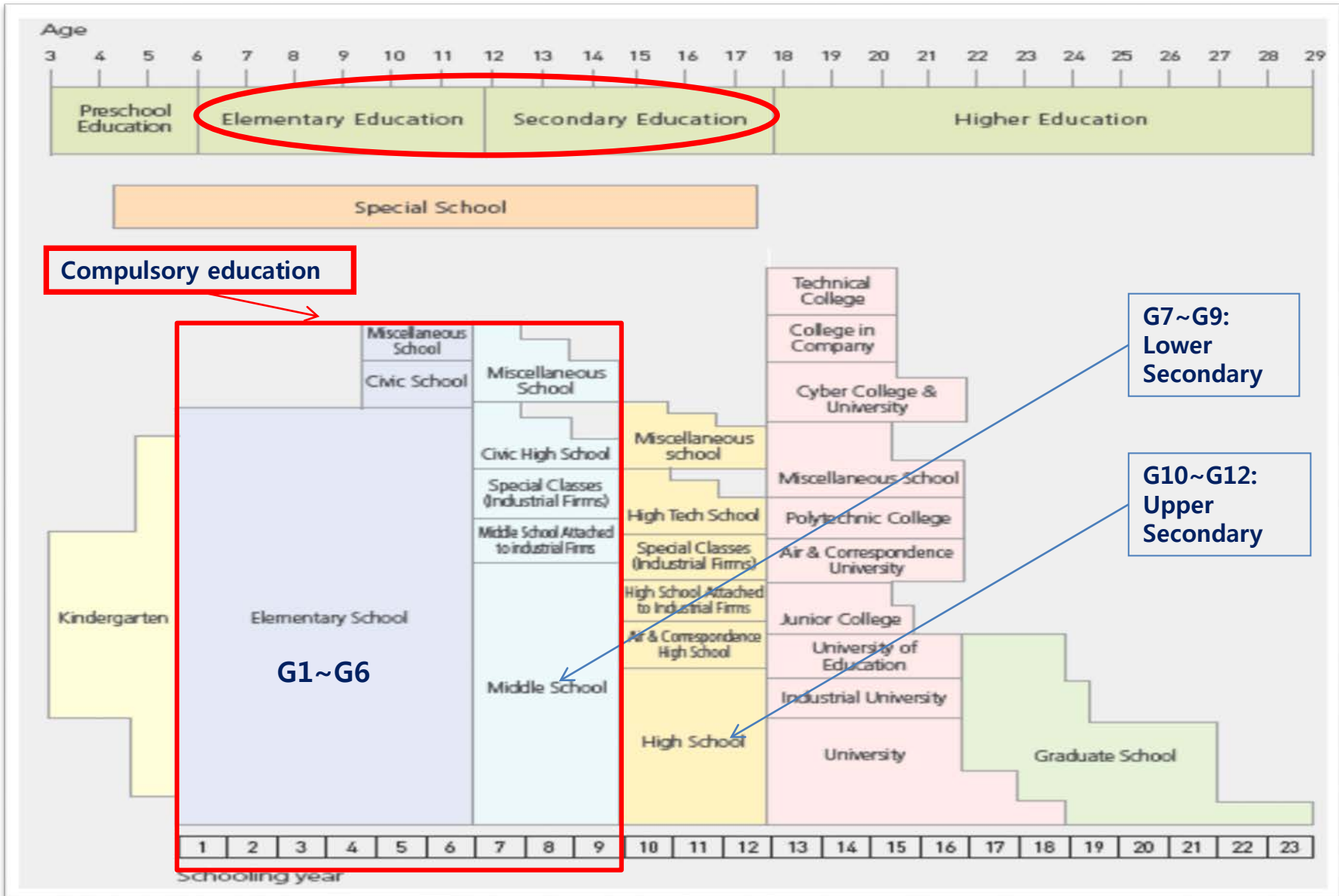# 4.1 Primary and Secondary Education in Korea

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

Contents

Reedited contents previously presented at KICE

Education System in KOREA

Organization of Educational Administration

Central Level
Ministry of Education

Great – Sphere Level
Metropolitan and Provincial Office of Education

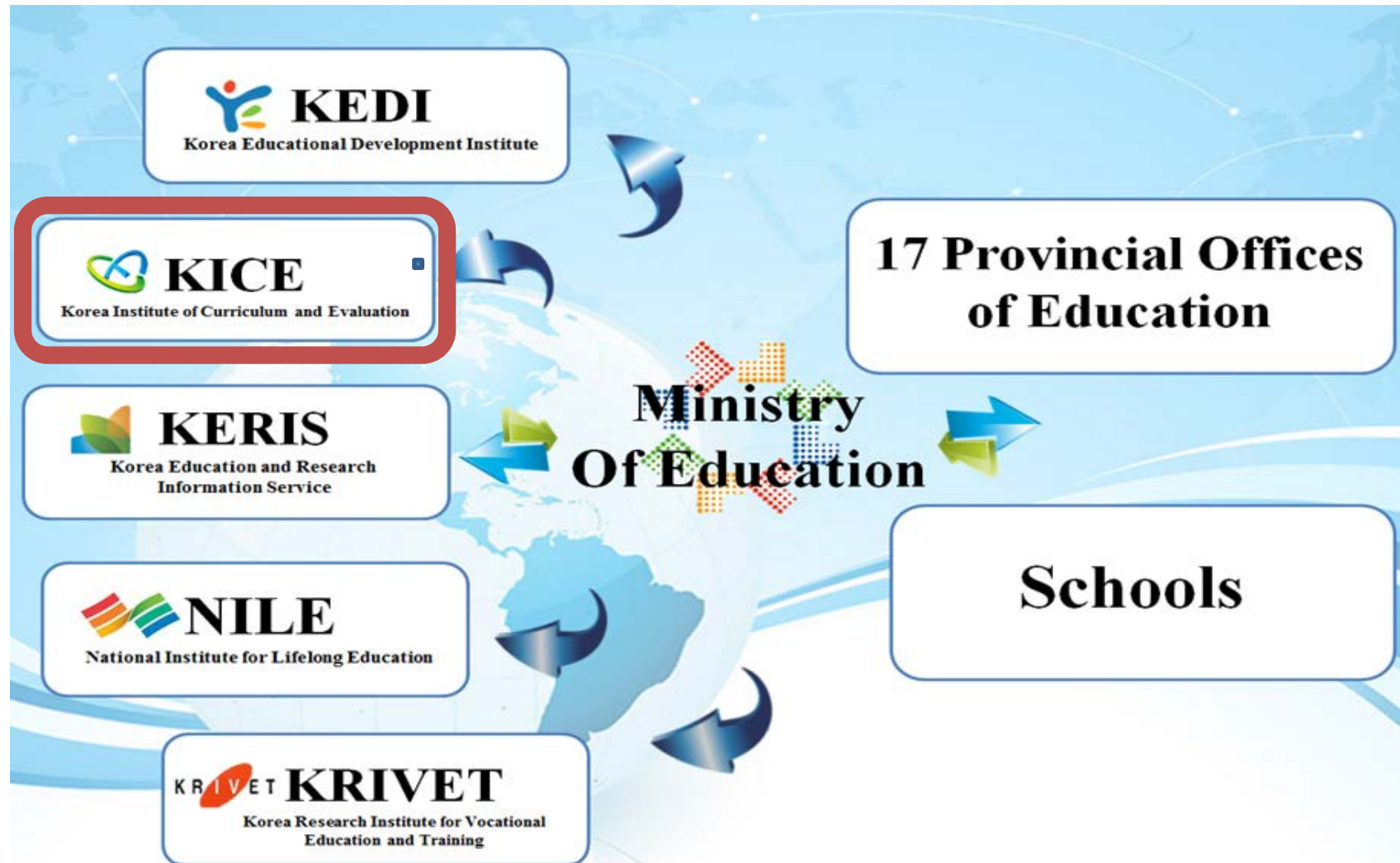| Metropolitan (8)	Seoul, Pusan, Taegu, Incheon, Kwangju, Taejeon, Ulsan, Sejong
Provincial (9)	Gyunggi, Kangwon, Chungbuk, Chungnam, Chonbuk, Chonnam, Kyungbuk, Kyungnam, Jeju

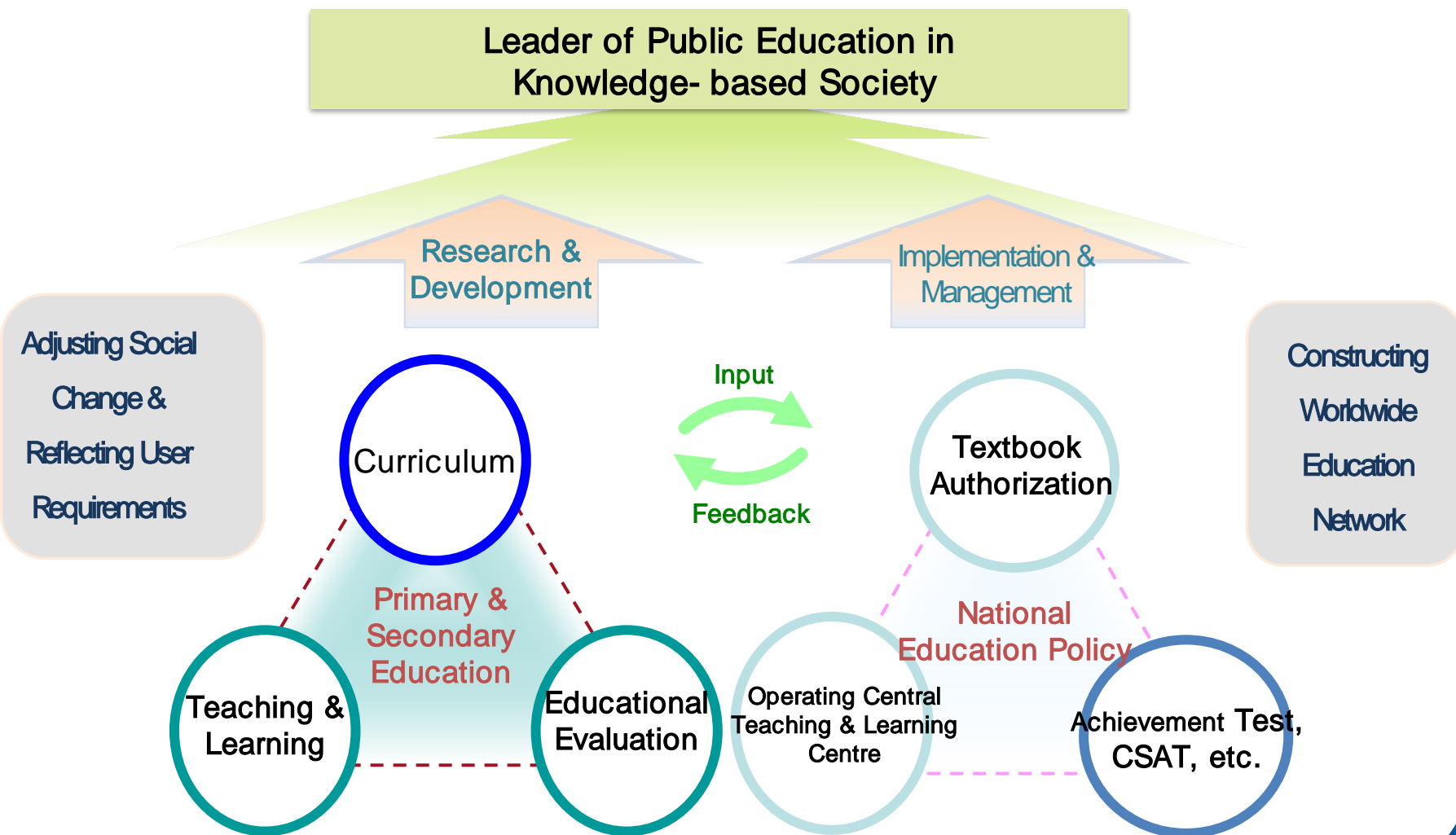| Base Level |
|---|
| 187 District Office of Education |

Governmental Educational Research Institutions

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

Adjusting Social Change & Reflecting User Requirements

Constructing Worldwide Education Network

Curriculum

Input

Feedback

Textbook Authorization

Primary & Secondary Education

Teaching & Learning

Educational Evaluation

National Education Policy

Operating Central Teaching & Learning Centre

Achievement Test, CSAT, etc.

