The PISA Results and the Education System in Korea

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Outline

- Introduction to Korea
- The PISA results for Korea
- The CBAS results for Korea
- The Korean education system
- Current reform initiatives

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Introduction to Korea

- Total land area: 222,154 square kilometers
- Divided by a 241 kilometers demilitarized zone
- South Korea: 99,313 square kilometers
- Population: 49 million people (2008)

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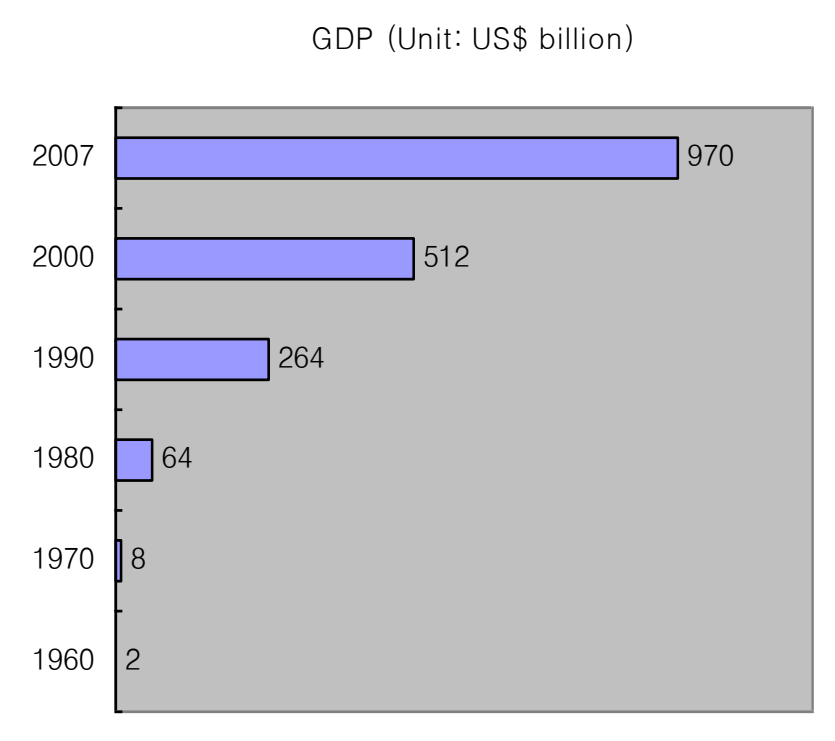
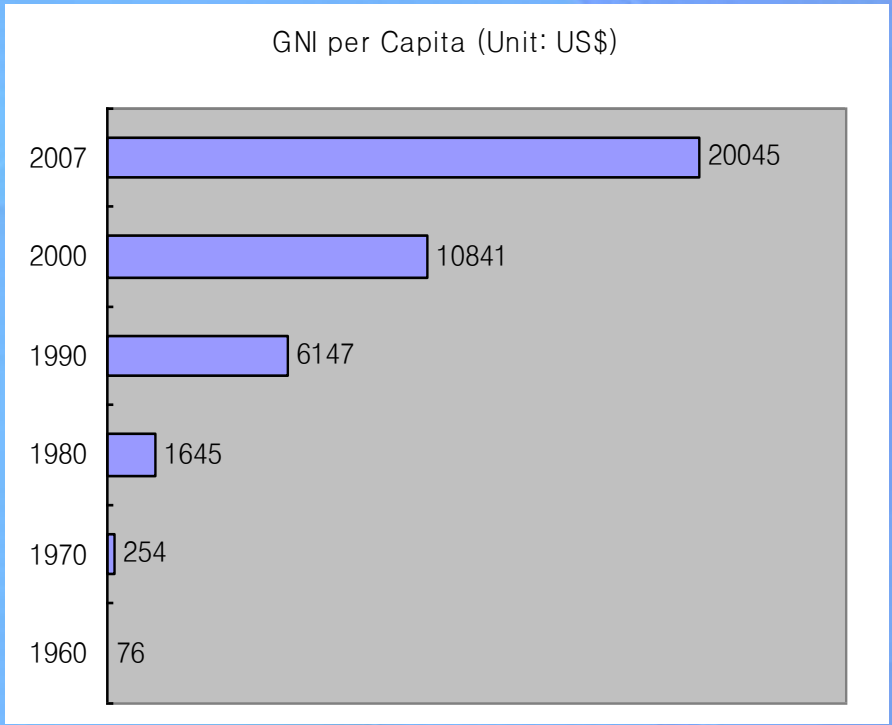
Economic Development





