Gradually the use of computer became to generalize in administrative work

- Needs to share data and information among the education administration organization
- Needs more efficient, convenient, and innovative way of handling education administration
  - Difficulty in sharing data among education organizations
    - Localized information system and document format
    - Redundant and manual job
  - Physical visiting (face-to-face) work process
  - Paper based document management

E-government initiatives
- NEIS was selected as one of 10 e-government projects
Trigger: E-government Project

Difficulties in improving effectiveness of works

- Information sharing
- Financial support for each school system with the latest system and maintenance

More effective ways

- e-Government legal system
- New work process
- New document format
- New rule for sharing
- New variable services

SIMS: School Information Management System

Local computerized system

- Local working processes
- Local rules and document-forms
- Difficulties in data sharing

- H/W, S/W management at school level
- Maintenance cost
- High end security
NEIS, e-Government System

NEIS stands for …

- National Education Information System
- A Web-based integrated administration system for Korea’s educational organizations
  - 17 Metropolitan and Provincial Offices of Education
  - 177 Local Offices of Education
  - 11,200 Schools (Elementary, Middle, High, and Special Schools)
Goal of NEIS

Goal

- Improving efficiency, transparency, and convenience in education administration
  - Reducing the workload of teachers
  - Improving working processes
    - Standardizing unified and system based work processes and 2,272 document formats, amending 22 laws and regulations

- Providing an easy access & high quality of education service to citizens
  - Parent service, Home-Edu Service, Public Announcement
<table>
<thead>
<tr>
<th>Phase</th>
<th>Goal</th>
<th>General Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P1: SIMS</strong></td>
<td>School administration</td>
<td>• S. A, C/S model&lt;br&gt;• PC, LAN environment with school unit,&lt;br&gt;• 98% of schools used SIMS&lt;br&gt;• E-government&lt;br&gt;• initiatives (1998)</td>
</tr>
<tr>
<td><strong>P2: General Affairs</strong></td>
<td>NEIS-General Affairs</td>
<td>• BPR/ISP&lt;br&gt;• Developed appl. S/W of NEIS&lt;br&gt;• Constructed H/W infrastructure&lt;br&gt;• Amended 22 laws &amp; regulations&lt;br&gt;• 48 pilot schools&lt;br&gt;• General affairs, Nov. 2002.</td>
</tr>
<tr>
<td><strong>P3: School Affairs</strong></td>
<td>NEIS-School Affairs</td>
<td>• BPR/ISP&lt;br&gt;• Developed Application&lt;br&gt;• Constructed H/W infrastructure&lt;br&gt;• 165 school official documents&lt;br&gt;• 60 pilot schools&lt;br&gt;• 1 office of edu.&lt;br&gt;• School affairs, March 2006.</td>
</tr>
<tr>
<td><strong>P4: Civil Services</strong></td>
<td>Parent service Public announcement</td>
<td>• Edufine&lt;br&gt;• (Educational Finance)&lt;br&gt;• School information disclosure&lt;br&gt;• Parent Service&lt;br&gt;• PAPS service&lt;br&gt;• HomeEdu service</td>
</tr>
<tr>
<td><strong>P5: Student Service</strong></td>
<td>New NEIS Student service</td>
<td>• ISP&lt;br&gt;• Rebuild application S/W &amp; renewing H/W infrastructure.&lt;br&gt;• Student service&lt;br&gt;• New NEIS (2011.3)</td>
</tr>
</tbody>
</table>
Role of Organizations

**MOE**
- Establish policy
- Improve legal systems
- Supervise NEIS operation

**17 Offices of Education**
- Operating local NEIS centers
- Teacher training
- Pilot schools

**KERIS (NEIS Central Center)**
- Support policy making
- Make action plans and research new services
- Manage all of NEIS application software
- Design hardware infrastructure
- Train representative instructors of each offices of education
- User support service (Call center, help desk)
- Operate council for parents-citizens-teachers
**Education admin. org. chart**

Ministry of Education

Metropolitan · Provincial Offices of Education (17)

Local Offices of Education (177)

Elementary Schools  |  Middle Schools  |  High/special Schools

<table>
<thead>
<tr>
<th></th>
<th>Elementary School</th>
<th>Middle School</th>
<th>High School</th>
<th>Special School</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Schools</td>
<td>5,585</td>
<td>3,144</td>
<td>2,313</td>
<td>150</td>
<td>11,192</td>
</tr>
<tr>
<td>No. of Students</td>
<td>3.3million</td>
<td>2million</td>
<td>2million</td>
<td>24,000</td>
<td>7.3million</td>
</tr>
<tr>
<td>No. of Teachers</td>
<td>175,068</td>
<td>109,075</td>
<td>125,074</td>
<td>6,793</td>
<td>416,010</td>
</tr>
<tr>
<td>No. of non-teaching staffs at school</td>
<td>25,304</td>
<td>12,027</td>
<td>11,062</td>
<td>1,696</td>
<td>50,089</td>
</tr>
</tbody>
</table>

(Year. 2011)
## Project Funding

**Project funding**

- **Budget**: 52 M US$ in total (Initial construction cost)

