4.1 Primary and Secondary Education in Korea

Korea Institute for Curriculum and Evaluation
Head Researcher
Jimin Cho
Vice President of the Division of Educational Evaluation
Contents

1. Education system

2. KICE

3. Introduction SDGs 4 & 4.1

4. National Curriculum of Korea

5. Educational Evaluation
   - implementing the international and national assessments

6. Enhancing the quality of education at Korea

Reedited contents previously presented at KICE
Education System in KOREA

G1~G6

Compulsory education

G7~G9: Lower Secondary

G10~G12: Upper Secondary
Organization of Educational Administration

Central Level

Ministry of Education

Great – Sphere Level

Metropolitan and Provincial Office of Education

Metropolitan (8)

Seoul, Pusan, Taegu, Incheon, Kwangju, Taejeon, Ulsan, Sejong

Provincial (9)

Gyunggi, Kangwon, Chungbuk, Chungnam, Chonbuk, Chonnam, Kyungbuk, Kyungnam, Jeju

Base Level

187 District Office of Education
Governmental Educational Research Institutions

- KEDI (Korea Educational Development Institute)
- KICE (Korea Institute of Curriculum and Evaluation)
- KERIS (Korea Education and Research Information Service)
- NILE (National Institute for Lifelong Education)
- KRIVET (Korea Research Institute for Vocational Education and Training)

Ministry Of Education

17 Provincial Offices of Education

Schools
Introduction of KICE

- Established on January 1, 1998 under the KICE Act
- Government-funded educational research institution

**Goal**

- To contribute to the qualitative improvement of primary and secondary education and the nation’s educational development through the research, development and implementation of curriculum and educational evaluations.

**Research carried out by KICE covers**

- the National Curriculum and educational evaluation,
- the improvement of teaching and learning techniques,
- development and authorization of textbooks, and
- the implementation of national-level educational testing.
KICE Main Functions

Leader of Public Education in Knowledge-based Society

Research & Development

Implementation & Management

Curriculum

Primary & Secondary Education

Teaching & Learning

Educational Evaluation

Textbook Authorization

National Education Policy

Operating Central Teaching & Learning Centre

Achievement Test, CSAT, etc.

Input

Feedback

Adjusting Social Change & Reflecting User Requirements

Constructing Worldwide Education Network
Sustainable Development Goals
SDG 4 Target

The Sustainable Development Goal 4 targets:

- Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

4.1.1 Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex
SDG 4 Target

4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.

4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations.

4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.

4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development.
SDG 4 Target

4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all

4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries

4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States
4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

<table>
<thead>
<tr>
<th>Learning</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex</td>
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<table>
<thead>
<tr>
<th>Completion</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Administration of a nationally representative learning assessment (i) during primary (ii) at the end of primary and (iii) at the end of lower secondary education</td>
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<table>
<thead>
<tr>
<th>Participation</th>
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<tr>
<td></td>
<td>Gross intake ratio to the last grade (primary, lower secondary)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Completion rate (primary, lower secondary, upper secondary)</td>
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<table>
<thead>
<tr>
<th>Provision</th>
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<tbody>
<tr>
<td></td>
<td>Number of years of (i) free and (ii) compulsory primary and secondary education guaranteed in legal frameworks</td>
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Percentage of students at each level in PISA 2015

