ICT in Education of Korea

Sang-Hyun Jang  Ph.D.

Korea Education and Research Information Service
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I. Introduction

Rapid Growth of Education of Korea

67$, 1953, 1 per GNP


363 times

* Education
I. Introduction
Rapid Growth of Education of Korea

- World-class elementary and secondary school education
  - PISA 2012: Reading #1~2, Mathematics #1, Science #2~4 (OECD)
  - TIMSS 2011: Mathematics #2, Science #1 (Elementary 4)
  - TIMSS 2011: Mathematics #1, Science #3 (Middle 2)
    * PISA: Program for International Student Assessment
    * TIMSS: the Trends in International Mathematics and Science St

- College enrollment ratio is the highest in the world

- Development in education serves as the driving engine for economic growth and has contributed to the development of democracy
  - Human capital ranks sixth in the world
    (Deutsche Bank Report, August 2005)
I. Introduction
Facing Problems in Education in Korea

- Decrease in the satisfaction level of students on education
  - Elementary school (64.4), Junior high school (52.0), High school (47.0) [KEDI, 2006]
- Excessive spending on private education
  - USD 17 billion (2012) [MOE, 2012] (5.4% decrease compared with 2011)
- Lack of adequate response measures against the shift to a low fertility rate and an aging society
  - * 12 grade student’s number < university entrance quota (2018)
  - * lifelong education rate is under OECD average (2012)
- Under average of educational confidence and satisfaction (OECD, TIMSS)
- The Korean industry is riding the Third Wave whereas Korean education has remained on the Second Wave. Thus, revolutionary change is needed (Industry Innovation Forum, 2005, A. Toffler)
I. Introduction

Facing Problems in Higher Education in the U.S.

- The price tag for a traditional four-year residential degree program averages just over $30,000 per year.
- About 60 percent of Americans have only some or no higher education.
- The class of 2013 graduated with an average of $35,200 in student debt.
- National student debt has surpassed $1,000,000,000,000.
- Without major changes to the current cost trajectory ...
  - The College Board estimates that average annual tuition costs will rise to a staggering $62,000 per year by 2025.
- Since 1985, college tuition has risen by 538 percent compared to a consumer price index increase of just 121 percent.
- More than half of bachelor's degree holders under the age of 25 are unemployed or underemployed, the highest share in more than a decade.
I. Introduction

School system in Korea

<table>
<thead>
<tr>
<th>Grade</th>
<th>Age</th>
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</thead>
<tbody>
<tr>
<td>16</td>
<td>22</td>
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<tr>
<td>15</td>
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<td>14</td>
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<td>8</td>
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<td>1</td>
<td>7</td>
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Primary & Secondary

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<th>University</th>
<th>Industrial University</th>
<th>Univ. of education</th>
<th>Air&amp;Corr. University</th>
<th>Cyber University</th>
<th>Junior College</th>
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<tbody>
<tr>
<td>16</td>
<td>6.8 million students</td>
<td>425,000 teachers</td>
<td>11,360 schools</td>
<td></td>
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<tr>
<td>15</td>
<td>3 million students</td>
<td>76,200 teachers</td>
<td>3 million students</td>
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</table>

Higher Education

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<thead>
<tr>
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<th>General / Vocational / Air&amp;Corr. High school</th>
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<th>Primary school</th>
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<tr>
<td>9</td>
<td>2 million students</td>
<td>133,000 teachers</td>
<td>2,303 schools</td>
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<td>8</td>
<td>1.8 million students</td>
<td>111,000 teachers</td>
<td>3,162 schools</td>
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<td>7</td>
<td>3 million students</td>
<td>181,000 teachers</td>
<td>5,895 schools</td>
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<tr>
<td>6</td>
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<td>5,895 schools</td>
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<td>181,000 teachers</td>
<td>5,895 schools</td>
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<td>2</td>
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<td>5,895 schools</td>
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<tr>
<td>1</td>
<td>3 million students</td>
<td>181,000 teachers</td>
<td>5,895 schools</td>
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</table>

Special school

<table>
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<tr>
<th>Grade</th>
<th>24,700 students</th>
<th>7,650 teachers</th>
<th>156 schools</th>
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<tr>
<td>10</td>
<td>9</td>
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<td>7</td>
</tr>
</tbody>
</table>