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

Thematic Indicator Framework

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

| Learning	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	Yes
	2.	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	
Completion	3.	Gross intake ratio to the last grade (primary, lower secondary)	
	4.	Completion rate (primary, lower secondary, upper secondary)	
Participation	5.	Out-of-school rate (primary, lower secondary, upper secondary)	
	6.	Percentage of children over-age for grade (primary, lower secondary)	
Provision	7.	Number of years of (i) free and (ii) compulsory primary and secondary education guaranteed in legal frameworks	

Percentage of students at each level in PISA 2015
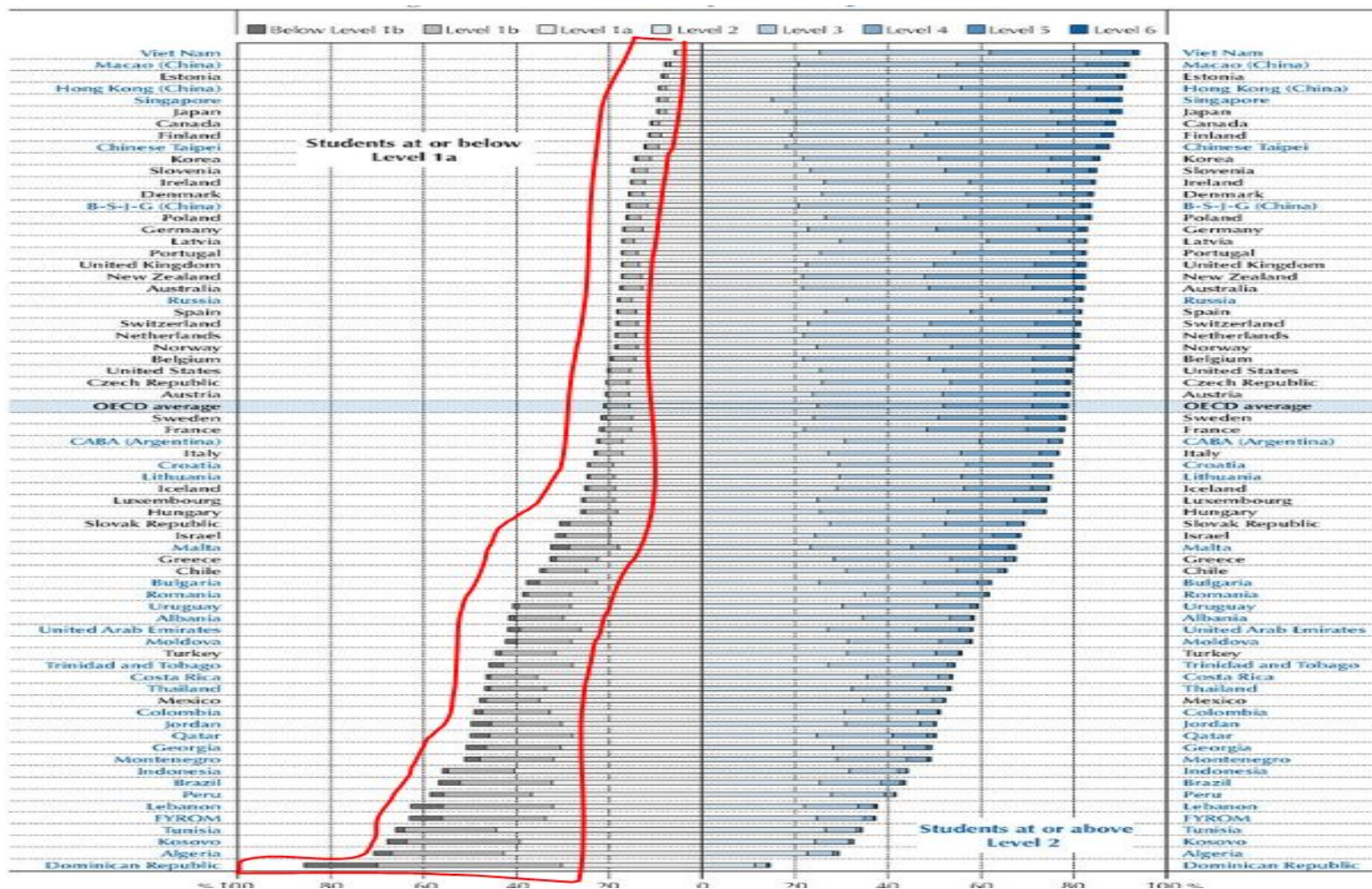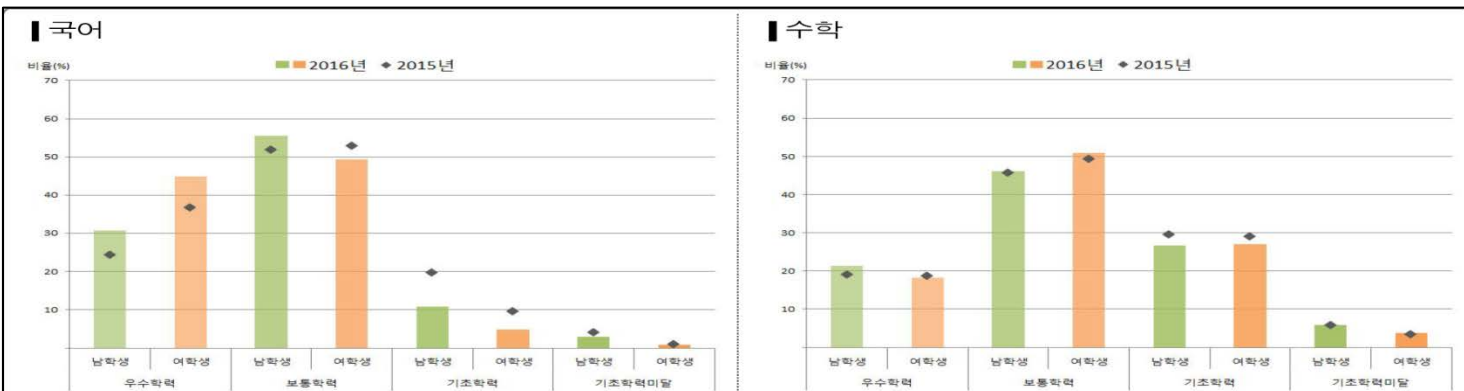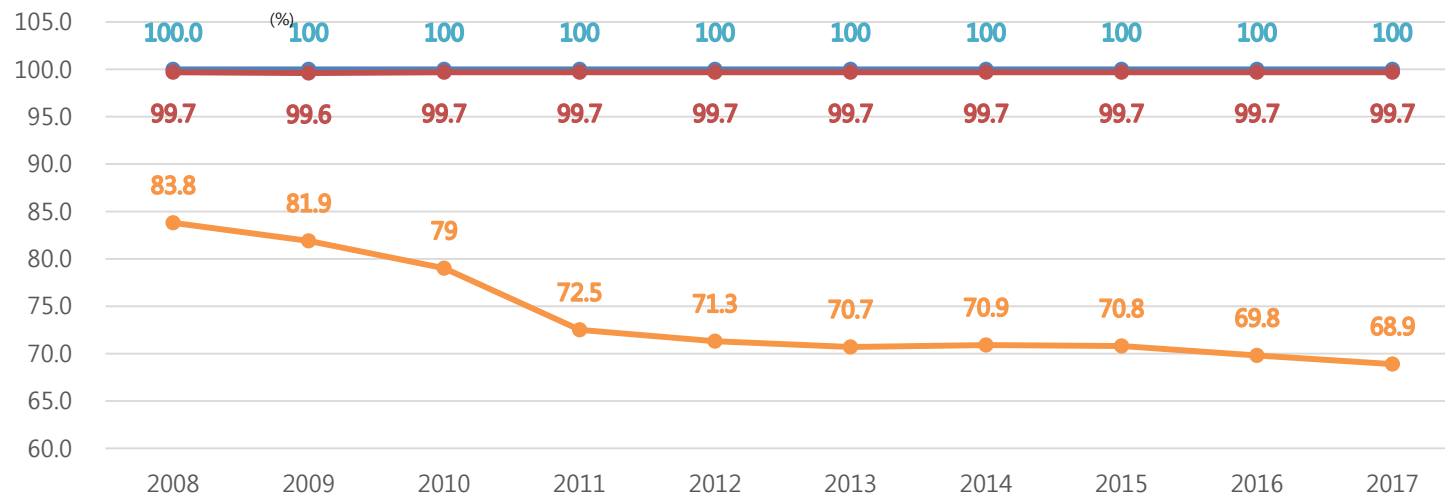
NAEA Results

G6
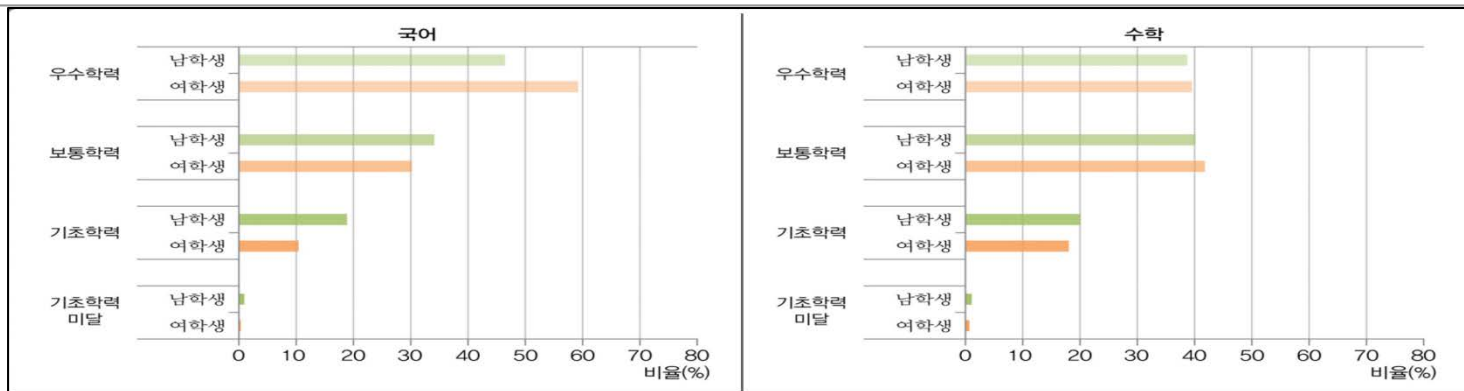
G9
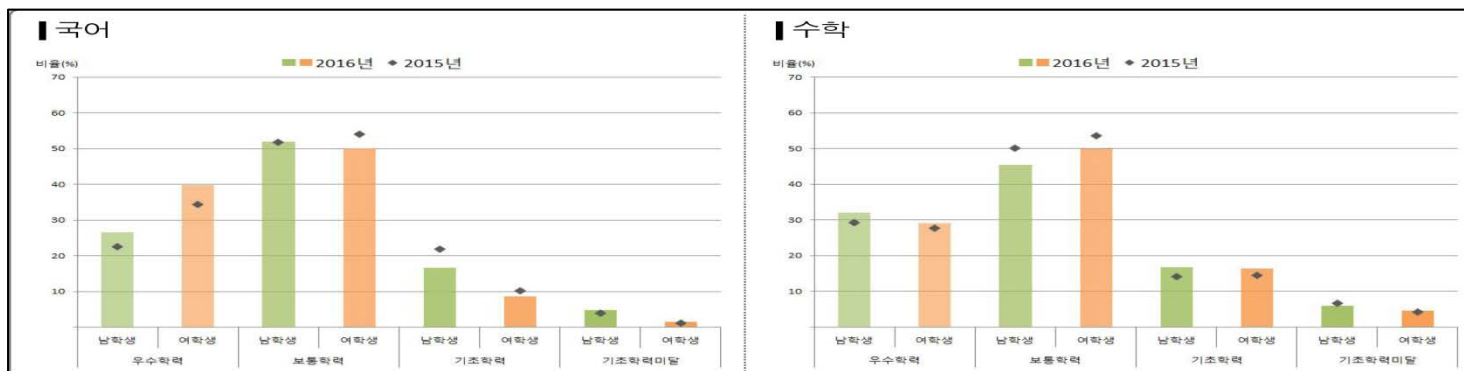
G11

Gross intake ratio to the last grate at Primary & Secondary school

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Primary >Lower Secondary	100.0	100	100	100	100	100	100	100	100	100
Lower>Upper Secondary	99.7	99.6	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
Upper Secondary>Higher	83.8	81.9	79	72.5	71.3	70.7	70.9	70.8	69.8	68.9

Reference: Ministry of Education(2018). E-national indicator

Completion Rate
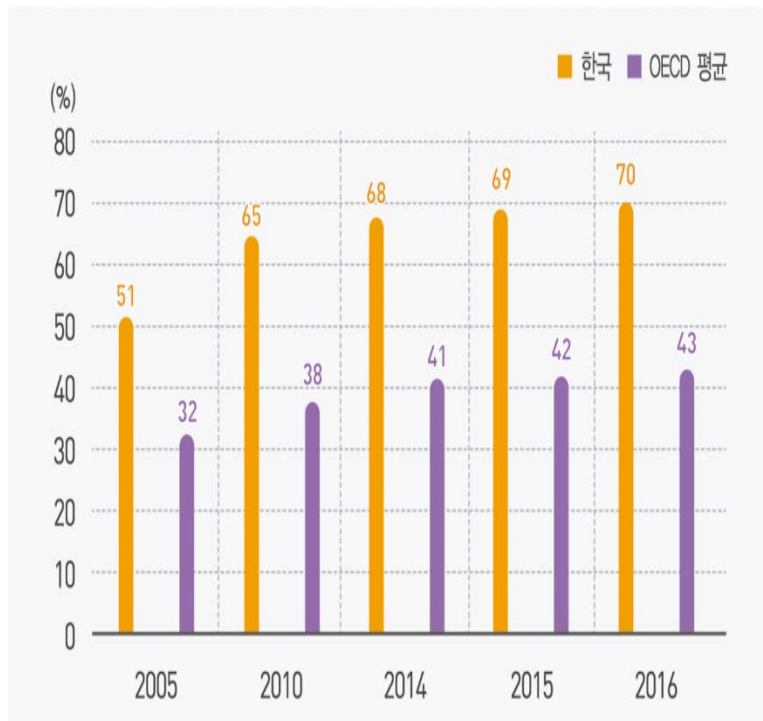
(단위 : %)

구 분		고등학교과정 이수율					고등교육 이수율				
		25-64세	25-34세	35-44세	45-54세	55-64세	25-64세	25-34세	35-44세	45-54세	55-64세
2005 (2007)	한국	76	97	88	60	35	32	51	36	18	10
	OECD 평균	68	77	71	64	54	26	32	27	24	19
2010 (2012)	한국	80	98	95	73	43	40	65	47	27	13
	OECD 평균	74	82	78	72	62	31	38	33	28	23
2014 (2015)	한국	85	98	97	84	54	45	68	56	33	17
	OECD 평균	76	83	80	74	66	33	41	38	30	25
2015 (2016)	한국	*	*	*	*	*	45	69	*	*	18
	OECD 평균	*	*	*	*	*	35	42	*	*	26
2016 (2017)	한국	*	*	*	*	*	*	70	*	*	*
	OECD 평균	*	*	*	*	*	*	43	*	*	*