NAEA Results
Gross intake ratio to the last grade at Primary & Secondary school

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<tbody>
<tr>
<td>Primary &gt; Lower Secondary</td>
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<td>100</td>
<td>100</td>
<td>100</td>
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<td>100</td>
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<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Lower &gt; Upper Secondary</td>
<td>99.7</td>
<td>99.6</td>
<td>99.7</td>
<td>99.7</td>
<td>99.7</td>
<td>99.7</td>
<td>99.7</td>
<td>99.7</td>
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<tr>
<td>Upper Secondary &gt; Higher</td>
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<td>81.9</td>
<td>79</td>
<td>72.5</td>
<td>71.3</td>
<td>70.7</td>
<td>70.9</td>
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<td>69.8</td>
<td>68.9</td>
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Completion Rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Korea</th>
<th>OECD Average</th>
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</thead>
<tbody>
<tr>
<td>2005</td>
<td>51</td>
<td>32</td>
</tr>
<tr>
<td>2010</td>
<td>65</td>
<td>38</td>
</tr>
<tr>
<td>2014</td>
<td>68</td>
<td>41</td>
</tr>
<tr>
<td>2015</td>
<td>69</td>
<td>42</td>
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<tr>
<td>2016</td>
<td>70</td>
<td>43</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Korea</th>
<th>OECD Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>76</td>
<td>68</td>
</tr>
<tr>
<td>2010</td>
<td>80</td>
<td>74</td>
</tr>
<tr>
<td>2014</td>
<td>85</td>
<td>76</td>
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<td>2015</td>
<td>98</td>
<td>83</td>
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<tr>
<td>2016</td>
<td>97</td>
<td>80</td>
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</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Korean Higher Education Attainment</th>
<th>Korean College Attainment</th>
</tr>
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<tr>
<td>2005</td>
<td>70</td>
<td>60</td>
</tr>
<tr>
<td>2010</td>
<td>69</td>
<td>54</td>
</tr>
<tr>
<td>2014</td>
<td>68</td>
<td>54</td>
</tr>
<tr>
<td>2015</td>
<td>68</td>
<td>56</td>
</tr>
<tr>
<td>2016</td>
<td>70</td>
<td>54</td>
</tr>
</tbody>
</table>
Percentage of children over-age for grade
Free and Compulsory years in legal framework

<table>
<thead>
<tr>
<th>Country</th>
<th>School System</th>
<th>Compulsory</th>
<th>Free at upper secondary</th>
<th>Compulsory up to upper secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>6-3-3</td>
<td>K+5~17(12years)</td>
<td>o</td>
<td>o*</td>
</tr>
<tr>
<td>Austria</td>
<td>4-5-3(4)</td>
<td>6~15(10years)</td>
<td>o</td>
<td>x</td>
</tr>
<tr>
<td>Denmark</td>
<td>9-3</td>
<td>6~16(10years)</td>
<td>o</td>
<td>x</td>
</tr>
<tr>
<td>France</td>
<td>5-4-3</td>
<td>5~15(10years)</td>
<td>o</td>
<td>x</td>
</tr>
<tr>
<td>Germany</td>
<td>4-5-3</td>
<td>6<del>16 혹은 18(10</del>12years)</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Japan</td>
<td>6-3-3</td>
<td>6~15(9years)</td>
<td>o</td>
<td>x</td>
</tr>
<tr>
<td>U.K</td>
<td>6-5-2</td>
<td>5~18(13years)</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>U.S.A</td>
<td>5-3-4</td>
<td>K+6~17(12years)</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>6-3-3</td>
<td>6~15(9years)</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
National Curriculum

The level of curriculum development

National curriculum

The Ministry of Education

Organization and implementation guidelines

Provincial Educational Administration

School-based curriculum

Schools
History of National Curriculum

1954~1997 (1st~6th)

1997~2007 (7th)

2007~2009 (2007 revision)

2009~2017 (2009 revision)

2018~ (2015 revision)

Related website

- National Curriculum Information Center (NCIC)
  URL: http://www.ncic.re.kr
Happy education for enjoying learning

Instruction based on participation of learners

Happy Edu

Classroom to communicate and discuss

Character education to cooperate with others
Key competencies

- Competency to lead one's life with self-identity & confidence based on basic abilities and qualifications necessary for life and career
- Skills to process and utilize knowledge and Information from diverse fields to solve problems in reasonable ways
- Skills to process and utilize knowledge and information from diverse fields
Key competencies

- Competency to find & appreciate the meaning and values of life, based on an empathetic understanding
- Skills to respectfully listen to opinions of others and effectively express one’s thoughts and feelings in diverse situations
- Competency to actively participate in improving the community with values and attitudes required to be a member of local, national, and global communities
# Subjects in national curriculum: Elementary schools

