - The Steering Committee of Korean Cyber Universities was organized ('98.4)
  - Continuation Education Act was finalized ('99.8.14)
  - Law has become effective as of March, 2000
  - First Service by Korean CyberUniversities is expected in March, 2001
-

information society with a catch phrase “Open Education”.

The Ministry of Education since started to research on rules, regulations, and models to launch cyber universities with public hearing processes. Then the plan was set up to implement Pilot Cyber University Program in October, 1997. Over sixty universities submitted the proposals to be chosen as a pilot cyber university. After examining these proposals, 5 model institutions and 10 experimental institutions were selected. The Ministry of Education planned to run the programs for two years from March 1998 to February 2000.

**Table 2. Types of Cyber Education Institutes**

---

**- Virtual campus or cyber lecture:**

- Goal: Vehicle to renovate teaching methods
- Who founded: University itself
- Universities: Seoul National University, SookMyung Womens University, Dongkuk University, Korea Open University
- Program: degree, non credit-based life-long education

**- Cyber University:**

- Goal: retraining, continuation education
  - Who founded: Private, Public organization, consortium
  - Universities: Open Cyber University, BuWool Cyber University, Korea Cyber University, Korea Virtual University
  - Program: degree, certificate, non credit-based life-long education
- 

These 15 institutions can be categorized into two groups. One is the single university type, cyber or virtual campus of existing universities, and the other is consortium type; university consortium and university & corporation consortium (for types of cyber education institutions refer to Table 2). Among the 15 institutions, seven are of single university type. Among the 8 consortiums, six are consortium of universities and companies. Totally, 65 universities and 14 companies made great efforts to construct the system and develop the contents for distance education.

Of the major cyber education institutions there is “Open Cyber University (OCU)” which was founded in October, 1977. The OCU is a consortium with 12 universities, 2 companies and four foreign program exchange partners; National Technological University (NTU), Carnegie Mellon University, Colorado State University and World Trade Center University.

The details of OCU are shown in the Table 3.

**Table 3-(1) Tuition**

Tuition \ Program	Degree Program	Non Degree Program	Student of Universities Joining at OCU	Remarks
Basic rate	\$40.00	\$40.00	\$25.00	Unitel subscription included
Tuition	\$120.00	\$40.00	\$80.00	

**Table 3-(2) Analysis of Student Population**

semester \ student	1998-2	1999-1	1999-2
Credit courses	1,860(90%)	5,235(98%)	20,820(99.8%)
Non-credit courses	202(10%)	13(2%)	48(0.2%)
Total students	2,062	5,248	20,868

**Table 3-(3) Analysis of Courses**

semester \ criteria	1998-2	1999-1	1999-2
Liberal arts	10(12%)	31(36%)	37(31.6%)
Foreign Languages	8(10%)	6(7%)	10(8.5%)
Social Science	9(11%)	10(12%)	22(18.8%)
Management	11(13%)	9(10%)	13(11.1%)
Information Technologies	22(27%)	21(24%)	22(18.8%)
Natural Science	10(12%)	2(2%)	8(6.8%)
Design	4(5%)	4(4%)	3(2.6%)
Others	7(9%)	3(3%)	2(107%)
Total	81	86	117

On the other hand, corporations whose main business area was in information technology also actively started participating in running cyber universities for both their own workers and the public. They also supported the pilot cyber universities in implementing their information infrastructure. Several large corporations such as Samsung SDS(Samsung Data System) and HIT (Hyundai Information Technology) have adapted this cyber education to train their employees and reduce the training cost.

The two different types of institutions, universities and corporations, show differences in various aspects of implementing and operating a cyber education system and they also have their own problems to solve respectively.

The rules and regulations for cyber education and universities have recently been established, and Lifelong Education Act became effective from March 2000. A recent revision to the Life-long Education Act has paved the way for the formal establishment of cyber universities in Korea, which can give degrees to students completing certain cyber courses

from March 2000.

The following table 4 shows the goals and service delivery of Korean Cyber Universities:

**Table 4 Overview of Korean Cyber Universities**

Goal

Number of Universiti	purpose		
	Renovation Teaching Method	Exchange Credit among Member Universities	Exchange Credit among Member Universities a open to public
1998-1 (15)	\$40.00	\$40.00	\$25.00
1999-1 (13)	\$40.00	\$40.00	\$25.00
1999-2 (13)	\$40.00	\$40.00	\$25.00

2\*: non free charge

Service Deliver

type item	Async.		Sync.				Others	
	PSTN	WBI	PSTN	Leased	Intranet	Internet	Broad	Satellite
Number of Universiti	1	15	1	1	4	1	2	1
Percentage	3.8%	96.2%	3.8%	3.8%	15.4%	3.8%	7.6%	3.8%

#### 4. Network Technologies For Cyber Education

The following Figure 1. Shows the network infrastructure to support cyber education throughout Korea.