3 million students | 76,200 teachers | 11,360 schools
I. Introduction

Education Organization in Korea

- PMO
  - Prime Minister’s Office
  - Korea Education Development Institute (KEDI)
  - Korea Institute for Curriculum and Evaluation (KICE)
  - Korea Research Institute for Vocational Education and Training (KRIVET)

- MOE
  - Korea Education and Research Information Service (KERIS)
  - National Institute for Lifelong Education (NILE)
I. Introduction

Role of KERIS

Ministry of Education

KERIS

17 Municipal & Provincial Offices of Education

177 Local Offices of Education

Primary Schools

Lower-Secondary Schools

Secondary Schools

University (340)

Roles

- Advisor for policy development
- Coordinator for policy implementation
- Think-tank for R/D
- Center for service operation
I. Introduction

Why use ICT in Education?

The effective curriculum for “All students”

- Average students

- Not Average students
  - Disability (Learning, Physical etc)
  - Gifted and talented
  - Stand inappropriate curriculum
  - Language...

● UDL (Universal Design for Learning)
Why use ICT?

Video
I. Introduction

Innovation and Technologies?

Human & Technology
I. Introduction

4th Industrial Revolution

The Start of the Fourth Industrial Revolution

1st Industrial Revolution – water and steam powered mechanical manufacturing facilities

End of 18th century

2nd Industrial Revolution – manufacturing assembly line and infrastructure of electricity, gas, water, telegraph, roads

Start of 20th century

3rd Industrial Revolution – electronics, telephones, PLCs, NC machines, PCs, CAM, CIM, spreadsheets, Lean manufacturing

Late 20th century

4th Industrial Revolution – mobile, cloud, smart connected devices, cyber physical systems, smart factory, robots, mass customization, product as-service

Today

AI + Bigdata

IoT

Cloud
I. Introduction

Generalization of Artificial Intelligent

Overcome Human limitations

Like human

1. Water and steam
2. Electricity
3. Computer and Internet
4. Artificial Intelligent
1. Introduction

University Classroom?

- 60 years ago MIT classroom
- Current MIT classroom
I. Introduction
Progress of ICT use in Education
I. Introduction

ICT use in Higher Education
I. Introduction

Change in Education Paradigm
## 21st century Skills (competencies)

PISA, New Millennium learners, DeSeCo, …

| Ways of thinking                  | - Creative and critical thinking  
|                                  | - Use of knowledge and information interactively  
|                                  | - Learning to learn, use of metacognition  
| Ways of working                  | - Communication, collaboration and networking  
|                                  | - Identifying issues (questioning), concluding, explaining  
|                                  | - Generating ideas  
| Tools for working                | - Broad literacy (network of concepts, skills)  
|                                  | - ICT  
| Context for working              | - Personal, social, local, global  
|                                  | - Working life  
| Attitude needed for working      | - Willingness to use knowledge, engagement (motivation)  
|                                  | - Self-efficacy  