<table>
<thead>
<tr>
<th>Subject Clusters</th>
<th>Categories</th>
<th>Grades 1-2</th>
<th>Grades 3-4</th>
<th>Grades 5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korean Language</td>
<td>Korean Language</td>
<td></td>
<td>408</td>
<td>408</td>
</tr>
<tr>
<td>Social Studies/Moral Education</td>
<td>Mathematics</td>
<td>448</td>
<td>272</td>
<td>272</td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science/Practical Arts</td>
<td>Moral Life</td>
<td></td>
<td>272</td>
<td>272</td>
</tr>
<tr>
<td>Physical Education</td>
<td>Inquiring Life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts (Music/Fine Art)</td>
<td>Pleasant Life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative Experiential Activities</td>
<td></td>
<td></td>
<td>204</td>
<td>204</td>
</tr>
<tr>
<td>Total Instructional Hours</td>
<td></td>
<td>1,744</td>
<td>1,972</td>
<td>2,176</td>
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</table>
## Subjects in national curriculum: Middle schools

<table>
<thead>
<tr>
<th>Subject clusters</th>
<th>Classification</th>
<th>Grades 7 to 9</th>
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<tr>
<td></td>
<td>Korean Language</td>
<td>442</td>
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<tr>
<td></td>
<td>Social Studies (including History/Moral Education)</td>
<td>510</td>
</tr>
<tr>
<td></td>
<td>Mathematics</td>
<td>374</td>
</tr>
<tr>
<td></td>
<td>Science/Technology &amp; Home Economics/Information</td>
<td>680</td>
</tr>
<tr>
<td></td>
<td>Physical Education</td>
<td>272</td>
</tr>
<tr>
<td></td>
<td>Arts (Music/Fine Art)</td>
<td>272</td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>340</td>
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<tr>
<td></td>
<td>Elective Subjects*</td>
<td>170</td>
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<tr>
<td></td>
<td>Creative experiential activities</td>
<td>306</td>
</tr>
<tr>
<td></td>
<td>Total number of class hours</td>
<td>3,366</td>
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</tbody>
</table>

*one unit of classroom hour is 45 minutes

Chinese characters and Classics, Environment, Foreign languages, Health, Career education
### Subjects in national curriculum: High schools

<table>
<thead>
<tr>
<th>Subject Areas</th>
<th>Subjects (Subject Clusters)</th>
<th>Common courses (Units)</th>
<th>Required Units</th>
<th>Autonomous Implementation Units</th>
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<tbody>
<tr>
<td>Foundation</td>
<td>Language Arts</td>
<td>Language Arts (8)</td>
<td>10</td>
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<tr>
<td></td>
<td>Mathematics</td>
<td>Mathematics (8)</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>English (8)</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Korean History</td>
<td>Korean History (6)</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Inquiry</td>
<td>Social Studies (including History/Ethics)</td>
<td>Integrated Social Studies (8)</td>
<td>10</td>
<td>Each school organizes curriculum in consideration of students’ aptitudes and career plans.</td>
</tr>
<tr>
<td></td>
<td>Natural Science</td>
<td>Integrated Sciences (8)</td>
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<tr>
<td></td>
<td></td>
<td>Science Laboratory Experiments (2)</td>
<td>12</td>
<td></td>
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<tr>
<td>Physical Education/Arts</td>
<td>Physical Education Arts</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Physical Education</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Life/ Liberal Arts</td>
<td>Technology· Home Economics/Second Foreign Language /Chinese Characters/ Liberal Arts</td>
<td></td>
<td>16</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Subtotal</td>
<td>94</td>
<td>86</td>
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<tr>
<td></td>
<td>Creative Experiential Activities</td>
<td></td>
<td></td>
<td>24 (408 hours)</td>
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<tr>
<td></td>
<td>Total Units</td>
<td></td>
<td></td>
<td>204</td>
</tr>
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</table>

One unit of instructional hours is 50 minutes.
International & Regional level of assessments

Filling the gap

PIRLS, PISA, TIMSS, and EGRA have global presence ...