The new era of information society and globalization phenomena affects the Korean society. Korean society has been struggling to prepare for the new era and strive to become a powerful country in the new world order. Ministry of Information and Communication in Korea proceeded a "Cyber Korea 21" project to form a solid foundation for an information society in the 21st century. The information superhighway will be completed by 2005 when 1.5-2 mega-speed internet service will be available to the public.

The Table 5 shows educational infrastructure to promote cyber education with network capabilities on campus, between and among universities, and universities and the sites of individual learners.

One of the basic objectives is to build an environment where the general people can participate in on-line education programs anywhere at anytime. Along with information superhighway projects, the Ministry is striving to create a 'One PC Per Person' environment in which information concerning lifestyle, culture and economy can be easily accessed to the Internet.

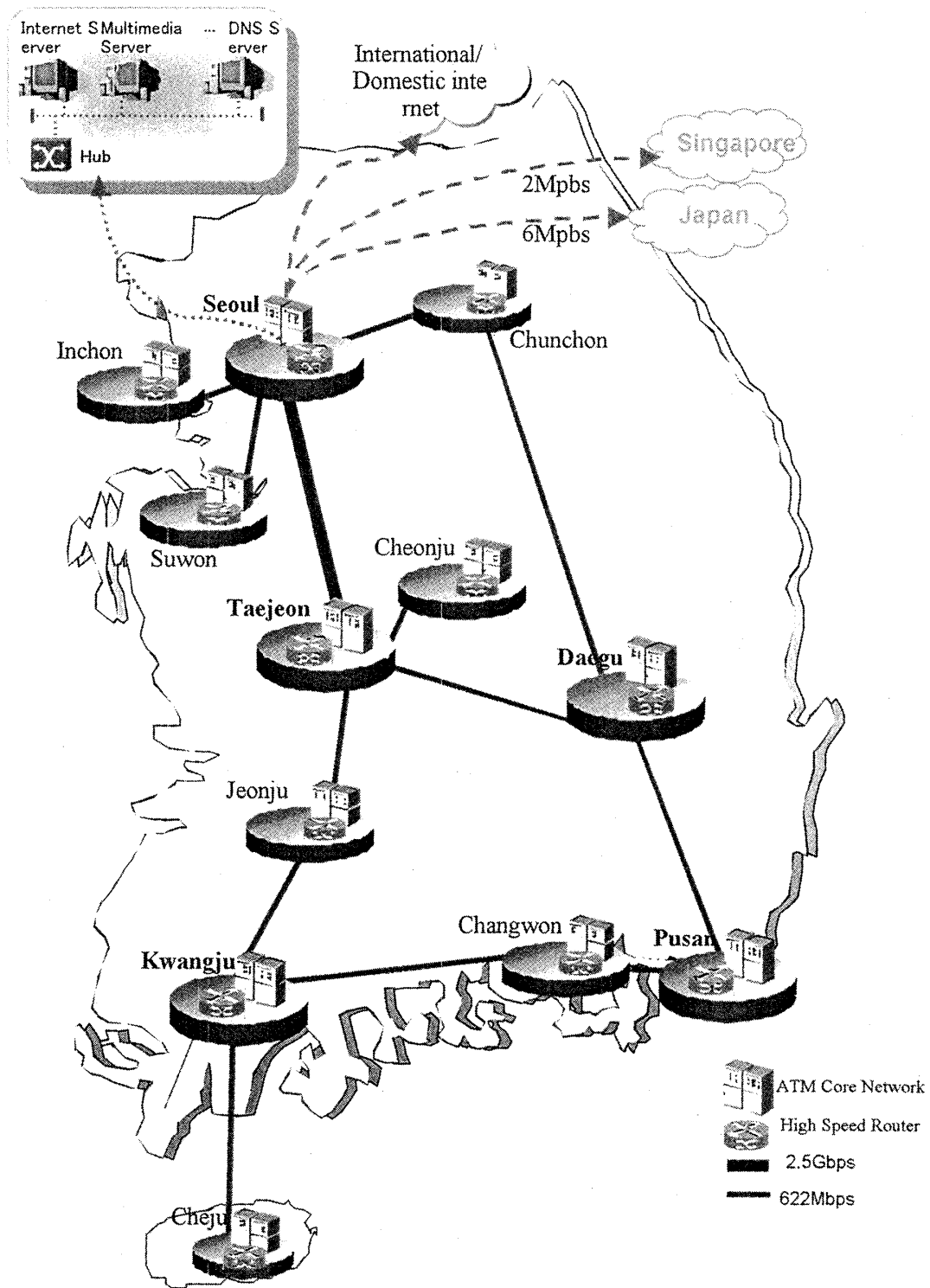


Figure 1. High-speed Network Infrastructure

**Table 5 Educational Infrastructure**

Classification	Infrastructure
Intra-University	ATM based high speed intranet (155Mbps-655Gb) High speed Dial-up modem
Inter-University	Internet, satellite (99-2)
Universities-Unitel	Leased line (256Kbps)
Student (home, office)	PSTN (28.8Kbps-56Kbps) ISDN (128Kbps)

## 5. The Issues & problems in Cyber Education

The Lack of developed pedagogy for virtual education. There are no established and verified models, and objectives yet.