## I. Introduction

Change in Education Paradigm
Education 3.0

Video
I. Introduction

Change in Education Paradigm

21st Century Learning

Achieved in Holistic Transformation

Supported by Adapted System Reform

Leadership, People & Culture

High-quality Infrastructure & Technology

21st Century Curriculum, Pedagogy & Assessment

Education 3.0

Education 2.0

Education 1.0

Traditional Education Systems

Curriculum
Teachers
Accountability
Leadership

*Source: Learning Society (CISCO White Paper. 2010)
# I. Introduction

## Change in Education Paradigm

### Innovation Skills for 21<sup>st</sup> Century Learner

<table>
<thead>
<tr>
<th>21&lt;sup&gt;st&lt;/sup&gt; Century Skills Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learning &amp; Innovation Skills</strong></td>
</tr>
<tr>
<td>• Creativity/Innovation</td>
</tr>
<tr>
<td>• Communication</td>
</tr>
<tr>
<td>• Collaboration</td>
</tr>
<tr>
<td>• Critical Thinking/Problem Solving</td>
</tr>
<tr>
<td><strong>Information, Media &amp; Technology Skills</strong></td>
</tr>
<tr>
<td>• Information Literacy</td>
</tr>
<tr>
<td>• Media Literacy</td>
</tr>
<tr>
<td>• ICT (Information, Communications &amp; Technology) Literacy</td>
</tr>
<tr>
<td><strong>Life &amp; Career Skills</strong></td>
</tr>
<tr>
<td>• Flexibility &amp; Adaptability</td>
</tr>
<tr>
<td>• Initiative &amp; Self-Direction</td>
</tr>
<tr>
<td>• Social &amp; Cross-Cultural Skills</td>
</tr>
<tr>
<td>• Productivity &amp; Accountability</td>
</tr>
<tr>
<td>• Leadership &amp; Responsibility</td>
</tr>
</tbody>
</table>

$21^{st}$ Skills $= 3 \times 7$ $C$
II. ICT in Education: Overview

Progress of ICT in Education

Preparation for information society
- School Computer Education Master Plan (1987)
  - Installation of first educational computer (1971)
- Standardization and distribution of educational PCs (16 bit) (1989)

Building infrastructure
- ICT in Education Master Plan I (1996)
  - EDUNET (1996)
- RISS (1998)
- EDUNET (1996)
- Completion of educational ICT infrastructure
- Guidelines for ICT in Education in primary & secondary schools (2000)

Teaching & learning with ICT
- Teaching & learning with ICT
  - Development and distribution of content
  - Improving teaching methods
- e-Learning Global Cooperation Center (2006)
- NEIS (2002)

U–Learning & Smart Education
- U–Learning & Smart Education
  - Ubiquitous society
  - Ubiquitous learning
- Digital Textbook Development Plan (2007)
- u-classroom (2007)

Customized Learning
- Customized learning
  - Kindergarten Information Disclosure Public Service (2012)
  - Operation of Smart Model Schools (2012)
  - SMART Education Strategy (2011)

*source
Korea Education & Research Information Service
II. ICT in Education: Overview

ICT in Education Trends in Korea

Master plan IV (2010~2014)
- Integrated policy of Education, Science And Technology
- Digital ecology

Master plan III (2006~2010)
- Individual customized learning
- Self-directed learning

Master plan II (2001~2003)
- Mobile learning
- Improvement of online teaching & learning

Master plan I (1996~2000)
- e-Learning
- Standardization of educational information

ICT Use in classroom
- Completion of educational information infrastructure

Infrastructure-building

1 PC per teacher,
1 PC per 5 students
PC & Internet per classroom

EDUNET, NEIS,
Digital library system,
Resource sharing system

Cyber Home Learning
EBS e-learning

Digital Textbook
II. ICT in Education: Overview

ICT in Education Trends in Korea

<table>
<thead>
<tr>
<th>Edu. Goal</th>
<th>Policy</th>
<th>Focus</th>
<th>Key Project</th>
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</thead>
<tbody>
<tr>
<td>Master Plan II (2001~2003)</td>
<td>ICT Integration (Enhance effect and quality of education)</td>
<td>ICT in Education Trends in Korea</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HRD (World-class educational competitiveness)</td>
<td>ICT in Education Trends in Korea</td>
<td></td>
</tr>
</tbody>
</table>

- Infra/ICT Literacy
  - ICT infrastructure in all schools
  - Education Service System launch (EDUNET)
  - Develop Multimedia Contents
  - ICT literacy education

- ICT Integration
  - Education Resources Sharing System
  - Teaching & Learning Center
  - Standards for ICT use
  - Teacher Training for ICT use in subject

- E-Learning
  - CHLS (Cyber Home Learning System)
  - EBS e-Learning Service
  - KEM (Korea Education Metadata)
  - e-learning Center
  - ERP in National University

- HRD
  - Future Education R&D
  - Digital Textbook R&D
  - Systematic Teacher Training Pathway
  - KOCW in Higher Education
  - e-portfolio
  - QAC
II. ICT in Education: Overview

ICT in Education Trends in Korea

SMART education (2011~)

1. Reform educational system
   - Develop & use digital textbooks
   - Promote online classes & assessment
   - Build an environment for using educational content in teaching & learning