Dropout Rate
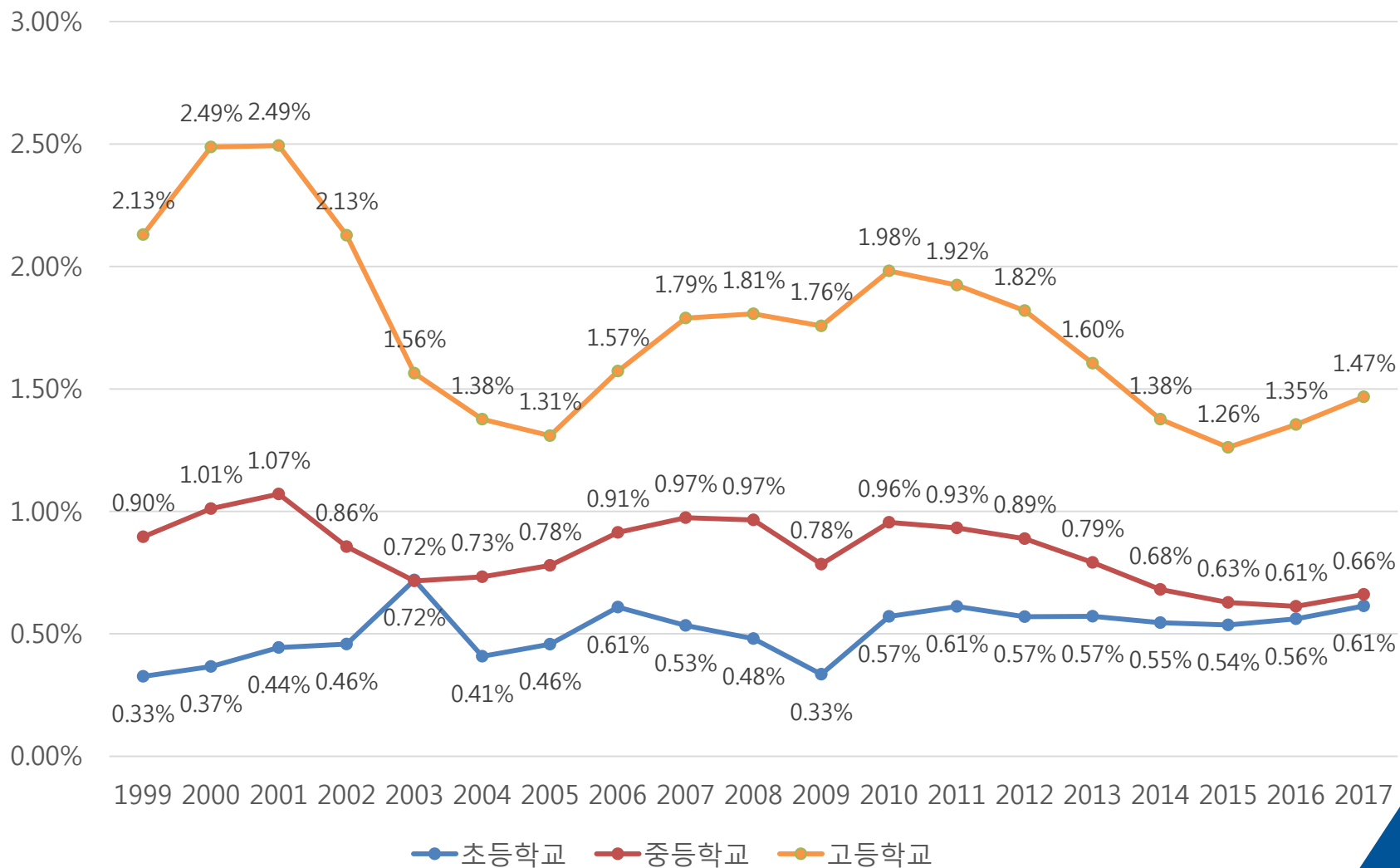
Percentage of children over-age for grade

해당 학년의 과령(over-age) 아동 비율
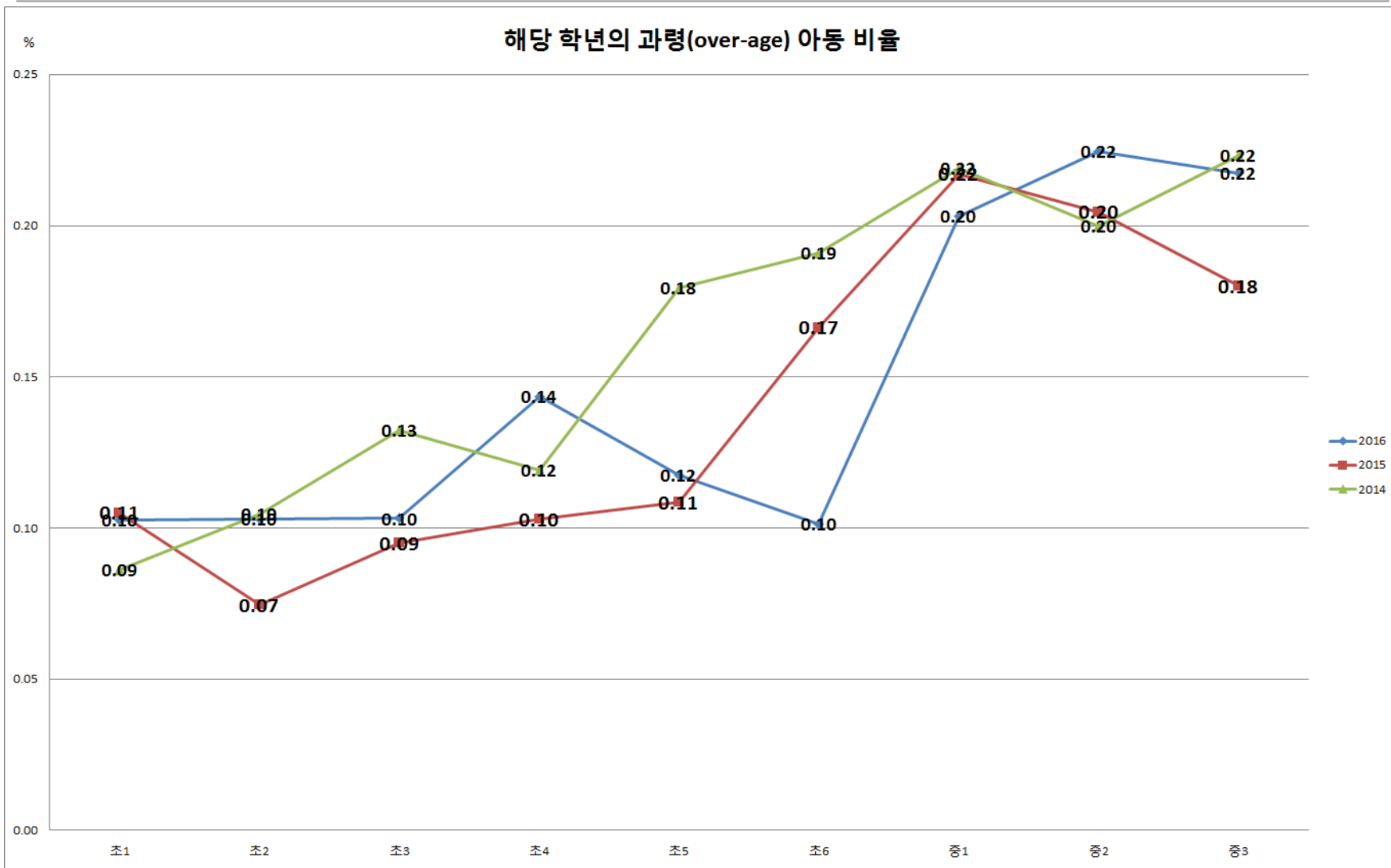
Free and Compulsory years in legal framework

Country	School System	Compulsory	Free at upper secondary	Compulsory up to upper secondary
Australia	6-3-3	K+5~17(12years)	○	○*
Austria	4-5-3(4)	6~15(10years)	○	X
Denmark	9-3	6~16(10years)	○	X
France	5-4-3	5~15(10years)	○	X
Germany	4-5-3	6~16 혹은 18(10~12years)	○	○
Japan	6-3-3	6~15(9years)	○	X
U.K	6-5-2	5~18(13years)	○	○
U.S.A	5-3-4	K+6~17(12years)	○	○
Republic of Korea	6-3-3	6~15(9years)	X	X

National Curriculum

National curriculum

The Ministry of Education

Organization and implementation guidelines

Provincial Educational Administration

School –based curriculum

Schools
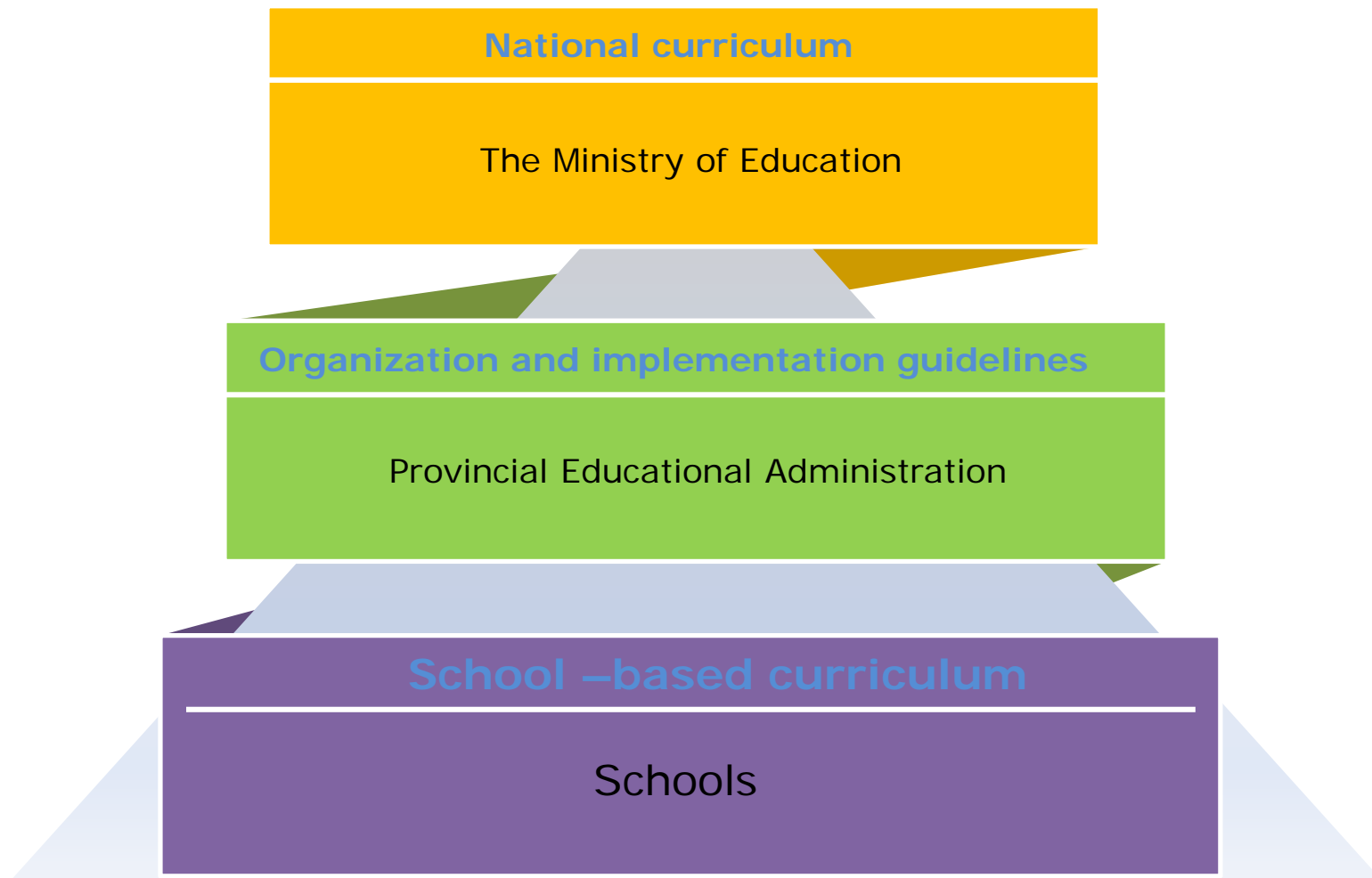
History of National Curriculum

1954~1997
(1st~6th)

1997~2007
(7th)

2007~2009
(2007 revision)

2009~2017
(2009 revision)

**2018~
(2015 revision)**
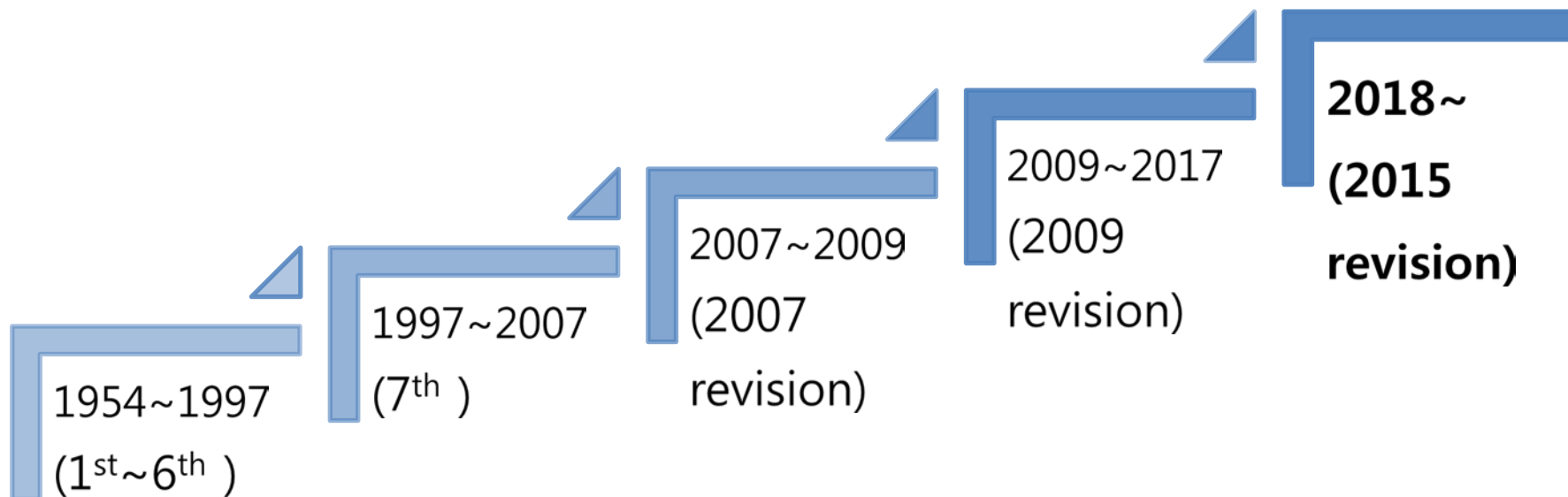
➡ Related website

- 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

Self-management competency

- Competency to lead one's life with self-identity & confidence based on basic abilities and qualifications necessary for life and career

Knowledge-information processrng Skills

- Skills to process and utilize knowledge and Information from diverse fields to solve problems in reasonable ways

Creative thinking skills

- Skills to process and utilize knowledge and information from diverse fields

Key competencies

Aesthetic-emotional competency

- Competency to find & appreciate the meaning and values of life, based on an empathetic understanding

Communi-cation skills

- Skills to respectfully listen to opinions of others and effectively express ones' thoughts and feelings in diverse situations

Civic competency
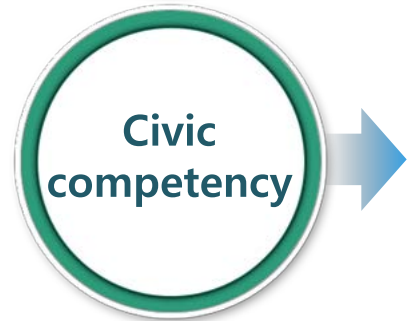
- Competency to actively participate in improving the community with values and attitudes required to be a member of local, national, and global communities

Subjects in national curriculum: Elementary schools

Categories		Grades 1-2	Grades 3-4	Grades 5-6
Subject Clusters	Korean Language	Korean Language	408	408
	Social Studies/ Moral Education	448	272	272
		Mathematics		
	Mathematics	256	272	272
	Science/ Practical Arts	Moral Life	204	340
		128		
	Physical Education	Inquiring Life	204	204
	Arts (Music/Fine Art)	192	272	272
		Pleasant Life		
	English	384	136	204
Creative Experiential Activities		336 (Safe life: 64)	204	204
Total Instructional Hours		1,744	1,972	2,176

Subjects in national curriculum: Middle schools

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

*one unit of classroom hour is 45 minutes
   Chinese characters and Classics, Environment, Foreign languages, Health, Career education

Subjects in national curriculum: High schools

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

One unit of instructional hours is 50 minutes.