ICCS

... whereas others have had a regional focus

http://www.seaplm.org
Student Assessment Framework in Korea

International
- OECD: PISA
- IEA: TIMSS, ICILS

National
- National Assessment of Educational Achievement (NAEA)
- College Scholastic Ability Test (CSAT)

Metropolitan/Provincial offices of Education (17)
- Learning Diagnostic Test
- Pre-CSAT

Student Assessment within School
# OECD PISA

## Key Characteristics

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Aims to provide participating countries with a chance to investigate students’ performance in cognitive domains and educational backgrounds which influence student achievement</th>
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</thead>
<tbody>
<tr>
<td>Target</td>
<td>15 years old</td>
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<tr>
<td>Cycle</td>
<td>3 years</td>
</tr>
<tr>
<td>Assessment Instrument Test</td>
<td>Reading, Mathematics, Science, Innovative Domain</td>
</tr>
<tr>
<td>Questionnaire</td>
<td>Student, School, Parent, Teacher</td>
</tr>
<tr>
<td>Assessment Mode</td>
<td>Computer-based Assessment (CBA), [Paper-based Assessment (PBA)]</td>
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</tbody>
</table>
## PISA Domains

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<tbody>
<tr>
<td>Reading</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O (+)DRA</td>
<td>O (+)DRA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O (+)CM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>O</td>
<td>O</td>
<td>O (+)CBAS</td>
<td>O</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovative Domain</td>
<td>_</td>
<td>O (PS)</td>
<td>_</td>
<td></td>
<td>(CBAPS)</td>
<td>(CPS)</td>
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</tbody>
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### Survey

- Student Principal (+)Parent
- Student Principal (+)Parent
- Student Principal (+)Parent
- Student Principal (+)Parent
- Student Principal (+)Parent
- Student Principal (+)Parent
- Student Principal (+)Parent
- Student Principal (+)Parent
- Student Principal (+)Parent
- Student Principal (+)Teacher
- Student Principal (+)Teacher
PISA: the national context

• Since 2000, Korea participated
• 90%, 1st grade in high school
  10%, 3rd grade in middle school
• Korean language only
• Educational policy makers are the major audiences for PISA data.
• Perform well consistently, but drop at PISA 2015:
  - Many people concern what will happen at PISA 2018
PISA Results Analysis: Trends in Korea’s performance

- **Reading**
  - PISA 2000: 552
  - PISA 2003: 542
  - PISA 2006: 547
  - PISA 2009: 539
  - PISA 2012: 554
  - PISA 2015: 524

- **Mathematics**
  - PISA 2000: 525
  - PISA 2003: 538
  - PISA 2006: 522
  - PISA 2009: 538
  - PISA 2012: 536
  - PISA 2015: 517

- **Science**
  - PISA 2000: 525
  - PISA 2003: 534
  - PISA 2006: 547
  - PISA 2009: 538
  - PISA 2012: 538
  - PISA 2015: 516
Main Results and Concerns