2. Teachers’ role
   - Strengthen teachers’ competencies

3. Improve school infrastructure
   - Construct cloud computing–based infrastructure

“Classroom revolution through SMART education”
II. Major Services

Collect & Process

RISS 2.0

Union Catalog & Inter-Library Loan

Thesis & Dissertation

Korea Open Course Ware

Journal Articles

Video Lectures & Syllabus

Foreign Research DB

Collect & Process

III. ICT in Education: Case

RISS, Research & Information Service System

Single gateway that provides university libraries nationwide with access to journal articles, theses and dissertations (higher education service, since 1998)

Produce

699 Univ. Libraries
NII, Japan
CALIS, China
OCLC, USA
Univ., Institutes
Academic Societies
MEST, KEDI, KRIVET, etc.
e-Learning Support Center

[Facebook RISS page]

*source
Korea Open Course Ware (KOCW)
Open & Share Online Lecture Contents of Korean Universities
### II. Major Services

#### Domestic Universities
- Online lecture contents and the related course materials opened by universities
- Humanities, social Sciences, natural sciences, engineering, pharmacy, education

#### Universities overseas
- Lectures from MIT OCW, Stanford Engineering Everywhere, Open Yale, TED, YouTube/EDU

#### Noble Laureates series
- Lectures by Nobel Prize winners of the their specific fields

#### Special pages
- Let’s learn Korean
- KOCW learning languages
- Pre-taking university introduction courses

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### III. ICT in Education: Case

**KOCW, Korea Open Course Ware**

Free and open online lecture contents service for higher education *(since 2007)*

<www.kocw.net>
### KOCW Statistics

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
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<th>2012</th>
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<th>2014</th>
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<td>2,911</td>
<td>4,992</td>
<td>7,156</td>
<td>9,970</td>
<td>11,006</td>
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<td>Materials</td>
<td>133,663</td>
<td>153,821</td>
<td>185,553</td>
<td>221,488</td>
<td>255,378</td>
<td>272,570</td>
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<tr>
<td>Participating institutions</td>
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<td>131</td>
<td>164</td>
<td>182</td>
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III. ICT in Education: Case

KOCW, Korea Open Course Ware

Progress

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<thead>
<tr>
<th>Year</th>
<th>History</th>
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<tbody>
<tr>
<td>2009</td>
<td>• launched KOCW</td>
</tr>
</tbody>
</table>
| 2010 | • Developed mobile KOCW (iOS & Android)  
       • Included as a major indicators of the Information service of higher education in Korea |
| 2011 | • Began Lecture Contents Curation Service  
       • AP (Advanced Placement) & Foreign Language series |
| 2013 | • Started volunteer program for enhancing content accessibility  
       • Awarded #1 mobile application for educational and public sector by DIGITAL CHOSUN |
| 2014 | • Provided Entrepreneurship lecture series and NCS (National Competency Standards) lecture series |
IV. OER and MOOC

WikiEducator
“(OER refers) to educational resources (lesson plans, quizzes, syllabi, instructional modules, simulations, etc.) that are freely available for use, reuse, adaptation, and sharing”

UNESCO Forum (2002)
“Teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. Open licensing is built within the existing framework of intellectual property rights as defined by relevant international conventions and respects the authorship of the work”
IV. OER and MOOC

MOOC

Massive, Open, Online, Course

What is massive?
- 100?
- 1,000?
- 10,000?
- 100,000?

Open registration?

Local cohorts?

Self-paced?

Start/end dates?

College credits?

Badges?

Role of the instructor?

Learning community?

Open content?

Free of charge?

Affordable?

Real-time interaction?

Scripted assessments and feedback?
IV. OER and MOOC

History of MOOC

Yuan, Li, and Stephen Powell, MOOC and Open Education (2013)
IV. OER and MOOC

K-MOOC
Background and Development

Goals and Visions

- Innovating teaching-learning methods in higher education
- Realizing equal opportunities for higher education
- Proactive stance against the international proliferation of MOOCs
- Establishing a foundation for lifelong learning in the era of Homo Hundred
<table>
<thead>
<tr>
<th>University</th>
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<th>Subject Code</th>
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<tbody>
<tr>
<td>Kyung Hee University</td>
<td>The World We Made: Homo Politicus</td>
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<tr>
<td></td>
<td>Global Civic Education: Living in the Global Common Society</td>
<td></td>
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<tr>
<td></td>
<td>Lectures on General Relativity for Pedestrians</td>
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<tr>
<td>Korea University</td>
<td>Quantum Mechanics for IT/NT/BT</td>
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<td></td>
<td>Introduction to Civil Law</td>
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<td>Korean Classic Literature, History and Culture</td>
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<td>History of Architecture, Society and Culture</td>
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<td>Introduction to Information Sociology</td>
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</tbody>
</table>
K-MOOC Features : Platform