Filling the gap

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

ICCS

PASEC

Uwezo

ASER

SEA-PLM

LLECE

SACMEQ

PILNA

... 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

Purpose	Aims to provide participating countries with a chance to investigate students' performance in cognitive domains and educational backgrounds which influence student achievement	
Target	15 years old	
Cycle	3 years	
Assessment Instrument	Test	Reading, Mathematics, Science, Innovative Domain
	Questionnaire	Student, School, Parent, Teacher
Assessment Mode	Computer-based Assessment (CBA), [Paper-based Assessment (PBA)]	

PISA Domains

|		PISA 2000	PISA 2003	PISA 2006	PISA 2009	PISA 2012	PISA 2015	PISA 2018
Cognitive	Reading	○	○	○	○ 🖥 (+)DRA	○ 🖥 (+)DRA	🖥	🖥
	Mathematics	○	○	○	○	○🖥 (+)CBAM	🖥	🖥
	Science	○	○	○ 🖥 (+)CBAS	○	○	🖥	🖥
	Innovative Domain	-	○ (PS)	-	-	◎ 🖥 (CBAPS)	🖥 (CPS)	🖥 (GC)
Survey		Student Principal (+)Parent	Student Principal (+)Parent	Student Principal (+)Parent	Student Principal (+)Parent	Student Principal (+)Parent	Student Principal (+)Parent (+)Teacher	Student Principal (+)Parent (+)Teacher
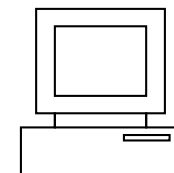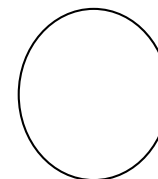
PISA: the national context

- 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:
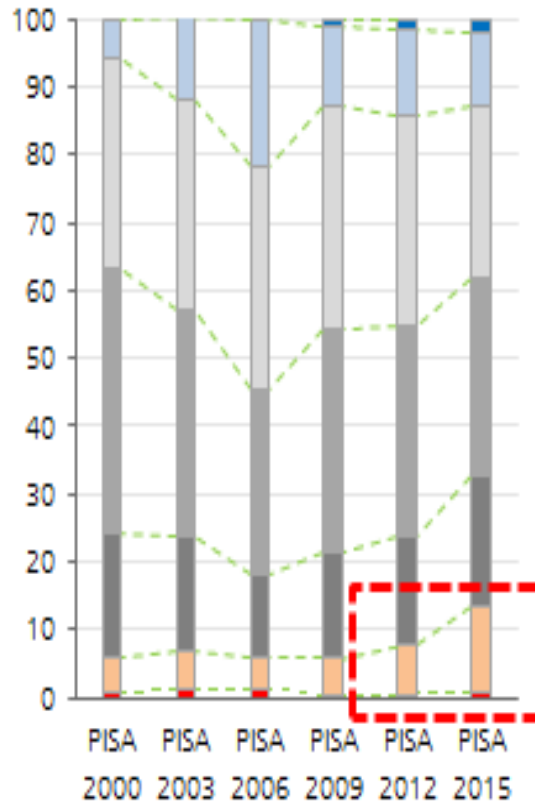
-Many people concerns what will happen at PISA 2018

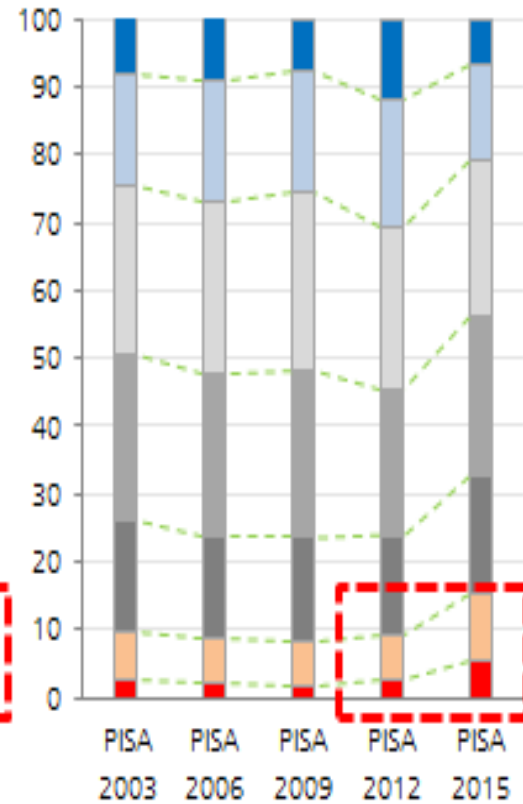# PISA Results Analysis: Trends in Korea's performance
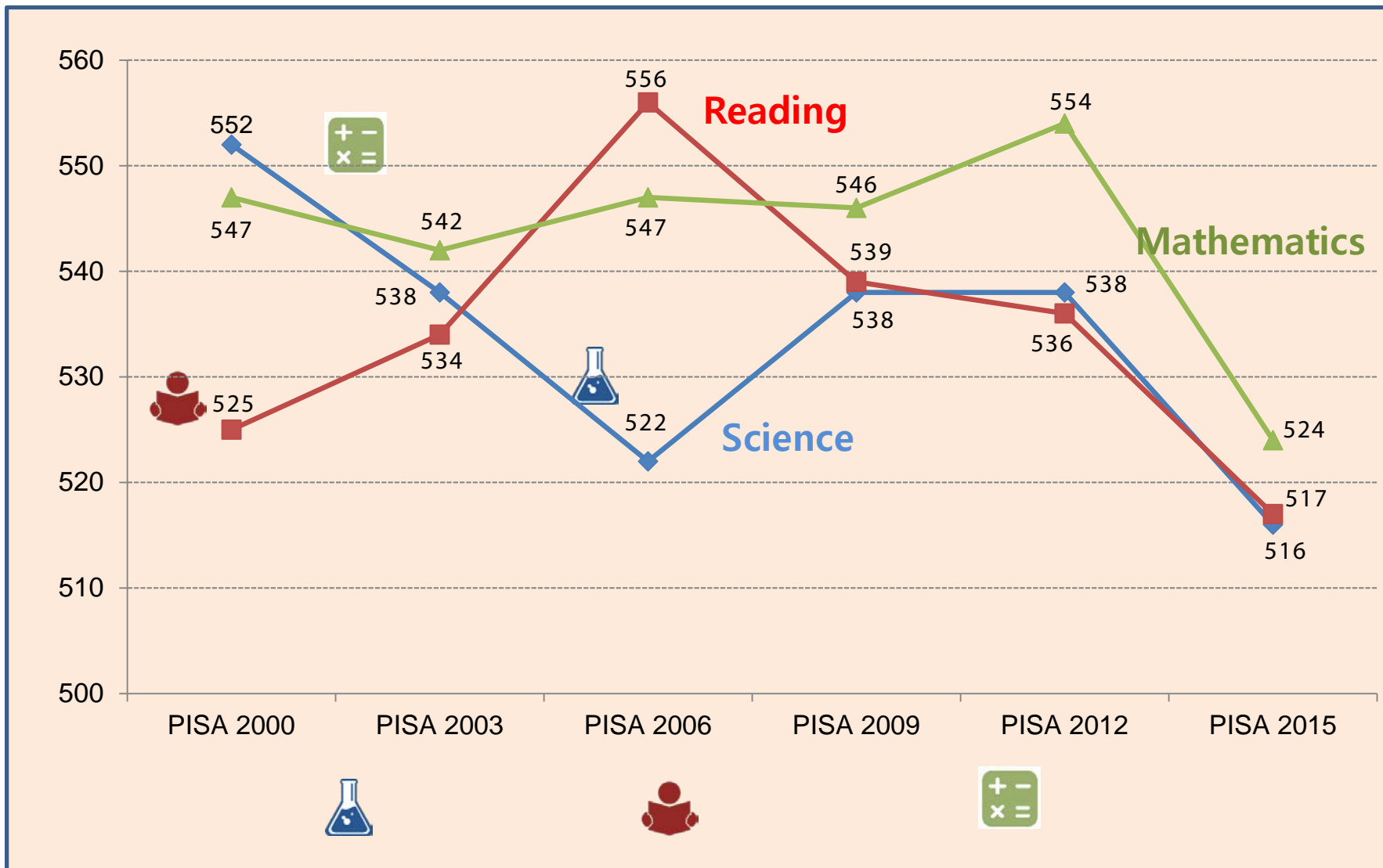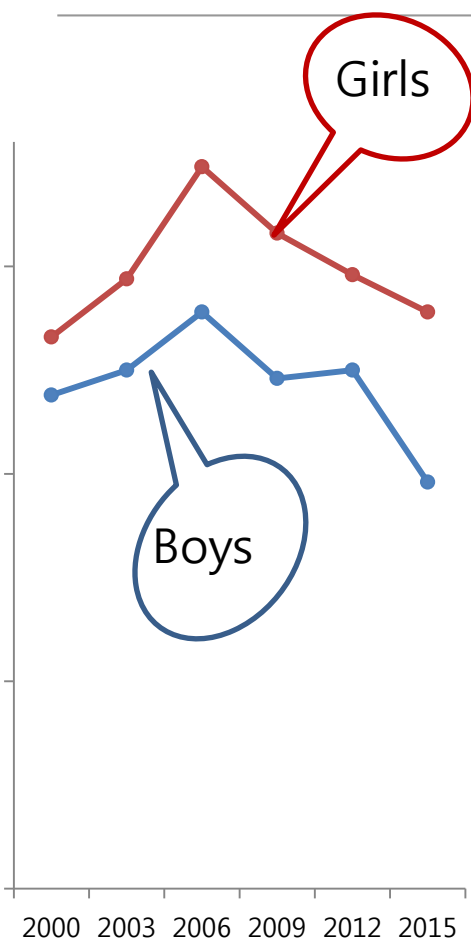
Main Results and Concerns
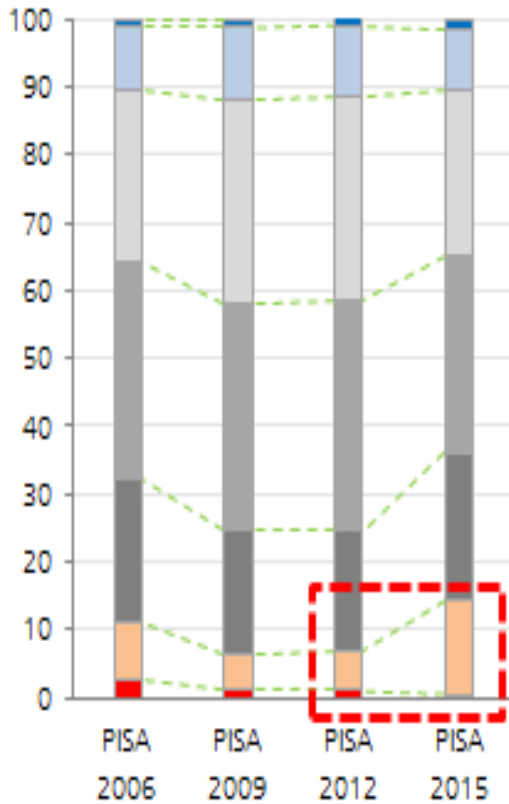
Reading **Mathematics** **Science**