- The Lack of skilled human resources for course development and implementations. Most of instructors and students are unsure or unaccustomed to multimedia and information technology. They are not ready to follow the prevailing changes taking place in higher education.

- The Lack of well-developed support system for cyber education. The Software is outdated so it is unstable and causes many problems. Many support systems do not meet the needs of instructors and students.

- The Need to improve information infrastructure to maximize the accessibility to cyber education services. To maximize the accessibility to cyber education services, the information infrastructure should be improved continuously and various software and hardware platform should be made available for students. Also, the students centered learning programs should be developed.

- The Korean communication in traditional culture. Like Japanese, Koreans are traditionally accustomed to face-to-face interactive communication, not used to the communication through the keyboard.

## 6. Conclusion — towards East Asian Linkage in Higher Education

In a highly developed information society, education is no longer the property of one nation or one culture. Virtual learning knows no boundaries and so it is vital to conceptualize an international distance educational learning communities in order to address and overcome stereotypes, prejudices and ethnocentrism.

The following regional and international affairs that have taken place in recent years will provide more potential for bringing the countries in the East Asia closer together.

- Korean Cultural Liberation Policy Towards Japan removing the barriers to cultural interactions between the peoples of Japan and Korea

- Development in North-South Korean Issues easing the political and military tensions in the peninsula

- The Outcome of The Summit in Okinawa With the Japanese government emphasizing on ICT-based international educational cooperation

Collaborating by innovative distance learning methods and contents will help to address and overcome differences in respective political, economic, social and cultural systems. The Korean cyber education is still at its experimental stage, however, from this year (2001) it is expected to start flourishing to cultivate human resources with international-competiveness in response to the information age.

The Table 6 shows an interesting comparison between Japan, Korea and the U.S. in the status of education by ICT at different levels and in different sectors of the respective country in the information age.

**Table 6 Status of Cyber Education in Japan, Korea, and US**

domain \ Steps		Adopt	Local Cooperation	Expansion	Global Cooperation
Elementary-High School	Japan	■ ■			
	Korea	■ ■ ■			
	USA	■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■	
Higher Education	Japan	■			
	Korea	■ ■ ■ ■ ■			
	USA	■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■	■
Corporate Education	Japan	■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■ ■	■	
	Korea	■ ■ ■ ■			
	USA	■ ■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■	
Public Organization	Japan	■ ■ ■ ■ ■ ■ ■			
	Korea	■ ■ ■ ■			
	USA	■ ■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■		

With its leading experience in cyber education and technology, if Korea joins with China where the government has been taking strong initiatives in promoting open distance education, and Japan who has recently announced a major foreign policy of IT-based international educational cooperation as an outcome of the Summit 2000, it might be possible to contribute to establishing an linkage in the 'regional' learning environments which could then extend into an 'international learning community'.

In order to move the ideas forward we need yet to discuss the following:

(A Draft for Discussion)

**Phase 1**

A Comparative Study of Open and Distance Education among China, Japan and Korea into the following:

**Government policy**

- Guideline
- Funding



- Credit transfer
- Evaluation

#### **National Information Infrastructure(NII)**

- Computer Network (TCP/IP)
- Satellite TV network
- Cable TV network
- Other telecommunications network
- Mobile telecommunications network

#### **ODE Institution and provision**

- Organization and administration
- Program and curriculum
- Course development
- Technology and media
- Learning support services
- Students body
- Faculty development

#### **Competition and collaboration**

- National
- Regional
- Global

#### **Phase 2**

##### **Implementation of a Pilot Project of East Asia Linkage**

System and platform

Program and course

Funding

The way for collaboration

It is hoped that researchers in Korea, China and Japan will closely work together on this possible scenario for collaboration towards this goal.

#### **References**

1. SungHo Kwon "The Systemic design and Production of Course Materials for a Virtual University in Korea," International Journal of Education Technology. Vol.1, No.1,1999
2. Edwin Brumby and Toshio Kobayashi "Information Technologies and Market Forces: Transformational Imperatives for Higher Education," Proceedings of The Annual Conference of Japan Educational Technology, 1999, 749-750
3. Toshio Kobayashi, Yong Soon Kim, Yong-Hyo Lee and Hideaki Takahashi, The Current Status of Cyber Education In Korea: A Potential for Linking Higher Education in Asia, The 6th Joint Conference on Educational Technology (JCET2000), 2000,