(1,000KRW = 1US $)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Informatization Promotion Fund</th>
<th>Central Gov’t (MOE)</th>
<th>Local Gov’t (MPOEs)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPR/ISP</td>
<td>0.679</td>
<td>-</td>
<td>-</td>
<td>0.679</td>
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<tr>
<td>Application S/W Development</td>
<td>9.489</td>
<td>1.129</td>
<td>-</td>
<td>10.618</td>
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<tr>
<td>H/W &amp; Infrastructure</td>
<td>14.798</td>
<td>-</td>
<td>26.002</td>
<td>40.8</td>
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<tr>
<td>total</td>
<td>24.966</td>
<td>1.129</td>
<td>26.002</td>
<td>52.097</td>
</tr>
</tbody>
</table>

※ Informatization Promotion Fund: Budget provided by MIC (Ministry of Information & Communication, 2000)
Budget Allocation

- Initial construction cost for new service
  - Informatization promotion fund by the Ministry of Information and Communication when E-government project started
  - Local government: H/W, infrastructure
  - Ministry of Education: application S/W

- Annual maintaining cost for NEIS
  - Maintaining NEIS application S/W: Central government
  - Maintaining NEIS H/W: Local government
  - Developing new working area of application S/W
    - The Ministry of Education
Contents

I. Background
II. Feature and Practice of NEIS
III. Effect and Further Plans
Scopes of NEIS

- **General affairs**
  - Handling general administrative affairs for teaching and non-teaching staffs and education organizations

- **School affairs**
  - Handling student information and school administrative affairs

- **Civil services**
  - Home-Edu Service
  - Parent Service
  - Public Announcements of all schools
General Affairs of NEIS

- HR mgmt. for teaching and non-teaching staff
  - Hiring information, salary step, years of service, transfer, promotion, education history, assessment, history of training

- EduFine (Budget, Accounting)
  - EduFine: Education financial system
  - Making up a yearly budget, expenditure and all financial management

- Payroll, Facilities, Properties, Education Statistics etc.
School Affairs of NEIS

- **Academic Affairs**
  - curriculum, student’s examination result, student’s various school life actives, grade reports, teacher’s comments
  - Based on the student’s school life record Act

- **Student Health Care**
  - 12 years of physical growth status

- **Physical Education and PAPS**
  - PAPS: Physical Activity Promotion System
  - Diagnosis result and exercise prescription, prevent obesity

- **Admission** (to a school of higher grade)

- **School Meal Administration**
  - Meal menu & recipes
  - Food purchasing system
Civil Services of NEIS

- **Home-Edu Service** since 2003
  - Online issuance of 17 documents
    - certificate of graduation, studentship, and testimonial for staffs, etc.

- **Parent Service** since 2006
  - Knowing well and more about my children
  - Providing 62 items of student information
    - curriculums, class attendance status, examination results, grades, school meals, online counseling for mentoring children

- **Public Announcements** since 2008
  - Proving 47 items of school management information
  - [http://www.schoolinfo.go.kr](http://www.schoolinfo.go.kr)

- **Student Service** since 2011
  - Providing 43 items of school life information
    - Grade analysis report, online registration for course, feedback on school curriculum, immunization information, supplementary learning materials
View of whole NEIS system

**General Affairs**
(Payroll, Facilities, HR Mgmt.. for staffs, etc..)

**Civil Service**
(Student Service, Parent Service, Home-Edu)
(Getting student information online, Getting info. of their child’s school activities, Online requirement and issuance of certificate)

**School Affairs**
(Processing students grades, recording student activities and their performance, etc..)

**Teacher/Non-teaching staff**
(Schools)

**Non-teaching Staff**
(MPOEs, LOEs)

**Student/Parent Citizen**

17 Metropolitan · Provincial Offices of Education

Statistics & Reports

NEIS

MOE

G4C Service

Statistics

Code Index
View of NEIS function

School Affairs
- Elementary school
  - Academic Affairs
  - Admission
  - Student Health Care
  - Sys. Mgmt.
- Middle school
  - Academic Affairs
  - Admission
  - Student Health Care
  - Sys. Mgmt.
- High school
  - Academic Affairs
  - Admission
  - Student Health Care
  - Sys. Mgmt.
- Special /lifelong

User Info, Common Code, Statistics
- General Affairs, Civil Service
  - Education Statistics
  - Payroll
  - Emergency
  - Incorporation
  - Facilities
  - Property
  - School Meal
  - Budget (EduFine)
  - Accounting (EduFine)
  - Audit
  - Life-long Education
  - Qualification Exam
  - HR Mgmt.
  - Physical Education
  - Public Release
  - System Mgmt.
  - Parent Service
  - Public Announcement
  - Home Edu
  - Student Service

User (Teacher)
- Admin. Affairs
- Student’s record

Call Center
- Service Request
- User Request Management
- Program Modification
- Feedback

User (Citizen)
- Certification
- Parent Service
- Education Statistics
Grade Processing at School

1. Recording each student’s activities and performances
2. Producing grade scores and analysis reports
3. Tracing each student’s learning abilities
4. Sharing the student’s data with his/her parent
Grade Processing