Main Results and Concerns
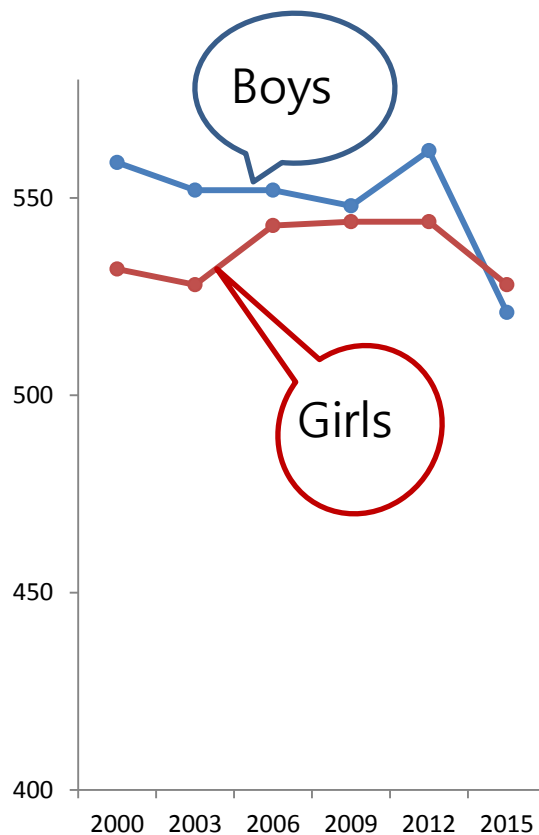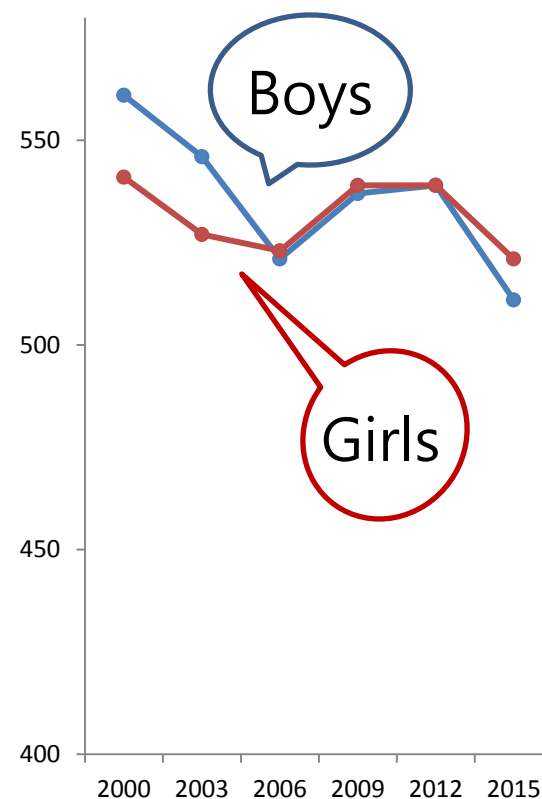

Reading   **Mathematics**   **Science**

Students' CPS competencies across countries

Country					
Japan	1.2	8.9		14.0	
Singapore	1.6	9.7		21.4	
Korea	1.5	11.4		10.4	
Hong Kong	1.9	11.7		13.0	
Macao	2.2	12.7		11.1	
Estonia	1.8	13.5		12.2	
Finland	3.4	14.7		14.4	
Canada	3.4	15.0		15.7	
New Zealand	3.8	15.9		15.8	
Australia	4.3	15.6		15.3	
OECD	5.7	22.4		7.9	

% 40 20 0 20 40 60 80 100

■ Level 1 ■ Below Level 1 ■ Level 2 ■ Level 3 ■ Level 4

Source: OECD, PISA 2015 Database, Figure V.3.LEVELS.
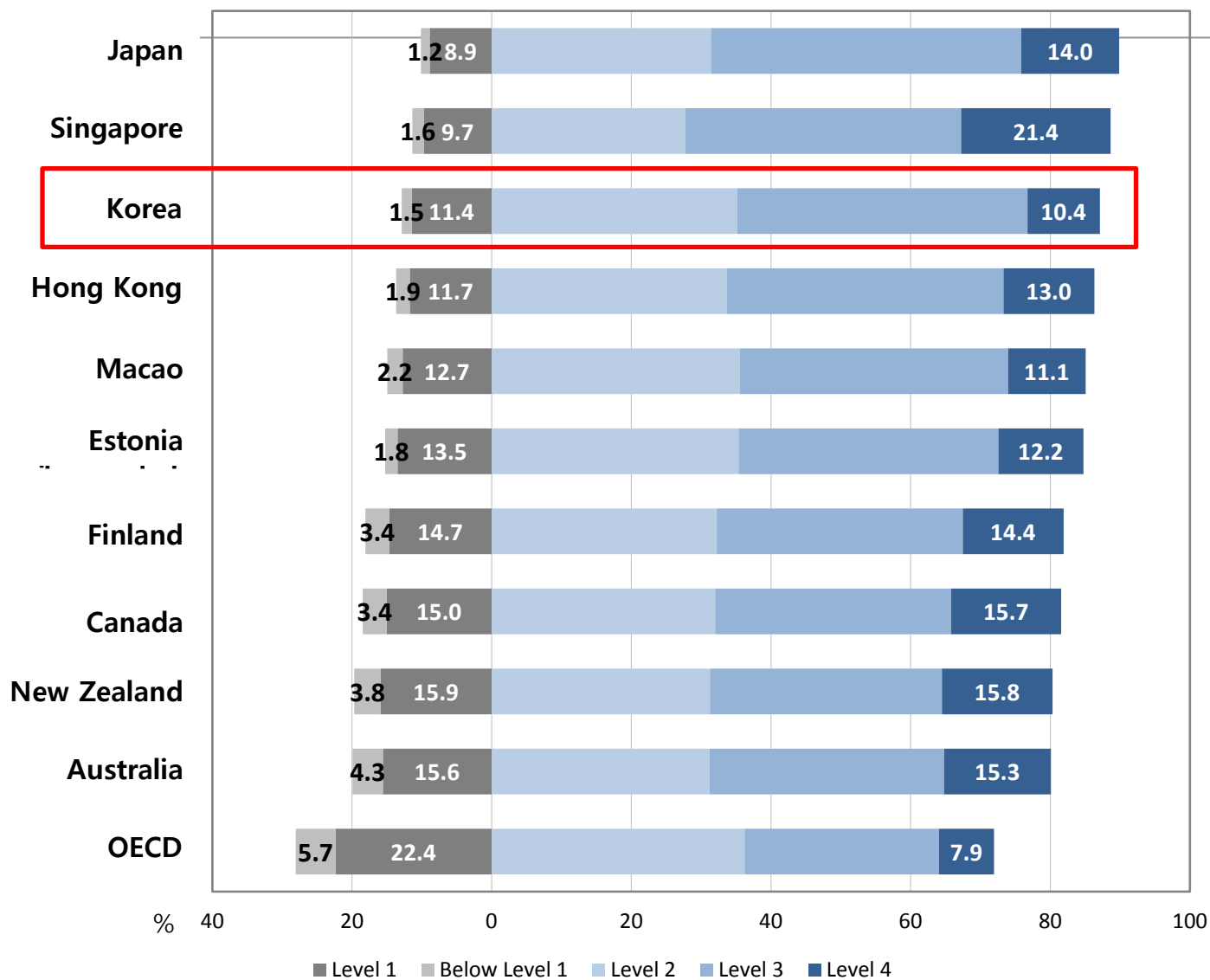
Media, Press said….

"기초학력 미달은 '혁신학교-**하향평준화 교육**'이 원인"... 교육감 후보들, '조...
뉴데일리 | 3일 전 |

곽 전 교장은 기초학력미달의 핵심 원인은 "**하향평준화** 철학을 가진 교육정책 때문"이라며, "교육을... 박선영 교수는 "세계 70개국이 공동조사하는 국제학업성취도 평가기관 **PISA**의 통계를 보면 과거에는 우리나라...

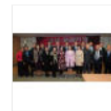서울교육감 우파 후보 4人, "전교조로 병든 서울교육 처방전 내게 있다"
뉴데일리 | 2일 전 |

사탕발림과 **하향평준화** 정책을 펼치며 정치논리로 풀려고 한다"고 했다. 이어 곽 후보는 "한국 교육이 대학... 박선영 후보는 "세계 70개국이 조사하는 국제학업성취도평가(**PISA**)에서 과거에는 우리 학생들이 거의 탑이었다....

최명복 "조희연이 무너트린 서울교육, 내가 바로잡겠다"
뉴데일리 | 2018.04.09. |

" 그는 서울교육의 가장 큰 문제로 '교육의 **하향평준화**'를 꼽았다. 특히 그는, 자사고·외고를 '귀족학교'로... 최 예비후보는 "한국이 **PISA**(국제학업성취도평가) 하위권으로 떨어졌는데, 인성교육이 바탕이 돼야 다시...

'교육에 드리운 사회주의 그림자' 국가 미래 暗雲 뉴데일리 | 2018.03.16. |

2015국제학업성취도평가(**PISA**)에서 대한민국 고1 학생들이 역대 최저 성적을 기록했는데 동아시아 국가... 오 교장은 "지난 1974년부터 도입된 고교**평준화** 제도는 교육의 **하향평준화**, 경쟁 말살, 우수학생 학습의욕 상실 등...

박경미 의원, 국회서 'PISA 2015 및 TIMSS 2015 결과 분석 토론회' 개최 공감신문 |

뉴스 더보기 ›

EBS1

NEWS

OECD 학업성취도 높지만··하향평준화 '우려'
NEWS 교육 OECD 학업성취도 높지만··하향평준화 '우려'

학업성취도 하향 '우려'

CAFE

최수일 대표 / 사교육걱정없는세상 수학사교육포럼
정규 수업의 질을 높여야 하는데 그것은 곧
참여와 활동 중심의 수업을 이끌어내는 거라고 생각합니다

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
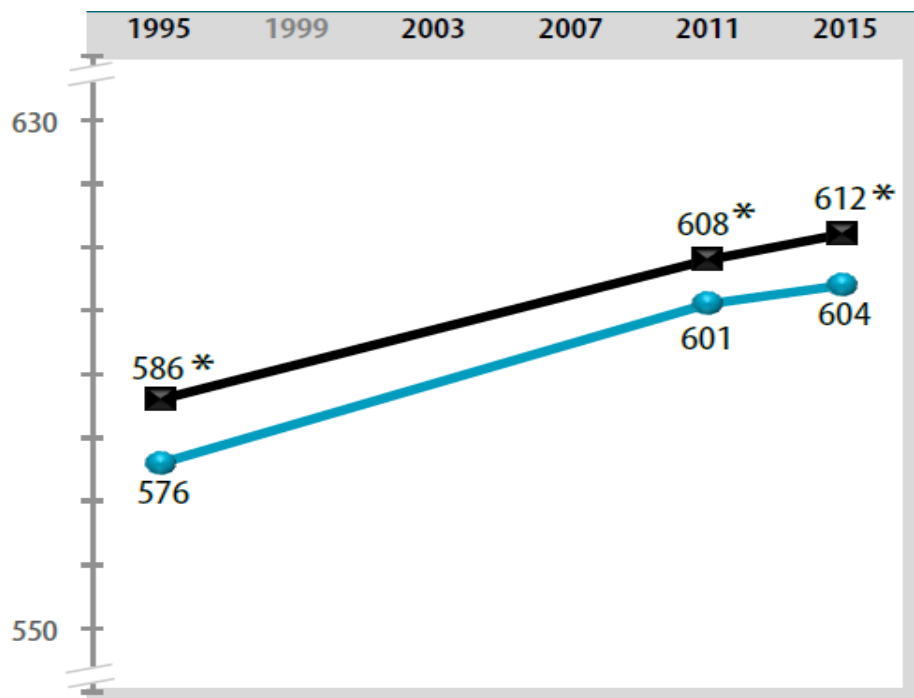
Science, 4th grade
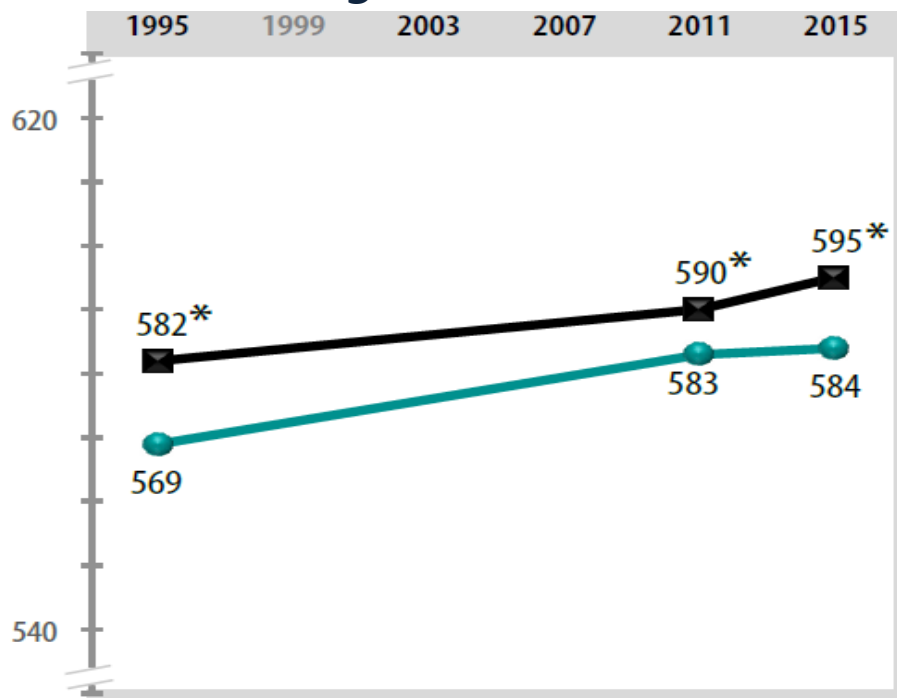
Female ●——   Male ■——