Reading  Mathematics  Science
Main Results and Concerns

Reading

Mathematics

Science
Students’ CPS competencies across countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Level 1</th>
<th>Below Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
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<tbody>
<tr>
<td>Japan</td>
<td>1.2</td>
<td>8.9</td>
<td>43.6</td>
<td>27.7</td>
<td>14.0</td>
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<td>Singapore</td>
<td>1.6</td>
<td>9.7</td>
<td>41.4</td>
<td>33.0</td>
<td>12.4</td>
</tr>
<tr>
<td>Korea</td>
<td>1.5</td>
<td>11.4</td>
<td>43.4</td>
<td>27.7</td>
<td>10.4</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>1.9</td>
<td>11.7</td>
<td>41.4</td>
<td>33.0</td>
<td>12.5</td>
</tr>
<tr>
<td>Macao</td>
<td>2.2</td>
<td>12.7</td>
<td>41.4</td>
<td>33.0</td>
<td>12.2</td>
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<td>Estonia</td>
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<td>13.5</td>
<td>43.6</td>
<td>27.7</td>
<td>13.9</td>
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<td>Finland</td>
<td>3.4</td>
<td>14.7</td>
<td>41.4</td>
<td>33.0</td>
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</tr>
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<td>Canada</td>
<td>3.4</td>
<td>15.0</td>
<td>43.6</td>
<td>24.1</td>
<td>14.7</td>
</tr>
<tr>
<td>New Zealand</td>
<td>3.8</td>
<td>15.9</td>
<td>43.6</td>
<td>24.1</td>
<td>14.7</td>
</tr>
<tr>
<td>Australia</td>
<td>4.3</td>
<td>15.6</td>
<td>43.6</td>
<td>24.1</td>
<td>14.7</td>
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Source: OECD, PISA 2015 Database, Figure V.3.LEVELS.
Media, Press said....
Assessment Framework of TIMSS

**GRADE**  
Grade 4, 8

**SUBJECT**  
Math & Science Intended Curriculum of Participant Countries  
* Background information

**Questionnaire**  
Students, Teachers, Schools(Principals), Parents

**Main Results**  
» International Student Achievement in Math & Science  
» Relationship between Context Variables and Student Achievement  
» Implications for Math & Science Curriculum Improvement and Math & Science Educational Policies and Student Assessment at the Country Level (Paper&Pencil, Performance)
Korea’s Achievement in TIMSS, 4th grade

**Math, 4th grade**

<table>
<thead>
<tr>
<th>Year</th>
<th>Female</th>
<th>Male</th>
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<tbody>
<tr>
<td>1995</td>
<td>576</td>
<td>586*</td>
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<tr>
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<td>2011</td>
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<tr>
<td>2015</td>
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Math: 581(T95, 2nd place) → 605(T11, 2nd place) → 608(T15 3rd place)

**Science, 4th grade**

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<tr>
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Science: 576(T95, 1st place) → 587(T11, 1st place) → 589(T15, 2nd place)
Korea’s Achievement in TIMSS, 8th grade

Math, 8th grade


Female

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<td>2011</td>
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<tr>
<td>2015</td>
<td>616*</td>
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Male

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<td>2011</td>
<td>606</td>
</tr>
<tr>
<td>2015</td>
<td>605</td>
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Science, 8th grade


Female

<table>
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<th>Year</th>
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Male

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<td>2007</td>
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<tr>
<td>2011</td>
<td>558</td>
</tr>
<tr>
<td>2015</td>
<td>554</td>
</tr>
</tbody>
</table>

※ Math: 1st~3rd place since TIMSS 1995
※ Science: 3rd ~5th place since TIMSS 1995
Gender Difference in TIMSS G8

Mathematics

Science

Boys

Girls
Main results and concerns

- Instrumental motivation
  - Korea: 0.14
  - OECD: 0.07

- Science self-efficacy
  - Korea: 0.03
  - OECD: 0.02

- Science activities
  - Korea: -0.02
  - OECD: 0.00

- Epistemic belief
  - Korea: 0.14
  - OECD: 0.04

- Enjoyment
  - Korea: -0.14
  - OECD: 0.02

- Interest
  - Korea: -0.07
  - OECD: 0.00

Korea OECD
Factors that predict poor life satisfaction:
- Anxiety with school work
Communicate with & for in what way..

Issue paper, Position paper, national reports, summary of policy recommendations,

Parent Survey

Parent

General public
press conference, TV, newspapers

Government
MOE/PO

School
Abstracts, Leaflets, in service training

Student
Leaflets

Teacher
Pre & in service training
Purpose of NAEA

- **Investigate national accountability of public education**
  - based on national curriculum according to school levels, gender, regional sizes, provincial educational agencies, etc.

