Current Status of Digital Textbook in Korea

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Overview of Digital Textbook in Korea
DIGITAL TEXTBOOK

Source: KERIS, 2007
HISTORY OF DIGITAL TEXTBOOK (KERIS, 2011)

Phase 1 (2002~2006)
- Define the future form of textbook
- Research on future education, environments and electronic textbook

Phase 2 (2007~2011)
- Develop & implement prototypes at pilot schools
- Collect empirical data and analyze the results

Phase 3 (2012~)
- Integrate into all public schools at all levels
- Play a role as an official textbook
Convenient individualized learning on various devices
(anywhere, anytime on any device)

Various content saved on the servers can be used on various devices and can be accessed anywhere at any time, offering optimal individual learning by increasing students’ accessibility and usability to the educational content.
# Development of DT

<table>
<thead>
<tr>
<th>Level of school</th>
<th>Subject</th>
<th>Year of development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>6 Language, Social Science, Mathematics, Science</td>
<td>2008</td>
</tr>
<tr>
<td>Elementary</td>
<td>3~6 English</td>
<td>2009</td>
</tr>
<tr>
<td>Elementary</td>
<td>4 Social Science, Science</td>
<td>2010</td>
</tr>
<tr>
<td>Elementary</td>
<td>5, 6 Social Science, Science, Language, Mathematics (revision)</td>
<td>2011</td>
</tr>
<tr>
<td>Middle</td>
<td>1 Science, English</td>
<td>2010</td>
</tr>
</tbody>
</table>
A SCREEN SHOT OF DT
<table>
<thead>
<tr>
<th>Year</th>
<th>Purpose of study</th>
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| 2008 | Evaluation on the effectiveness of DT (~ 2011)  
      | Cost-benefit analysis of the development of DT  
      | Interaction analysis on teaching and learning with DT |
| 2009 | Usability test of DT  
      | Analysis of the effects of DT use on health |
| 2010 | Study on the development of DT 2.0  
      | Dissemination and maintenance system of DT |
| 2011 | Standardization for adaptive service of the DT  
      | Guideline for the development of DT |
Benefits of DT use

Learning processes

• Providing students with rich resource beyond course materials
• Allowing students to self-regulate their learning processes
• Enhancing interaction between students and teachers, and among students
BENEFITS OF DT USE

Learning outcomes

• Involving student in motivation to learn, deep engagement and satisfaction
• Enhancing students’ learning achievement
• Positive effect on developing 21c skills: self-regulated ability, problem-solving ability, etc.
• Assistive tools for students with special needs
CHALLENGES OF DT USE

• Limitation of the personalized use of new devices
• Lack of external resource beside DTs
• Digital literacy of teachers and students
• Overload of cognition and learning
• Inflexibility of national curriculum
• Need of effective ways to use DTs in subjects
Current research on DT use in Korea
SCOPE AND PURPOSE

To investigate how DTs can be used effectively in class

1. What type of models and strategies can be employed for the use of DTs in class?
2. How do students and teachers interact with when they use the DTs in learning a specific subject?
3. What is the implication for further development of the DTs?
SCOPE AND PURPOSE

• Constructing teams for 6 subject matters
  • Language (Korean) at Elementary school level
  • Social Science at Elementary school level
  • Science at Elementary school level
  • Mathematics at Elementary school level
  • Science at Middle school level
  • English at Middle school level
• Team members: Educational experts in subjects and educational technology, and school teachers

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BASIC STRATEGIES

• Aiming to develop students’ 21st century skills
• Analysis of the existing models of teaching and learning in each subject
• Revising the existing models (or developing a new model)
• Designing learning and teaching activities for using the DTs and various ICT tools
• In-depth investigation of learning process and outcome
# Key Models of Each Subject

<table>
<thead>
<tr>
<th>Level of school</th>
<th>Subject</th>
<th>Key model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>Language</td>
<td>Wiki-based creative writing</td>
</tr>
<tr>
<td></td>
<td>Mathematics</td>
<td>Problem-solving</td>
</tr>
<tr>
<td></td>
<td>Social Science</td>
<td>Inquiry learning</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>Creative ideation</td>
</tr>
<tr>
<td>Middle</td>
<td>Science</td>
<td>Scientific modeling and simulation</td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>Collaborative writing</td>
</tr>
</tbody>
</table>
METHODS

Qualitative approach

Classroom observations
Content analysis of learning products
Interviews
Attitude and achievement tests
PROCEDURE

- Design and Development
  - Lesson plans
  - Learning materials and worksheets
- Implementation
  - 2~5 models per each subject
  - 2 to 5 weeks per each subject
- Evaluation
  - Classroom observation
  - Interviews
SOME EVIDENCE
SOME EVIDENCE
EXPECTED OUTCOMES

- The development of models or activities for the effective use of the DTs in classroom learning
- Guidelines for the DT use in subjects
- Suggestions for further development of the DTs
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THANK YOU