Open edX-based, localized for Korean audience

Learning Management Service (LMS)
- Join
- Lifelong Learning Account
- Take the Class
- Get the Certificate

Content Management Service (CMS)
- Open Course
- Exam
- Auto Marking
- Send email

System Introduction (H/W, S/W)

H/W
- CMS Platform

S/W
- DBMS (User)
- DBMS (Contents)
- Plagiarism check

Open edX in Korean

Develop open API for mobile application

Plagiarism check

Link with Lifelong Learning Account System for auto upload
K-MOOC Features : All Courses with Captions
A Certificate of Completion issued when learners have satisfied the conditions.

The standards required for completion are set by the university offering the course:
- the minimum attendance rate, learning progress, and minimum score for evaluation.

Giving academic credits to K-MOOC courses currently under discussion.

Verified for its reliability from technical and social perspectives to recognize academic credits for K-MOOC courses.
Outcomes: Learners

Who are the K-MOOC registered learners?

Data as of 22 July, 2016

By Age Group

- 60 and Above, 5%
- 50s, 13%
- 40s, 20%
- Below 20, 15%
- 30s, 18%
- 20s, 29%

By Educational Attainment

- Elementary School
- Middle School
- High School
- AA
- BA
- MA
- PhD
- Others

20%
15%
10%
7%
5%
1%
4%
38%
What was your purpose in taking K-MOOC course?

- Intellectual Curiosity
- Major-related Basic/Intensive Learning
- Enhancing Vocational Skills
- Seeking Employment/Career Path Exploration

66.8%
9%
5.2%
2.2%
16%
Outcomes: Instructors

**Enriching Educational Process**

- Instructors can provide variety of learning materials to the learners by using K-MOOC in their offline classes.
- Also, instructors can provide learning materials with wider scope and depth to the learners.

**Reasons for using K-MOOC**

- To Provide Various Learning Materials 45%
- For Learners with Limitations of Time and Distance 24%
- As a Learning Supplements 31%

**Diversifying Teaching-Learning Methods**

- Instructors are using K-MOOC in linkage to their offline courses.
- In particular, instructors prefer to teach the class online yet they tend to use offline methods for course assessments (tests, quizzes, etc.).
- With K-MOOC, people are paying more attention to Flipped learning.

**Using K-MOOC**

- On-line teaching 20%
- On-line teaching & Off-line test 49%
- On-line teaching & On-line test 31%

Next MOOC?

IV. OER and MOOC
The growth of global MOOC adoption

* [http://edutechnica.com](http://edutechnica.com), 2013.10
MOOC and Flipped Classroom

IV. OER and MOOC

The Flipped Classroom

**Traditional Model**
- Students are responsible for homework in these levels of understanding.
- Teachers introduce new material to students.

**Flipped Model**
- Students and teachers work together during the school day on these levels of learning.
- New material is introduced to students outside of class as their homework.

Blooms Taxonomy
Education 3.0 (KAIST) - Flipped Classroom - Video
Korea Massive Open Online Course

K-MOOC: http://www.kmooc.kr

K-MOOC has adopt from edX platform in 2015
Asean Cyber University Project

IV. OER and MOOC

ACU - OER : http://www.aseancu.org

Background

• Korea agreed to conduct a review of establishing a global cyber university proposed by Secretary-General of ASEAN at the 2009 ASEAN-ROK Commemorative Summit

• Representatives from ASEAN and ROK agreed to promote cooperation for ACU Project at the 12th ASEAN-ROK Summit (Oct 2009)
Asean Cyber University Project