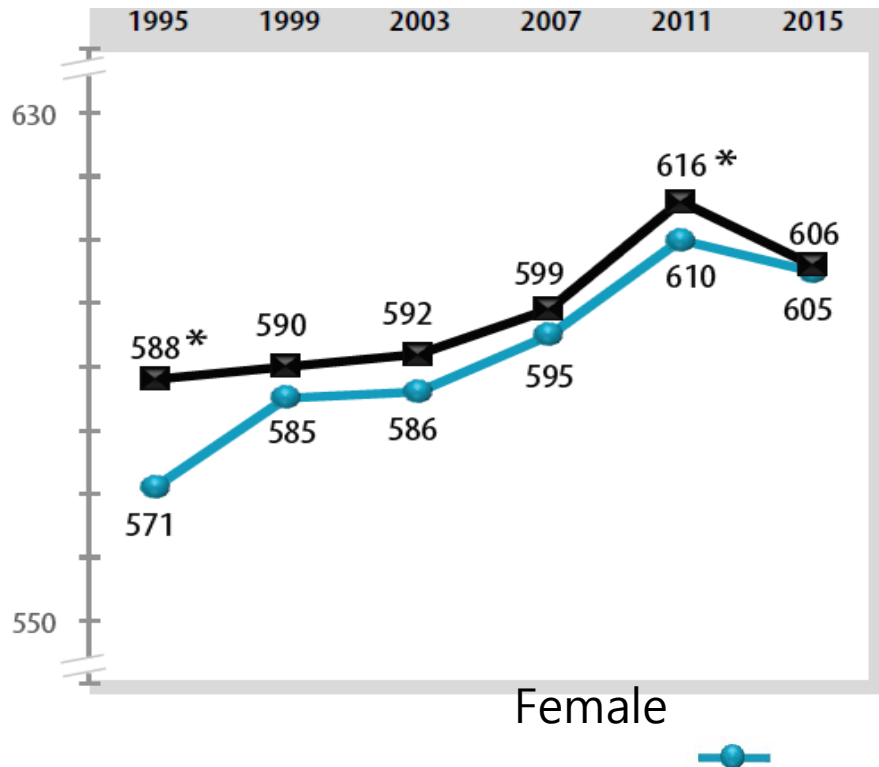※ **Math: 581(T95, 2nd place) → 605(T11, 2nd place) → 608(T15 3rd place)**
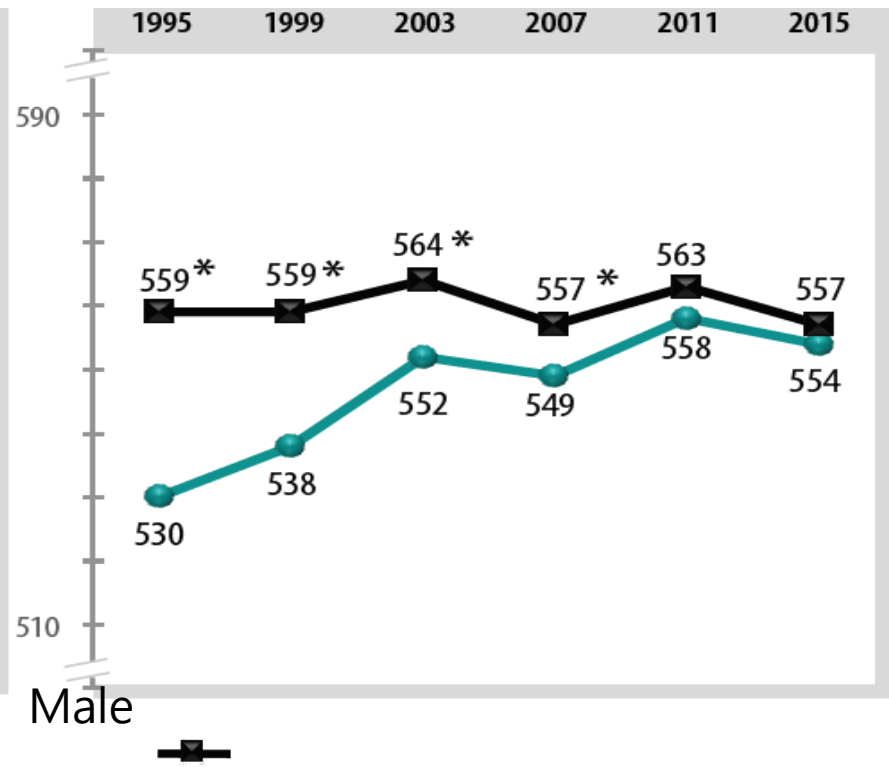
※ **Science: 576(T95, 1st place) → 587(T11, 1st place) → 589(T15, 2nd place)**

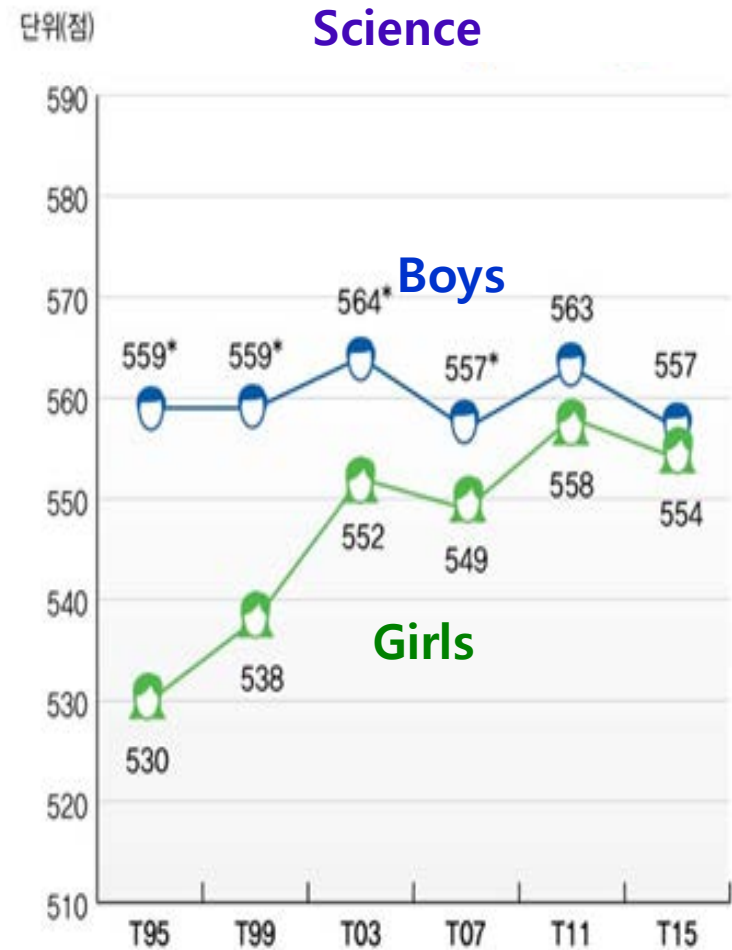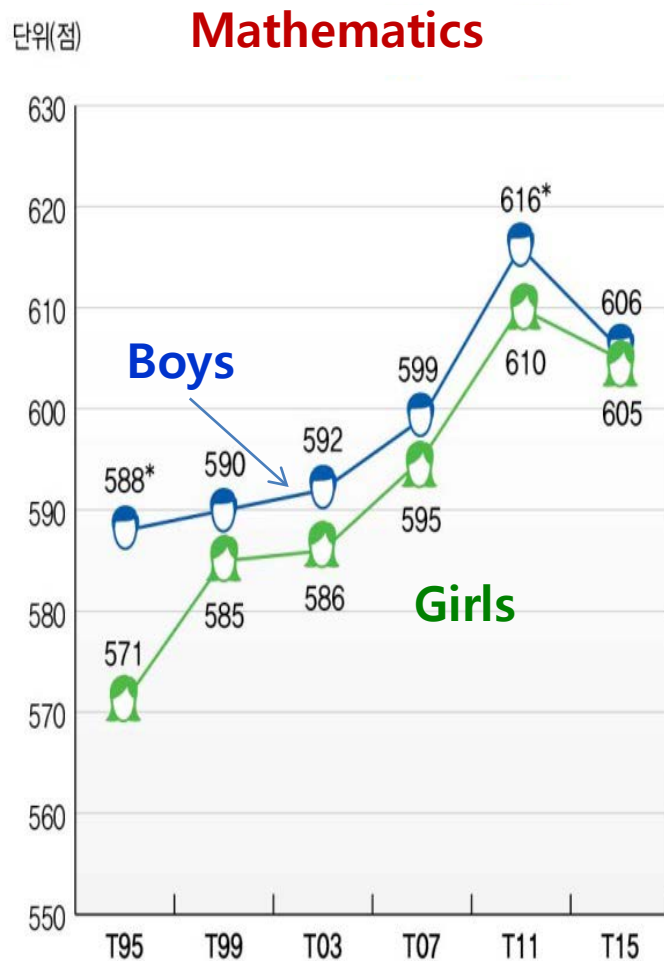# Korea's Achievement in TIMSS, 8th grade

Math, 8th grade

1995	1999	2003	2007	2011	2015

630

616 *
606
599
588 *   590   592   610   605
595
585   586
571

550

Science, 8th grade

1995	1999	2003	2007	2011	2015

590

564 *   563
559 *   559 *   557 *   557
558
552   549   554
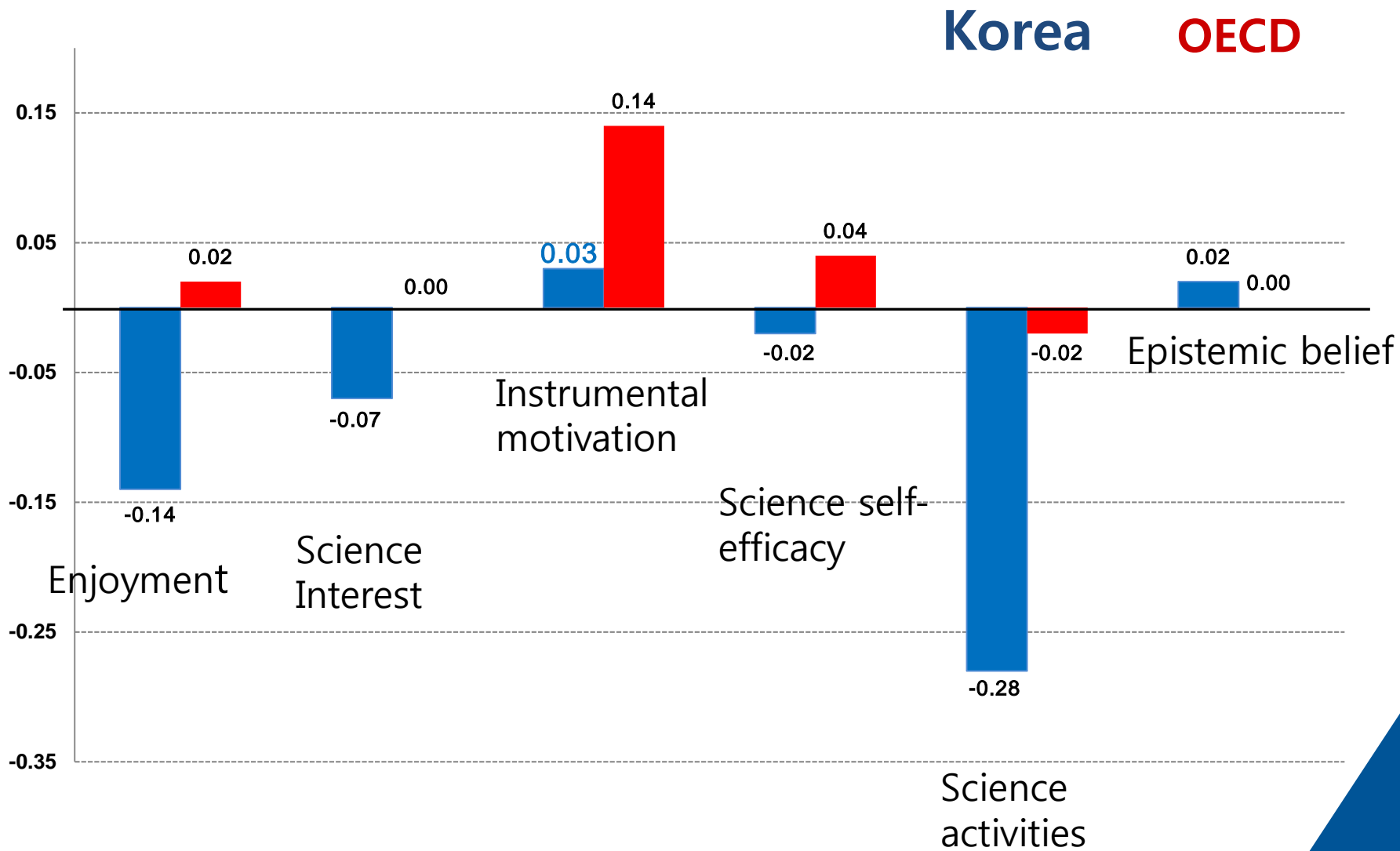538