- **Check out academic performance level of individual student**
  - to guarantee all students’ progress toward achieving basic knowledge and skills

- **Suggest educational policy based on empirical research results**
  - between educational context variables and academic achievement of each school level and student background

NAEA plays an important role to support educational policy in national level
Purpose of NAEA

**Continuous Implementation and Improvement**

- **DIAGNOSING**
  - Academic achievement

- **ENHANCING**
  - School’s accountability

- **EXPLORING**
  - New research design and methods

- **PROVIDING**
  - Data and information

- **IMPROVING**
  - Teaching and learning
## Assessment Framework of NAEA

<table>
<thead>
<tr>
<th>GRADE</th>
<th>Grade 9, 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT</td>
<td>Korean, Mathematics, English Social Studies, Science (9th sample only) * Background information</td>
</tr>
<tr>
<td>TEST</td>
<td>Social Studies, Science and English Multiple-choice items and performance-based items Korean and Math multiple-choice items and short-answer items Korean and English Listening test</td>
</tr>
<tr>
<td>Questionnaires</td>
<td>Students, Teachers, Schools (Principals)</td>
</tr>
</tbody>
</table>
NAEA Survey

Survey of educational contextual variables to analyze the relationship with academic achievement

**STUDENTS**
- Personal and Family Background
- Extracurricular Activities
- Learning Method and Attitude
- School Life
- Learning Related to Each Subject

**TEACHERS**
- Personal Background
- Teaching Activities Related to Each Subject
- Job’s Satisfaction

**SCHOOLS**
- School Features
- School Facilities
- School-Level Curriculum Management
- School Climate
Achievement Levels of NAEA

ADVANCED
Superior academic performance of required knowledge and skills
(Above 80% reached to the desired performance that must be achieved in each content and grade)

PROFICIENT
Solid academic performance of required knowledge and skills
(50 – 80% reached to the desired performance that must be achieved in each content and grade)

BASIC
Partial mastery of required knowledge and skills
(20 – 50% reached to the desired performance that must be achieved in each content and grade)

BELOW BASIC
Outcomes of "School For Improvement Policy (2009 ~ 2012)"

Provided by MOE(2013)
## Monitoring of Student Achievement

### “Zero Below-Basic Plan” & “Upward Equalization”

#### Grade 9 (2010 ~ 2014)

<table>
<thead>
<tr>
<th></th>
<th>Percentage(%)</th>
<th></th>
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<td>27.5</td>
<td>28.3</td>
<td>28</td>
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</tbody>
</table>

- **Korean Language**
  - '10: 23.1%
  - '11: 31%
  - '12: 31.1%
  - '13: 30%
  - '14: 26.5%

- **Math**
  - '10: 49.9%
  - '11: 50.3%
  - '12: 52.5%
  - '13: 56.2%
  - '14: 60.8%

- **English**
  - '10: 23.7%
  - '11: 17.2%
  - '12: 15.2%
  - '13: 12.6%
  - '14: 10.7%
Information Service for NAEA

• Developing a Customer- centered, User- oriented Information service of NAEA to utilize the NAEA results and information to reform school education

• Seven year project to build iNAEA system
  - NAEA report service
  - NAEA Focus
  - Customized Information
  - Research support, etc.
  - Related on International results

Call for paper
NAEA/PISA/TIMSS Web-site

https://www.kice.re.kr
https://naea.kice.re.kr
Colleting the demands from others for the research

Annual in-depth reports in different format for the stakeholders

National reports for implementation & in-depth analysis

Our own + Others: PA, TA, PO, MOE, OM, SC, Press

- Seminar/Forum
- Reports in various format
- Experts meetings(KICE in & out)
- Policy meetings

In-depth analysis planning for the next year
Use of NAEA results

**School**
- Plans for Improving Achievement
- Supplementary Plans and Programs
- Information Disclosure
- Managing Student’s Achievement