Objectives and Strategies

- Sharing ROK’s experiences and knowhow on cyber universities with ASEAN
- Contributing to the further development of higher education in ASEAN member states
- Invigorating mutual exchange and collaborative partnership through e-Learning between ASEAN and ROK

4C Strategies

- Customization: Customized program each country and university
- Connection: Connected various contents with OER
- Contents: Contents Platform development for OER
- Collaboration: Strengthen Collaboration by national level

IV. OER and MOOC

ACU - OER: http://www.aseancu.org
Asean Cyber University Project

1. Building Capacity of e-Learning
2. Development of Open Contents
3. Operating OER platform
4. Operating Collaborative systems

ACU -OER : http://www.aseancu.org
Asean Cyber University Project

ACU - OER: http://www.aseancu.org

Building Capacity of e-Learning

Intensive e-Learning capacity building

- Guiding e-Learning capacity building in higher education by intensively fostering CLMV universities in member countries
- Uncovering e-Learning-based teaching methodologies and best practices for e-Learning
- Consulting content development performed by member universities of CLMV member countries

Development and implementation of training programs for e-Learning capacity building

- Conducting group training to cultivate leaders among core teaching staff and educator of member universities (1 time per year, 2-week program)
- Developing and operating training programs to foster specialists able to operate Learning Management Systems (LMS) and Learning Content Management Systems (LCMS)
  ※ Conducting group training (1 time per year) and delivering on-site training
IV. OER and MOOC

Asean Cyber University Project

**ACU-OER : http://www.aseancu.org**

2. Development of Open Contents

- Support development of new content in member universities
  - Support the conversion and development of new own contents of CLMV member universities
  - The subsidy for 12 courses shall be allocated to CLMV member universities
  - AUN shall develop 1 e-Learning course related to ASEAN Studies for common use
  - Link KOCW content in English to ACU-OER for common use in member universities

- Support operation of credit/non-credit class and maintenance of contents
  - Continuously support operation of credit/non-credit e-Learning class of CLMV
  - Support maintenance of contents for compatibility to diverse digital devices, including smart phone and tablet PC etc.
Development of Open Contents

- Dissemination of guidelines for content development
  - Develop standardized guidelines for developing, sharing, and disseminating e-Learning content and for conducting online instruction
  - Operate the quality control committee, composed of e-Learning experts from member universities and partner universities from Korea

ACU-OER

- Member universities
  - Development and Using of contents
- Participate universities
  - Opening and Using of contents
- Others universities
  - Using of contents
Asean Cyber University Project

ACU-OER: http://www.aseancu.org

Operating OER platform

Development of OER repository and reorganization of ACU LMS

- Improve the existing ACU LMS and develop ACU-OER platform

  Open ACU-OER integrated platform = LCMS (Learning Content Management System: repository of content) + LMS (Learning Management System: management of learning records)

- As a rule, member universities in member countries are eligible to participate in ACU-OER.

- Develop functions for the learning object repository (shared storage)

- Manage or trace the history of learning objects’ development, modification, utilization, and reprocessing
  ※Metadata standards for education information are applicable (including copyright management)

- Develop a system link between KOCW and AU-OER and perform data transfer
Asean Cyber University Project

ACU-OER: http://www.aseancu.org

Operating OER platform

ACU-OER Platform

IV. OER and MOOC
IV. OER and MOOC

Asean Cyber University Project

ACU -OER : http://www.aseancu.org

Operating OER platform

Retrieval like MERLOT

(lecture)video, image, animation, text, document, textbook
Asean Cyber University Project

ACU - OER : http://www.aseancu.org

Operating OER platform

Retrieval like edX

Enroll open course
Asean Cyber University Project

ACU -OER : http://www.aseancu.org

IV. OER and MOOC

Operating Collaborative systems

1. Operations by the Steering Committee and Working Group
   - Convening Steering Committee (1 time per year) to discuss major agenda items related to project implementation and to monitor progress
   - Organizing and running the Working Group Meeting (2 times a year), which is composed of director-level representative from e-Learning center

2. Conducting collaborative research projects
   - Design ACU-OER for common use of open contents among ASEAN universities
   - Perform collaborative research between member universities and partner universities from Korea in order to develop e-Learning teaching and learning models and apply them to courses.