530

510

Female   Male

※ **Math: 1st~3rd place since TIMSS 1995**

※ **Science: 3rd ~5th place since TIMSS 1995**

Gender Difference in TIMSS G8

Main results and concerns

Life satisfaction among 15-year-old students

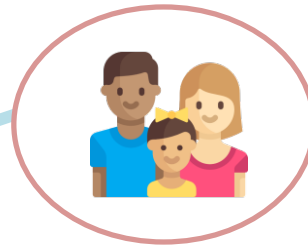Legend: ■ Very satisfied   ■ Satisfied   ■ Moderately satisfied   ■ Not satisfied
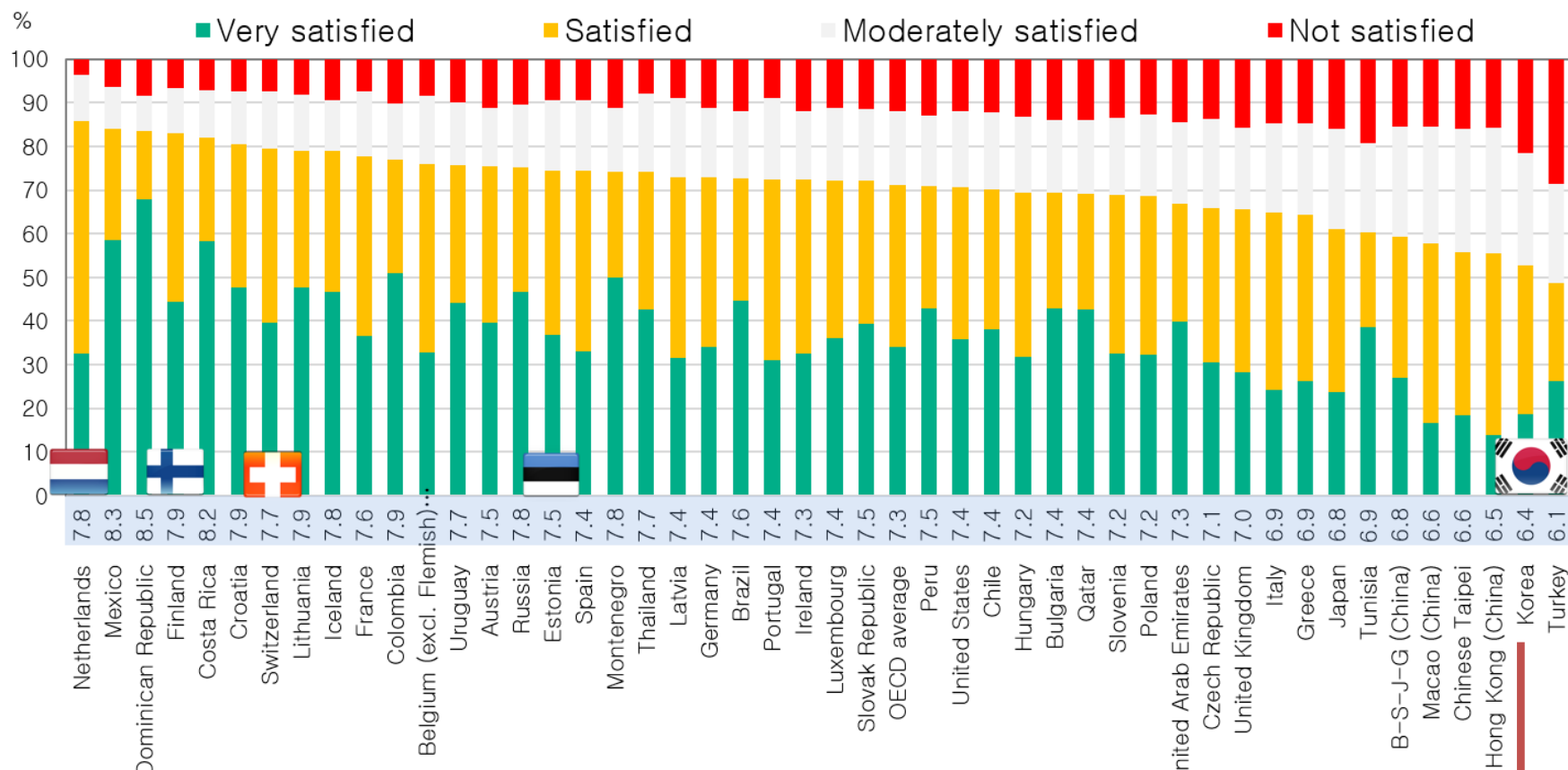
Factors that predict poor life satisfaction:
• Anxiety with school work

Communicate with & for in what way..

Issue paper,
Position paper,
national reports,
summary of policy
recommendations,
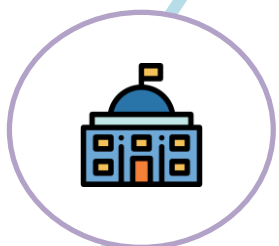
☞ **Parent Survey**

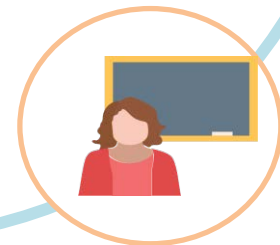**Parent**

General public

press conference, TV, newspapers

**Government
MOE/PO**

Student

Leaflets

School

Teacher

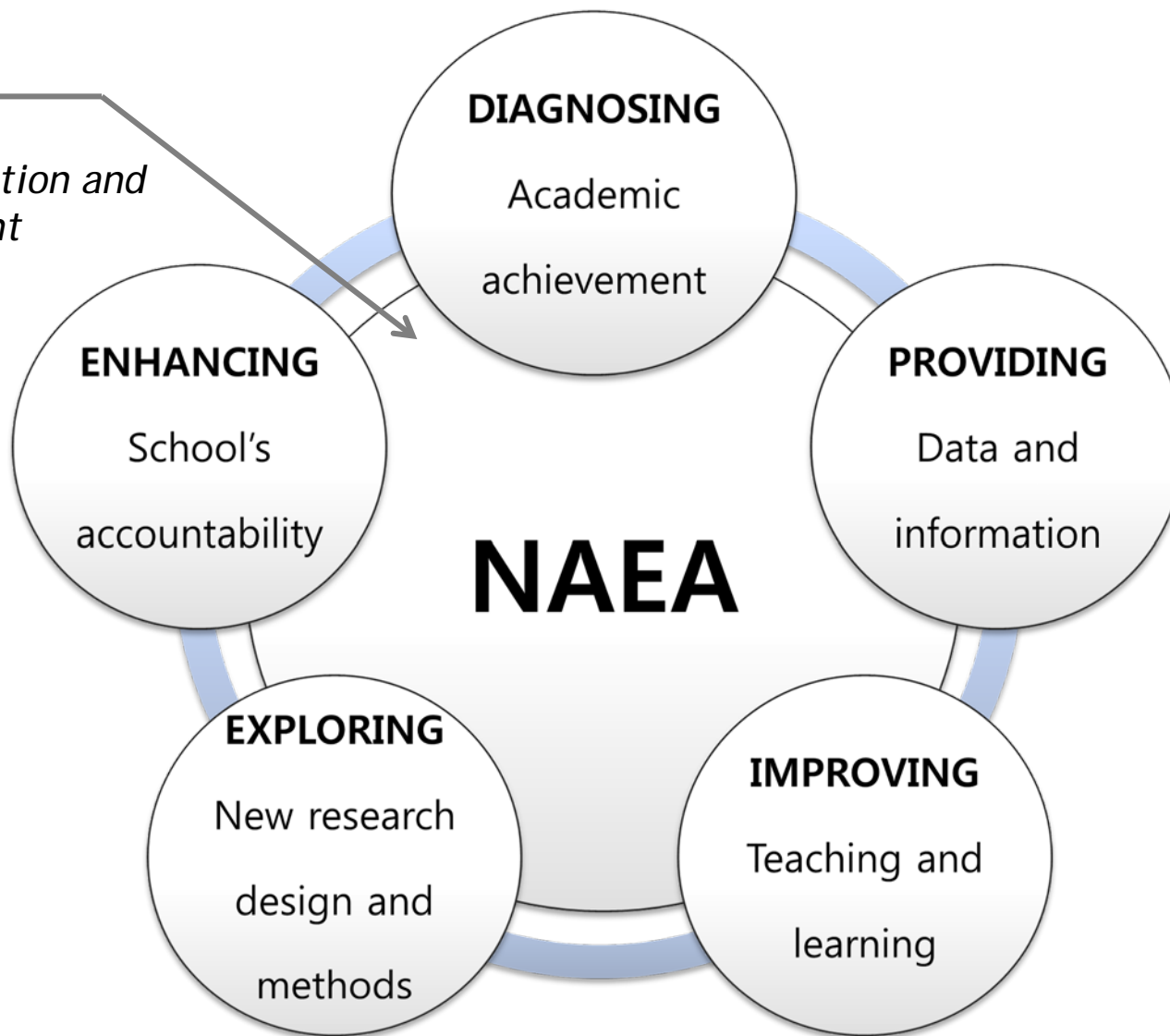Abstracts, Leaflets, in service training

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

Assessment Framework of NAEA

GRADE	Grade 9 , 11
SUBJECT	Korean,, Mathematics, English Social Studies, Science (9th sample only) * Background information
TEST	**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
Questionnairs	Students, Teachers, Schools(Principals)

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)
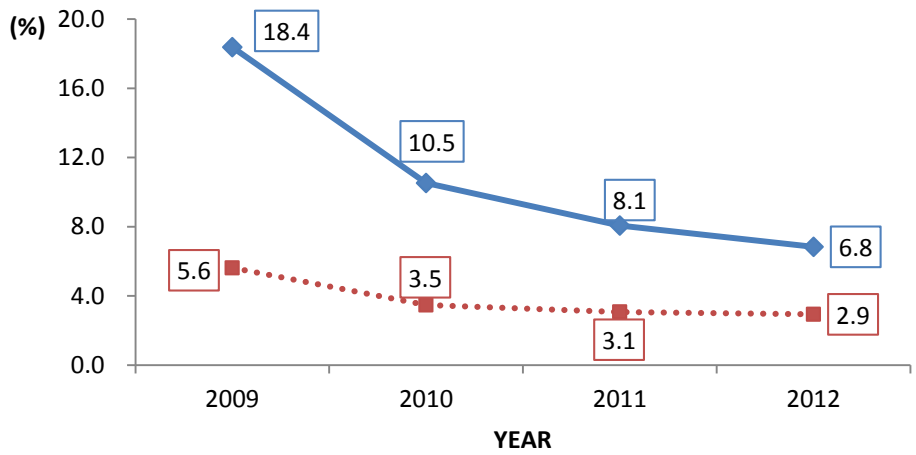
BELOW BASIC

Advanced cut-off score

Proficient cut-off score

Basic cut-off score
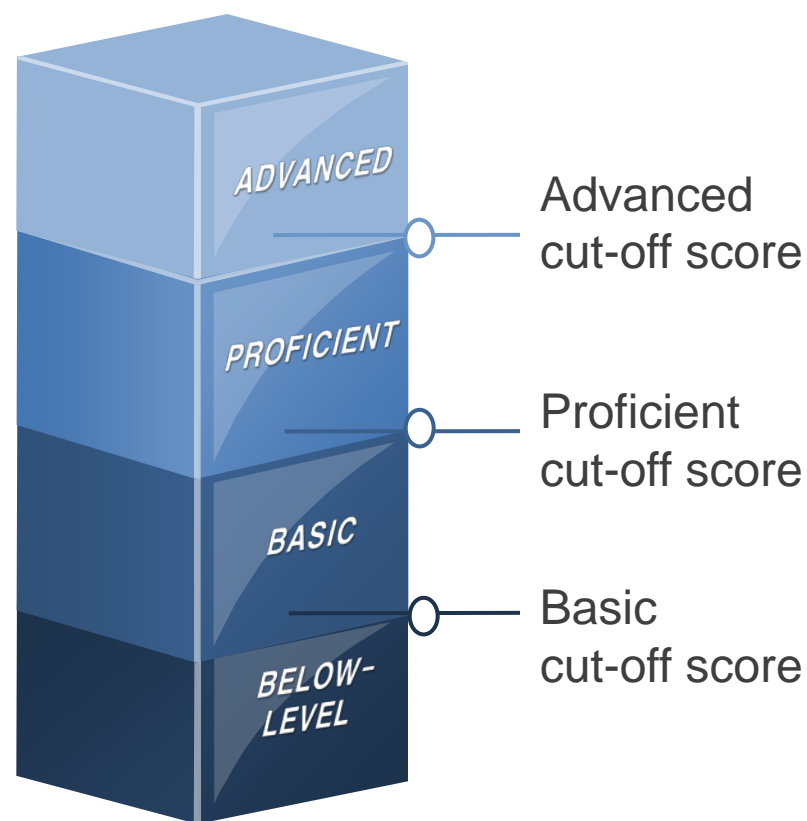
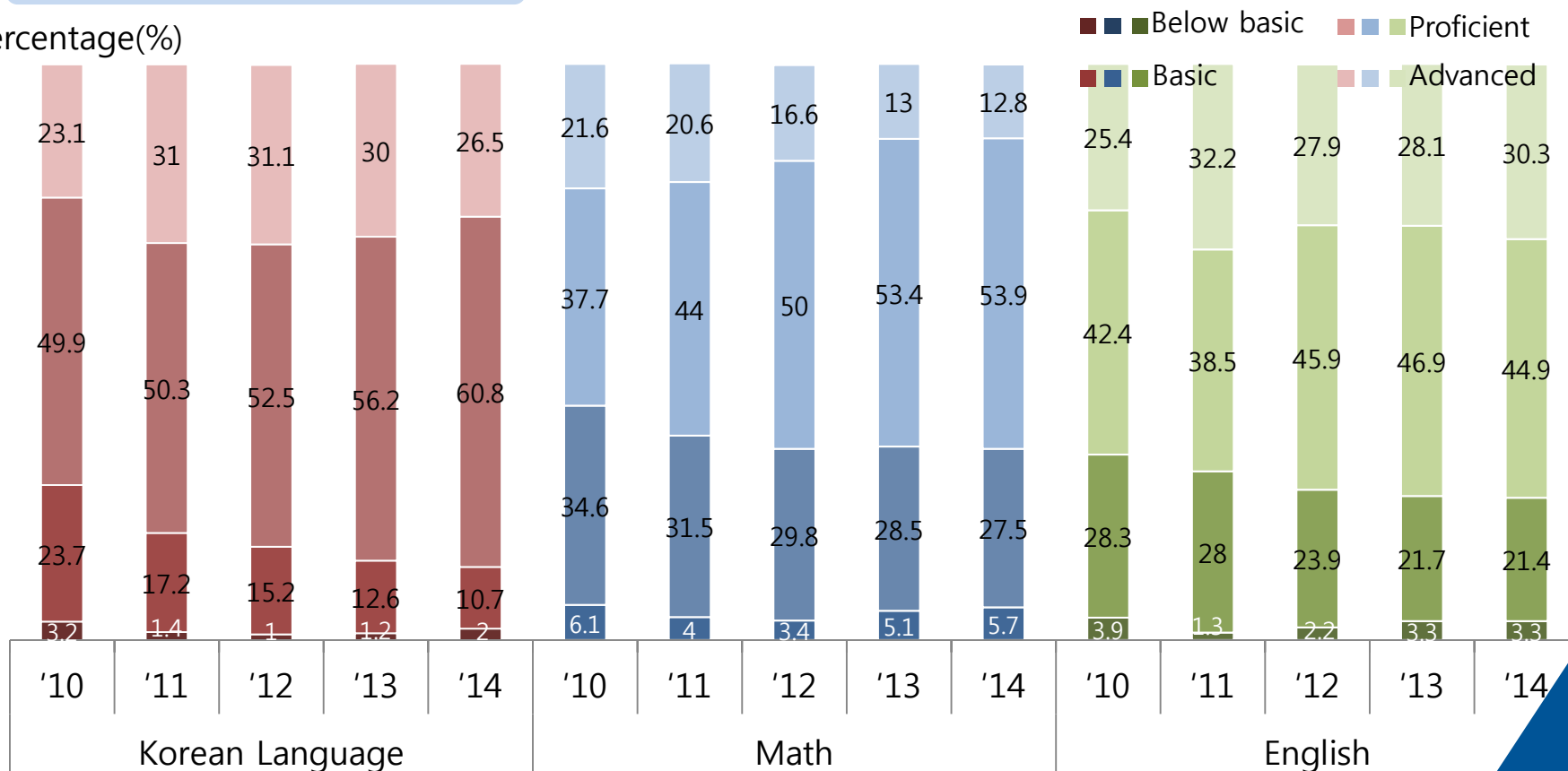# Outcomes of " School For Improvement Policy (2009 ~ 2012)
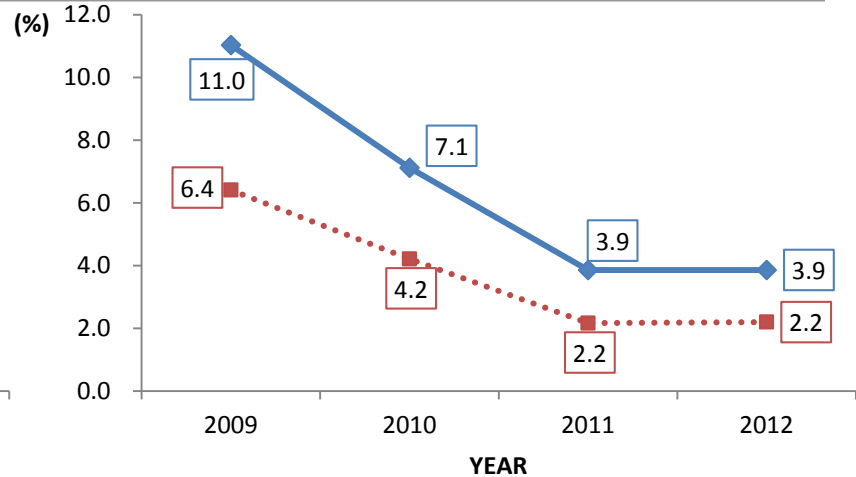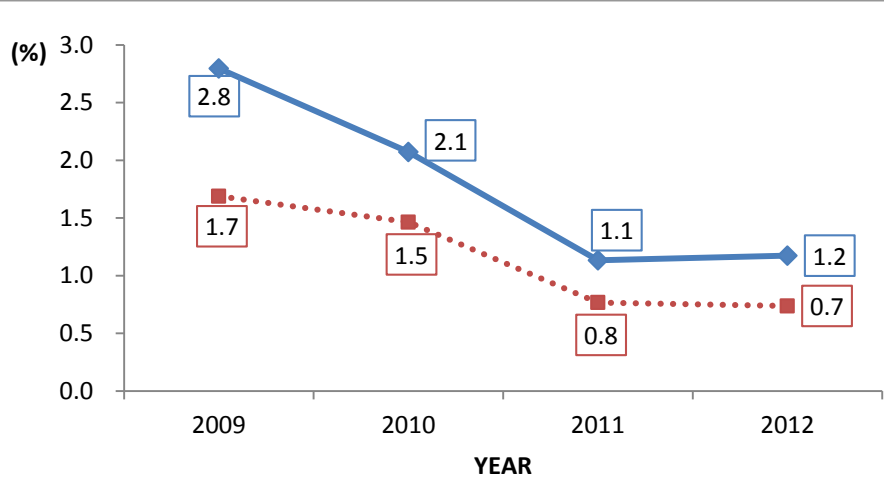
Provided by MOE(2013)