**Parents**
- Achievement Affirmation
- Improving Learning Methods
- Opportunity to Learn

**Educators**
- Analysis of the Results
- Audits on Accountability
- Policies for Improving Ability
- Support Guidance

**NGOs**

**Offices of Education**
- Plans for Improving Achievement
- Supplement Plans and Programs
- Information Disclosure
- Managing Student’s Achievement

**Student**
- Plan-Base Education
- Self-Evaluation
- Supplement Learning Plans for Improvement
- Request for Learning Support

**Government (MOE, KICE)**
- Educational Policies for Improving Achievements
- Informing School’s Request for Achievement Learning Support
- Support Plans for Improving Achievements

**Result of NAEA**

**Programs by Schools and Financial Support**

**Plan-Base Education**

**Educational Policies for Improving Achievements**

**Supplement Learning Plans for Improvement**

**Self-Evaluation**

**School’s Achievement**
Implications

For Education Policy

- Discover academic achievement levels of each school within the district
- Investigate the differences in academic performance based on the characteristics of schools based on contextual variables
- Support schools via budgets and programs for improving academic achievement
- Examine the effectiveness of the support system
- Discover academic achievement levels of all students in the relevant school year
- Set up educational policies and plans for a support system including criteria, budget, and programs
- Inspect accountability of schools and offices of education
- Improve the national curriculum and methods of teaching and learning
Applying the results to Policies

• Continuously explore the variables that effects the mathematics and science achievement and validate the impact

• Exploration of the reasons of affective achievement of mathematics and science as well as finding the teaching and learning support plan for affective achievement

- Exam free semester
Introduction of Exam-Free semester

• Schools should implement the Exam-Free semester to help students develop self-directed learning skills & attitudes by exploring their aptitudes and career plans as well as experiencing the joy of learning.]

• Middle schools should implement the Exam-Free semester for one semester.

• The concept of an Exam-Free semester
  ▪ In order for students to find their dream and talents, teaching should be changed and centered on discussion, experiences, career exploration, etc.
Applying the results to Policies:

Actualization of happy education

- To enjoy learning
- Change from the excessive workload to happiness and interests in learning to nurture dream and talents of all students
- Change to student-centered lessons such as cooperative learning by optimizing the workload given to the students and by describing competencies in the general guidelines and subjects required in future society
- Strengthen the lessons associated with real-life
Applying the results to Policies

Based on the results such that boys do better than girls -
Exploring more female friendly way to teaching and learning on mathematics and science

• Introducing more female mathematicians or scientist
• Using gender-neutral language in textbooks
• Learning materials to be more interesting for girls
• Keep monitoring the gender difference from NAEA & International assessment
Achievement Standards-based Assessment

Norm-referenced assessment
- Judgement
- Selection
- Grading

Criterion-referenced assessment
- Creating learning opportunities
- To give feedback
Process-fortified Assessment

Process-fortified Assessment gives suitable feedback by collecting various data related to students’ change and development **during the teaching & learning process**, according to ‘assessment plan’ that based on the achievement standards on the **curriculum**

---

**2015 revised-curriculum & process-fortified assessment**

1. Vision of the National Curriculum
2. Principles of Curriculum Design
   
   D. To help students reflect upon their learning by **reinforcing assessment that places emphasis on the process of learning** and to improve the quality of teaching & learning by make use of assessment results.
K-SDG Action Plan

(4.1.1) Continuously participating International comparative study for benchmarking

(4.1.2) Monitoring by the national level of assessment how the national curriculum has been implemented at the school level

(4.1.3, 4.1.4) Supporting teachers at the various ways to enhancing the quality of teachers for primary and secondary education

(4.1.5, 4.1.6) Continuous investigation and support to reduce the percentage of over-age and dropout rate

(4.1.7 & extra) Expanding free and compulsory education guaranteed in legal frameworks and educational development cooperation
Applying PISA results to Policies from international perspectives

Strong Performers and Successful Reformers in Education

Lessons from PISA for Korea
Thank You

chojimin@kice.re.kr