SMART Education in Korea
- Digital Textbook Initiative-

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Education for 21st Century

SMART Education = Intelligent customized Teaching & learning

SMART
- Self-directed
- Motivated
- Adaptive
- Resources
- Technology embedded

Learning
- Self-initiated
- With fun
- Customized
- Rich resources
- Use of ICT
Policy Goals of SMART Education

Customized Education Respect to Learners’ Needs and Context

- Personalized Education
- Diverse knowledge (Timely knowledge acquisition)
- Limited access to knowledge (Time lag)
- Creativity-enhanced education
- Too much focus on college entrance
Policy Goals of SMART Education

Grade-centered quantitative Assessment for college entrance exam

Limitations of knowledge from paper textbooks

School for average students

Descriptive & qualitative Assessment of Student abilities

Expansion to diverse & creative knowledge

School for all students
Major Tasks for SMART Education

1. Reform educational system
   - Develop digital textbooks
   - Promote online classes & assessment
   - Eco-system for educational content

2. Teachers’ role
   - Strengthen teachers’ competencies

3. Improve school infrastructure
   - Lay the basis for cloud computing system in education

“Classroom revolution through SMART Education”
1. Enable all students to learn with digital textbooks by 2015.

**Paper textbooks**
- Limited content
- Hard to reflect latest info
- Limited learning activities

**Digital textbooks**
- Customized learning textbooks
- Support self-directed learning with no need for learning aides
2. Introduce online lessons and assessment system.

- Online class with experts
- Distance classes
- Open
- SMART classroom
- Experience
- Participation
- Hands-on field experience
- Hospital school
3. Create an environment for free and safe use of educational content.

Eco-system for safe use and distribution of contents
4. Strengthen teachers’ competencies to lead SMART Education.

5. Lay the basis for cloud computing in all schools by 2015.

Produce/distribute/manage educational content and build standard platform
Why digital textbook?

The limitation of paper-based textbooks

- Difficult to revise the curriculum in line with the fast-changing educational environment
- Takes lots of time and cost to modify contents in time
- Fails to satisfy various learning needs of students
Concept of Digital Textbook

- Handbook/Exercise book
- Dictionary
- Multimedia
- Data Searching
- Hyperlink

Connect to learning materials of institutions
Connect to national knowledge DB

Learning Management System
Authoring Tool
Evaluation Tool
Concept of Digital Textbook

Definition of digital textbooks
(Ministry of Education, 2007)

- Can be looked up whether at schools or homes regardless of time and space
- Integrates all the contents in pre-existing textbooks, references, workbooks, dictionaries and provides a multimedia learning environment including videos, animations and virtual world
- A student-centered textbook which is designed to promote various types of interaction and allows students to work according to their needs and levels
Digital Textbook Project

Master Plan

First stage (2002-2006)
- Feasibility studies of digital textbooks

Second stage (2007-2011)
- Develop digital textbooks
- Operate digital textbook pilot schools
- Impact study: Collect empirical data and analyze the results

Third stage (2013~)
- Integrate into all public schools in all levels
### What does research say about digital textbook?

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<td>Academic and cognitive effectiveness, Comparative studies</td>
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<td>Satisfaction, Attitude, Motivation</td>
<td>Affective influence on teaching and learning interaction</td>
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<td>Side effect, policy, regulations</td>
<td>Copyrights for digitalized education material, DT as official textbook, Usability, Future education and school, Student health</td>
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- Better performed in digital textbook classrooms
- Effective in students in rural area
- Effective in low-performed students
Further Consideration and Looking Forward

- What the future textbook will be?
  - Textbook itself vs. Learning system?
- No significant learning impact
  - No discernible difference from paper textbook
  - Concerns about side effect
  - Return on investment
- Integration into the existing educational system
  - Change of textbook system, pedagogy and school management
  - Resistance against to reform
  - Integration with national curriculum
Thank you