Monitoring of Student Achievement

"Zero Below-Basic Plan" & "Upward Equalization"

Grade 9 (2010 ~ 2014)

Percentage(%)

Legend: Below basic | Basic | Proficient | Advanced

Korean Language

	'10	'11	'12	'13	'14
Advanced	23.1	31	31.1	30	26.5
Proficient	49.9	50.3	52.5	56.2	60.8
Basic	23.7	17.2	15.2	12.6	10.7
Below basic	3.2	1.4	1	1.2	2

Math

	'10	'11	'12	'13	'14
Advanced	21.6	20.6	16.6	13	12.8
Proficient	37.7	44	50	53.4	53.9
Basic	34.6	31.5	29.8	28.5	27.5
Below basic	6.1	4	3.4	5.1	5.7

English

	'10	'11	'12	'13	'14
Advanced	25.4	32.2	27.9	28.1	30.3
Proficient	42.4	38.5	45.9	46.9	44.9
Basic	28.3	28	23.9	21.7	21.4
Below basic	3.9	1.3	2.2	3.3	3.3

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

Process for Analysis and Report

Colleting the demands from others for the research

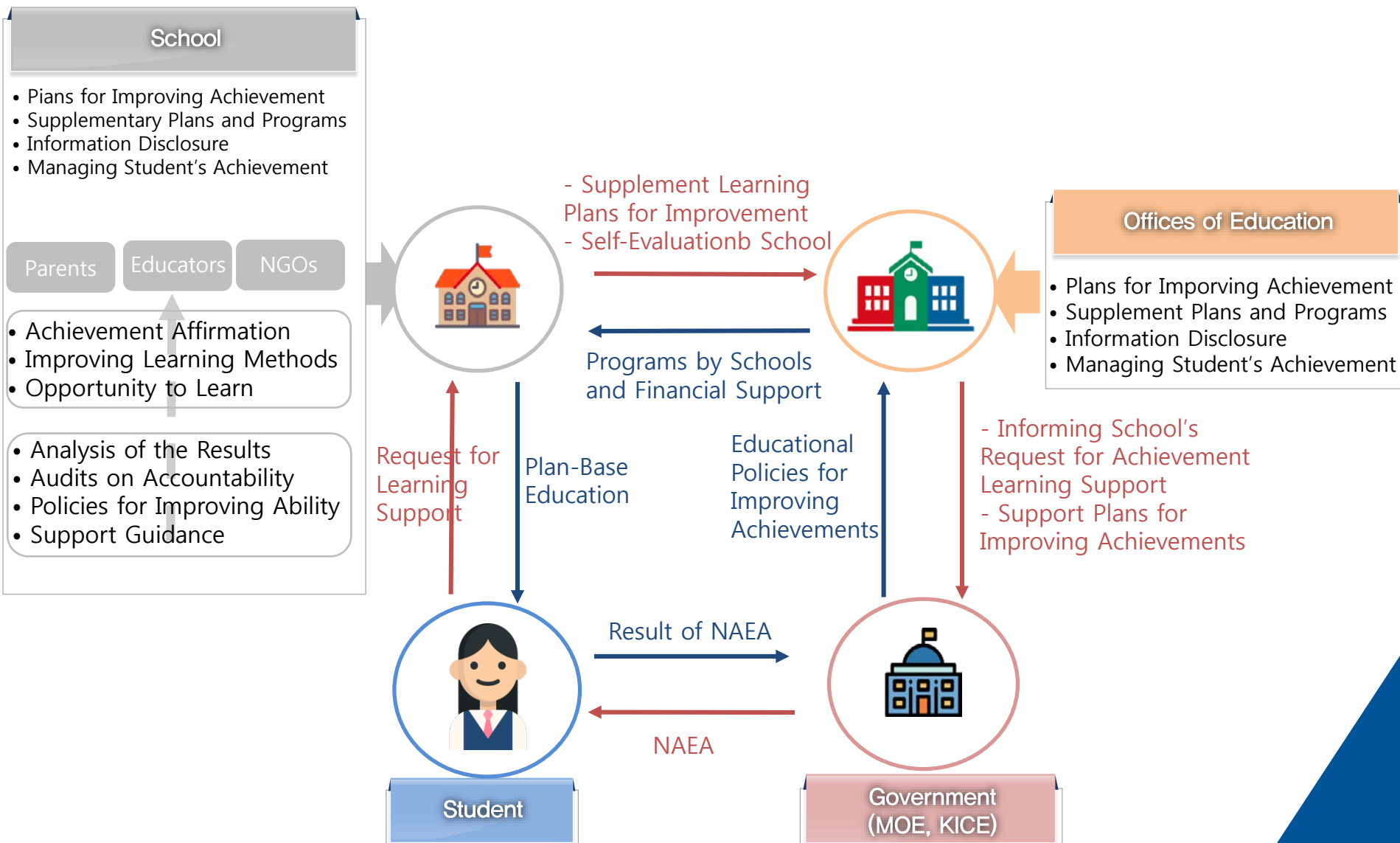**Our own + Others: PA, TA, PO, MOE, OM, SC, Press**

Annual in-depth reports in different format for the stakeholders

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

National reports for implementation & in-depth analysis

In-depth analysis planning for the next year

Use of NAEA results

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

Du- dorim School & KU- KU

http://www.basics.re.kr/sub/info.do?page=060204&m=060204&s=kucu

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 &
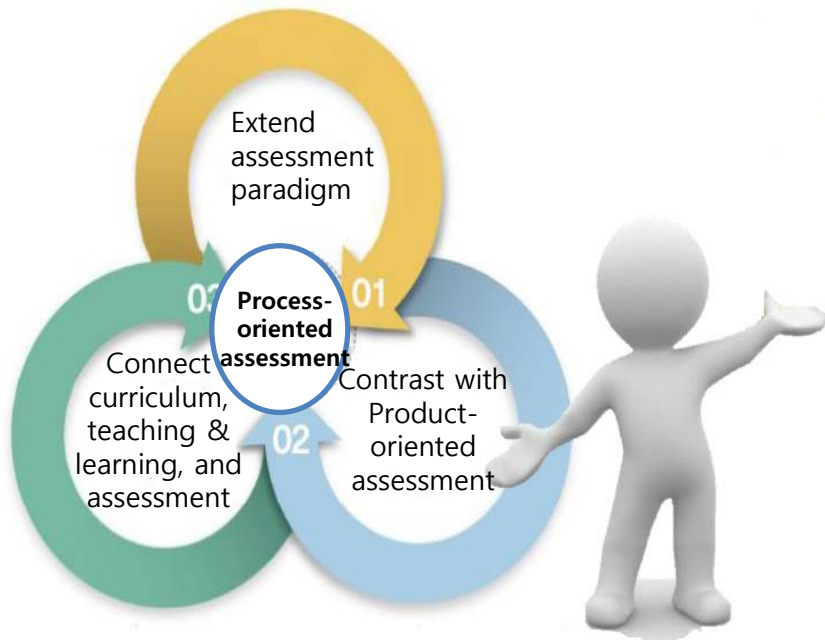
  International assessment

Achievement Standards-based Assessment
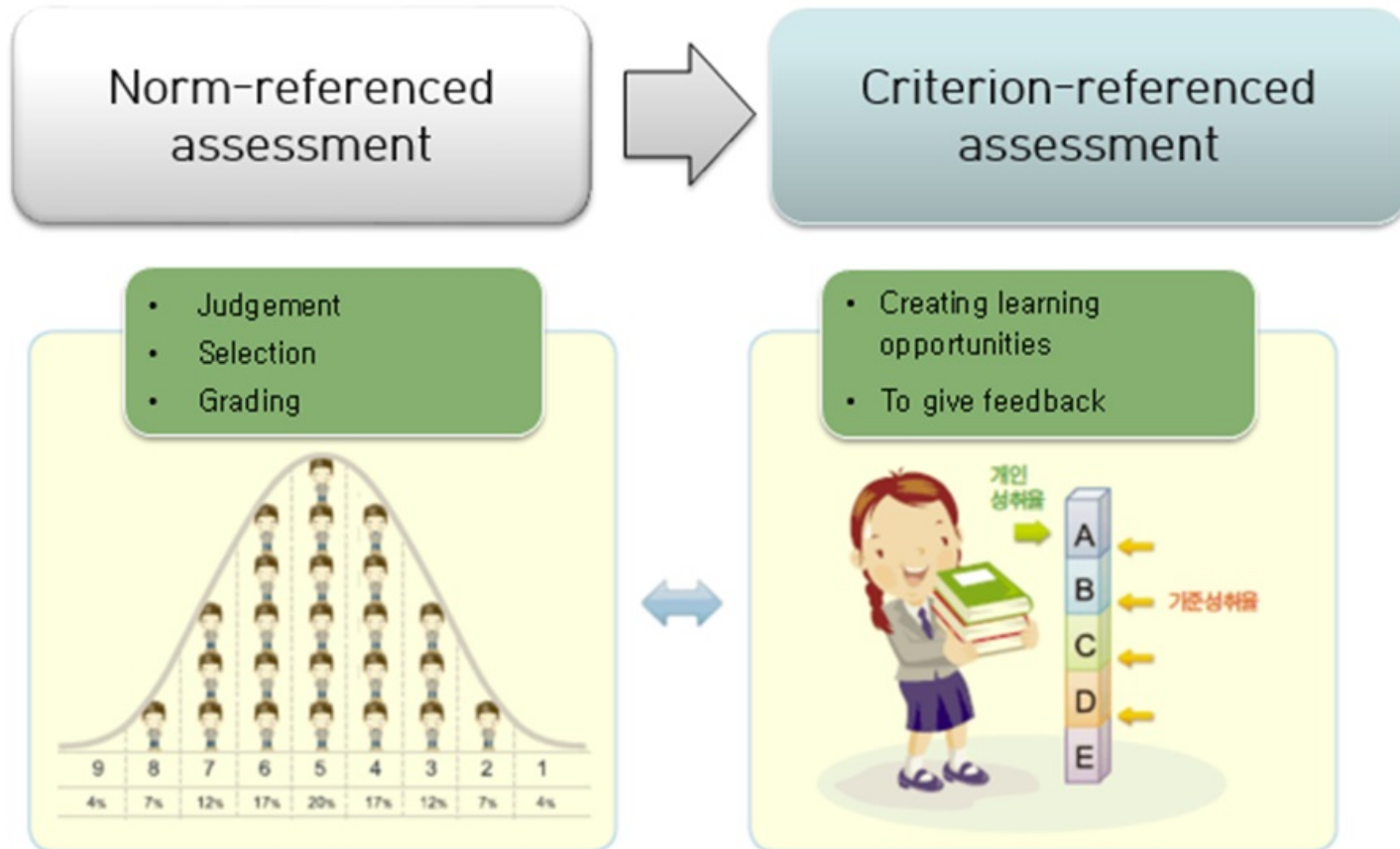
Process-fortified Assessment

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**

Extend
assessment
paradigm

**Process-
oriented
assessment**

Connect
curriculum,
teaching &
learning, and
assessment

Contrast with
Product-
oriented
assessment

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

I. 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

Thank You

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