NEIS Academic Affairs System – OMR marking

NEIS Academic Affairs System – Grade report of whole students

NEIS Academic Affairs System – Analysis of student’s score

Grade Processing
Go to a school of higher grade

- Ministry of Security and Public Administration
  - A list of new students to each elementary school
- Elementary to High schools
  - Student health care report and personal information
- High school to universities
  - A student’s school life record from High schools
School Transfer

- Steps for student transfers

1. Requiring a student’s data
2. Arranging the student’s data
3. Getting an E-approval for releasing the student’s data
4. Sending the student’s data
5. Getting an E-approval for accepting a new student
6. Creating a new student records at NEIS

- Time savings in job processing related to student transfers. (survey 2013)
  - Before NEIS: 15 hours → After NEIS: 5.8 hours (2013)
    (for 1 school, 1 year)
Related Laws and Regulations

- The E-government Act, The Digital Certification Act
- The Rules for Privacy Protect in Public Organization Act
- The Rules for the Public Educational Personnel and Staff Act
- The Fundamentals of Education Act
- The Elementary, Middle, and High School Education Act
- The School Sanitation Act
- The Rules for Student’s School Life Record Act
  - Defined official document format and items to be stored in NEIS
- The Act of Public Announcement of School
## Progress of Parent Service

- Providing student data to parent

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Info.</td>
<td>3 items</td>
<td>9 items</td>
<td>9 items</td>
<td>9 items</td>
<td>9 items</td>
<td>11 items</td>
</tr>
<tr>
<td>Student Info.</td>
<td>3 items</td>
<td>16 items</td>
<td>17 items</td>
<td>21 items</td>
<td>29 items</td>
<td>23 items</td>
</tr>
<tr>
<td>Online-Advice</td>
<td>1 items</td>
<td>2 items</td>
<td>3 items</td>
<td>3 items</td>
<td>3 items</td>
<td>3 items</td>
</tr>
<tr>
<td>Instructional info. for children</td>
<td>5 items</td>
<td>5 items</td>
<td>7 items</td>
<td>16 items</td>
<td>9 items</td>
<td>9 items</td>
</tr>
<tr>
<td>Health care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6 items</td>
<td>26 items</td>
<td>33 items</td>
<td>38 items</td>
<td>57 items</td>
<td>62 items</td>
</tr>
</tbody>
</table>

### Year 2007
- School curriculums
- School meals
- Grade reports
- Student’s school life records
- Satisfaction: 40%

### Year 2009
- Edunet educational contents
- Analysis report of grades
- Info. About University admission
- Satisfaction: 57.2%

### Year 2013
- School & student info.
- Student’s health care
- Instruction info.
- Satisfaction: 75.4%
Usage of Parent Service

● Usage rates of parent service

- Grade report: 30%
- School letter to home: 19%
- School information: 17%
- Student school life record, health care report: 11%
- School life activities: 11%
- Counseling etc.: 5%

Year 2009

● Usages
  - 76,959 pages/day (2009) → 165,000 pages/day (2011)
NEIS and Information Sharing

- School Affairs System
  - School Affairs DB
  - Extracting school statics
- General Affairs System
  - General Administration
  - Extracting general statics
- Tailored Education Statistics DB
  - 47 kinds including the current school operation
  - 57 kinds including school record
  - 54 kinds including school record
  - 25 kinds including certification of graduation
  - 10 items including school record
  - 201 items including school information
  - 33 items including the current status of schools

Office of Education
- MOE
- NEIS and Information Sharing
  - Public announcement
  - Parent service
  - Student service
  - Issuing certifications
  - Data for college admission
  - Tailored statistics
  - Educational Statistics
Reduced Workload

Survey in 2013

Satisfaction rate of reduced workload

<table>
<thead>
<tr>
<th></th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce Work time</td>
<td>69.6</td>
</tr>
<tr>
<td>Reduce Work cost</td>
<td>71.0</td>
</tr>
<tr>
<td>Reduce Workload</td>
<td>61.6</td>
</tr>
<tr>
<td>Reduce Work error</td>
<td>69.2</td>
</tr>
</tbody>
</table>

Survey in 2013
Satisfaction ratio of teachers

Satisfaction rate of work processing

Survey in 2013
Satisfaction ratio of Civil services

Survey in 2013

Score

Convenience: 72.2
Sufficiency: 71.6
Reduce cost: 73.0
Economic Benefit

Cost Benefit: 387.4 M USD/year (2013)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>School</th>
<th>University</th>
<th>Civil</th>
<th>Data Sharing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>69.1</td>
<td>41.4</td>
<td>69.3</td>
<td>10.8</td>
<td>196.8</td>
<td>387.4</td>
</tr>
</tbody>
</table>

Cost Benefit: USD 4 B USD/10 years (2011~2020)
Future Plans

• Expand Sharing of NEIS data
  • School facilities, meals menu, …

• Enhance Communication function
  • Students, Parents, Schools

• Provide customized information
  • Combined information, Big data, …

• Expand Mobile service
  • Any time, Any where, …
Thank you.