Where TEE is today and where it is going over in 5-20 yrs

Old wine in a new bottle?

Prof. Okhwa Lee
Chungbuk National University
2013. 6.18 Boston, MIT LINC
Policies for ICT in Education
Educational policies: Flow chart of Korean ICT Policies

* Source: KERIS(2012), Adapting Education to the Information Age (Whitepaper)
ICT in education as the national priority

Inaugural Ceremony of Former President Kim Dae Jung (February 25, 1998)

※ Source: [http://www.segye.com/Articles/Photo/PhotoNews/Article_Frame.asp?aid=20090818004706&cid=010401010000](http://www.segye.com/Articles/Photo/PhotoNews/Article_Frame.asp?aid=20090818004706&cid=010401010000)
Ministry of Education’s Budget

- The Government’s budget
- Ministry of Education’s budget
- Ministry of Education’s budget rate compared to the Government’s budget

Source: KHEI(20123), KHEI Statistics, No.5(2013.5.31)

http://khei-khei.tistory.com/600
How is Korean Education Performance?

- OECD PISA study
  - Programme for International Student Assessment
  - international comparative study of high school students achievement (15 years old)
  - Every 3 yrs

- Koreans’ performance
  - Reading : 2\textsuperscript{nd}
  - Math : 4\textsuperscript{th}
  - Science : 6\textsuperscript{th}

- 65 countries (37 OECD)

Source: OECD, *PISA 2009 Database*

Korean performance in PISA 2009
What makes Korea high performing country?

- High investment
  - 8% of GDP (formal and informal)

- Social culture
  - Parents endeavor to education

- High competent teachers
  - Best students to school of education
  - Most of them got Master degree and some Ph.D.
  - Highly paid
  - Socially recognized as the best job

- Educational policy to support teachers
  - ICT for educational infrastructure
Major Policies of ICT in Education

- **KERIS** – an Institution Operating ICI Educational policies

※ Source: [http://english.keris.or.kr/es_ak/es_ak_400.jsp](http://english.keris.or.kr/es_ak/es_ak_400.jsp)

Korea Education Resource Information System (KERIS)
Educational Broadcasting System EDRB

- Educational data resources bank for EBS
- EBS is solely devoted public broadcasting for education
- Open to educational use
- Educational video clips
  - Prime quality broadcasting videos
  - Cut into less than 10 minutes long clips
  - Categorized by theme
  - Classified by national curriculum
  - Simple maintenance of instructional processes
SMART Education

Leading Global Education 3.0

Pedagogy
Technology
Workforce

21st Century Learning

Education 3.0
Korean Education 3.0

Self-Directed
Motivated
SMART Education
Adaptive
Resource-Enriched
Technology Embedded

※Strategies for smart education (2011.6.29)
Core Skills of SMART Education

- Competence-based curriculum
  - Critical thinking and problem solving
  - Creativity and innovation
  - Collaboration and leadership
  - Cross-cultural understanding
  - Communication
  - ICT literacy
  - Career and life skills

- 3R Literacy
  - Reading
  - Writing
  - Arithmetic

- Core Competencies
  - E 1.0
  - E 2.0
  - E 3.0

- Competencies
  - 21C
  - BL+SL
  - BL+ML
  - BL

- BL : Basic Literacy
- ML : Multimedia Literacy
- ICT : Information & Communication Technology
- SL : Smart Literacy
eTextbook

Korean, Math, English for primary and junior high schools.

http://book.edunet.net/ebookSamplePopup.do
Edunet – national educational portal

- Objective of Edunet

Reinforce infrastructure to support e-Learning at elementary and secondary schools

Build a foundation for the collection, sharing, and distribution of educational contents

Reinforce the function as an integrated service desk that supports teaching-learning projects

Improve classroom lectures, with the support of educational contents

Reinforce the competitiveness of public education

※ Source: [http://www.edunet4u.net/engedunet/ed_01.html?entryway=edunetEng](http://www.edunet4u.net/engedunet/ed_01.html?entryway=edunetEng)
NEIS – National Education Information System

Maintained by Ministry of Education and operated by KERIS

Services of NEIS
- Service for Students
- Service for School Parents
- Home-edu Service
- Online Recruitment
- School Qualification Examination

※ Source: http://www.neis.go.kr/pas_mms_nv99_001.do
KOCW (Korea Open CourseWare)

- Lectures from Korean universities : 4,746
- KOCW course materials : 196,644
- List of foreign OER associations
  - GLOBE
  - ARIADNE
  - LORNET
  - NIME-glad
  - MIT OCW
  - Open CourseWare consortium