3. Host international conference to share project outcomes
   - Holding international conference by linking e-Learning Korea 2016 and Expo (2016.9 21)
   - Sharing project outcomes; uncovering and disseminating best practices
IV. OER and MOOC

Asean Cyber University Project

ACU - OER : http://www.aseancu.org

Operating Collaborative systems

8th Steering committee (Hanoi, 2016.4) E-Learning Expert Training (Seoul, 2016.6)
Asean Cyber University Project

ACU -OER : http://www.aseancu.org

* Open Government Partner (the U.S.)
V. Global Cooperation

Enhance International Cooperation for EFA

- Global partnership for ICT in Education
- Capacity Building for ICT in Education
- Consulting on ICT in Education
- Standardization for ICT in Education
## V. Global Cooperation

### Development of ICT Indicators in Education

<table>
<thead>
<tr>
<th>Organization</th>
<th>Activities</th>
</tr>
</thead>
</table>
| UNESCO UIS   | • Core indicators  
               • Pilot tested several regional areas  
               • Expanded indicators |
| World Bank   | • WBI  
               • Survey the impact of ICT in education  
               • School manager, policy maker  
               • More focus on the Infra, Policy and Impact |
| OECD         | • Measured overall ICT in the society  
               • Not only target the ICT in education  
               • More focus on the policy |
## V. Global Cooperation

### Development of ICT Indicators in Education

#### Analysis results examples of KERIS Indicator

<table>
<thead>
<tr>
<th>Knowledge Package (Korea)</th>
<th>Australia</th>
<th>U.S.A.</th>
<th>United Kingdom and EU</th>
<th>The Needs of Developing Countries (MDGs/EFA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy, Driving System, Law, institution</td>
<td>Law, institution</td>
<td>Leadership Budget</td>
<td>Leadership Management</td>
<td>Support Management</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Infrastructure</td>
<td>Accessibility to Infrastructure</td>
<td>Network and Infrastructure</td>
<td>Network and Infrastructure</td>
</tr>
<tr>
<td>Educational Contents</td>
<td>Online contents</td>
<td>Digital contents</td>
<td>Digital contents and S/W</td>
<td>Contents and S/W</td>
</tr>
<tr>
<td>Standardization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curriculum</td>
<td></td>
<td>Integrated with general curriculum</td>
<td>Connected with general curriculum</td>
<td></td>
</tr>
<tr>
<td>Human resource</td>
<td>Teacher, Learner, Adult</td>
<td>Staff training</td>
<td>Staff training Professional development</td>
<td></td>
</tr>
<tr>
<td>Educational Information service</td>
<td>Online contents service</td>
<td>Integrated Database</td>
<td>Computer application to school administrative service</td>
<td>Educational information service</td>
</tr>
<tr>
<td>Etc.</td>
<td></td>
<td>E-learning, Virtual school</td>
<td>Expand the learning opportunities, Achievement, Assessment</td>
<td></td>
</tr>
</tbody>
</table>

*source*
V. Global Cooperation

Development of ICT Indicators in Education

Analysis results examples of KERIS Indicator

*source

[Figure III.1] ICT Outcome Perception Index
IV. Global Cooperation

▶ UNESCO-King Hamad Bin Isa Al-Khalifa Prize for the Use of ICT in Education
V. Global Cooperation

KERIS – EDCF Project

▶ 2008-2011 : Uzbekistan
- **Project name**: Capacity Expansion Project of the Special Professional Education of Uzbekistan
  - Buget: 35 Million Dollar (U.S)
  - Tasks: 150 vocational high school

▶ 2012-2014 : Colombia
- **Project name**: Consulting Services for the ICT Education Capability Building Project in the Republic of Colombia
  - Buget: 30 Million Dollar (U.S)
  - Tasks: 5 Innovation Center, 32 e-learning contents,
    15,000 teacher training, 50 model school,
    Portal service
VI. Conclusion

Global partnership

Extending global cooperation

e.g. ICT4ED working group with many countries

Strategic agreements

Identifying needed projects

Sharing knowledge package

Cooperation & development

Building capacity for ICT in education

Solving digital divide

Economic support (ODA)
Thank You

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