※ Source1 : http://www.kocw.net/home/introduce/intro1.do
※ Source2 : http://www.kocw.net/home/introduce/intro2.do
Cyber Universities

※ Source : KERIS(2013), Adapting Education to the Information Age (Whitepaper)
ASEAN Cyber University (ACU)

- Korean governments’ initiation to establish global cooperation in education (June, 2009)
- To promote the development of higher education in the ASEAN region through ICT
Gartner’s Hype Cycle: Emerging Technologies
What we have learned

- Teachers are the most important agency
- Bottom up approach vs top down approach
- More investment for promotion
- Accept the slow start
- Parents are as important stakeholders as students
- Education first, then technology
- Education transformation is agreeable but not the details
- Quality comes from quantity
Understanding of MOOC
What is MOOC?

- **Contents**
  - Standardized file format
  - 10 minute short video clips
  - Reference materials

- **Instructional activities (LMS)**
  - Follow up of learning activities
  - Social presence of students and teachers
  - Ownership of the class
  - Learning community

- **Management???
What is so special about MOOC?

- Tuition free
- Massive number of students
  - Learning community
  - Interaction is active
  - Immediate feedback possible
- Mastery based personalized learning
- Just in time learning
  - Immediate feedback
  - Learning community support
Analogy of e-Learning system to schools

- Contents: textbook (tuition or students pay)
- LMS: instructional activities, platform (tuition)
- Management: school operation, credit (tuition)

School = lots of class rooms
Confusion about MOOC

Management
OEIT

Contents
MITx

Contents
Platform
LMS
edX

edX = contents + instructional activities
Management will be the source for confusion
Lack of MOOC model for Campus based university

- Minor among MOOC users
- Can use any portals?
- Can use any contents from portals?
- Who pays for what?

- Contents: students can pay like textbook
- Interaction (LMS): tutor cost?
Challenges for MOOC*

Old wine in a new bottle?
: E-learning pedagogy

* Summer 2013 edition of On Wisconsin “ABC’s of MOOC”
Coursera hits 1 million students across 196 countries

- Polarized nation.
  - Network speed?
  - Language?

- forced to think in certain way

Which ones belong to the same category...?

1) two round cylinder (blue and brown)
2) two brown figures

http://home.ebs.co.kr/docuprime/index
Properties and relationships

1) ANIMAL
2) MONKEY AND BANABA
Languages

- West: whole is a collection of individuals
- noun rich language
Languages?

- East: whole is one-ness, not a collection of individuals, verb rich language
- More tea vs drink more
## Certificate cost for MOOC

<table>
<thead>
<tr>
<th>MOOC</th>
<th>Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coursera</td>
<td>- Statement of Accomplishment (Free, for Open course)</td>
</tr>
<tr>
<td></td>
<td>- Signature Track (Paid, $79)</td>
</tr>
<tr>
<td>Khan Academy</td>
<td>- No Certificate</td>
</tr>
<tr>
<td>Udacity</td>
<td>- Downloading a certificate depending on mastery level (Free)</td>
</tr>
<tr>
<td>Edx</td>
<td>- Free Certificate (It will be changed)</td>
</tr>
<tr>
<td></td>
<td>- Proctored Certificate (Taking an exam with proctor + Completing online courses)</td>
</tr>
<tr>
<td></td>
<td>- Honor Code Certificate (Completing online courses)</td>
</tr>
<tr>
<td>Udemyy</td>
<td>- Certificate only for some courses</td>
</tr>
<tr>
<td>P2PU</td>
<td>- No Certificate, but badges</td>
</tr>
<tr>
<td>Venture Lab</td>
<td>- Statement of Accomplishment (online)</td>
</tr>
<tr>
<td>TED-ed</td>
<td>- No Certificate</td>
</tr>
</tbody>
</table>
MOOC is credit free toward certificates, degree

BUT

- In January 2013, Udacity launched the first MOOCs-for-credit, in collaboration with San Jose State University.

- In May 2013, the first-ever entirely MOOC-based Master's Degree, a collaboration between Udacity, AT&T and the Georgia Institute of Technology, costing $7,000.
Gate Keepers in Education are Going away

- Dynamics of sts & teachers interaction
  - Evidence based model
  - Why separate sts by age,
  - Why one teacher for 20 sts, why not 2 teachers for 40 sts
  - Peer learning, teaching
  - No separation among subject domains (phys & math, large epic room working on the same problem)
  - One big school, everyone does on their own pace,
New Job Skills for Teachers

- Difficult for PhD to be hired as a professor w/o substantial ability to teach online

- International course enrollment replaces peer reviewed articles in tenure considerations