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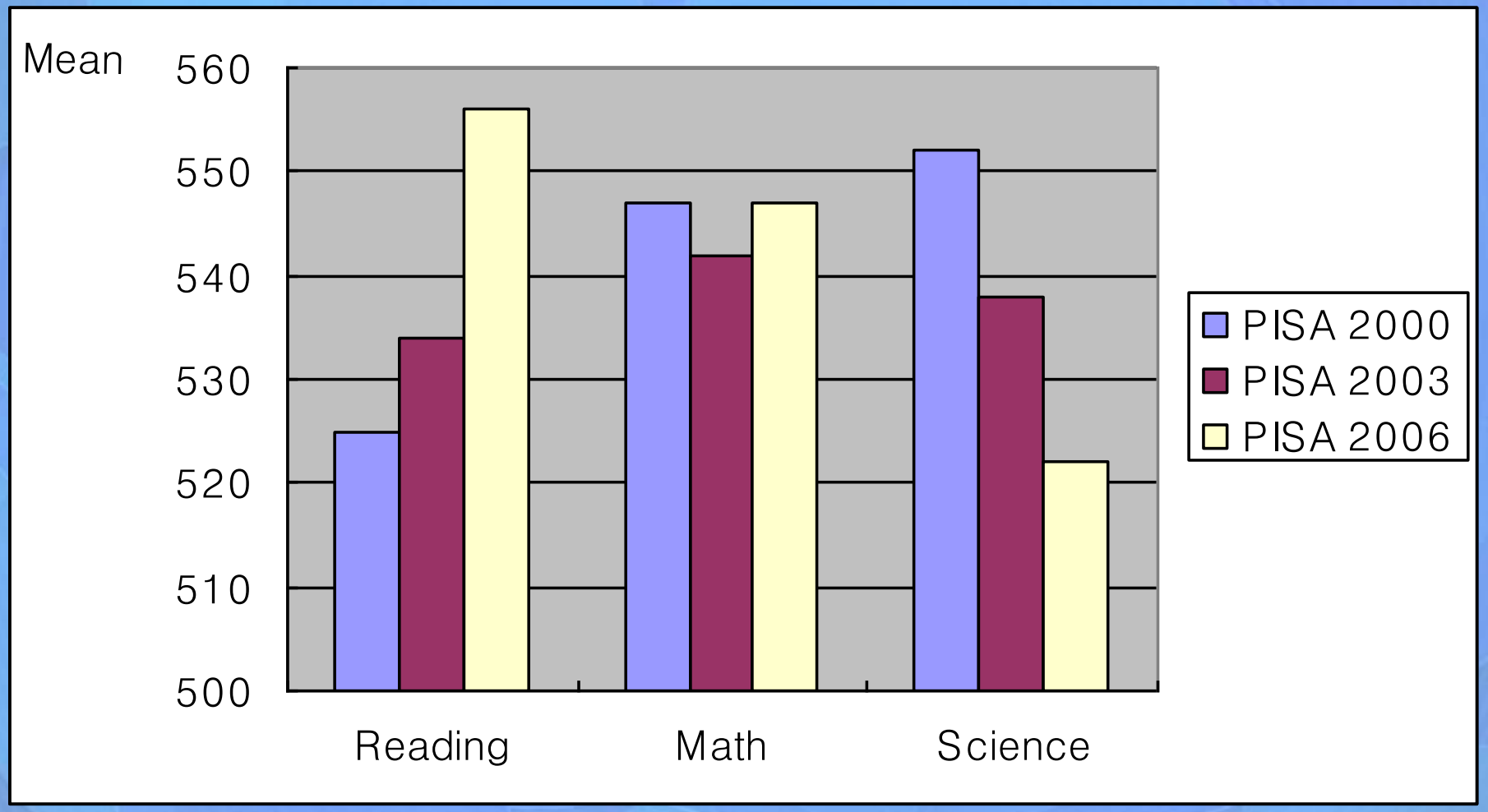
Source: The bank of Korea

The PISA Results for Korea

Trends in Student Achievement in Korea



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Trends in Reading

PISA 2000		PISA 2003		PISA 2006	
Country	Means	Country	Means	Country	Means
Finland	546	Finland	543	Korea	556
Canada	534	Korea	534	Finland	547
New Zealand	529	Canada	528	Hong Kong-China	536
Australia	528	.	.	.	.
Ireland	527	.	.	.	.
Korea	525	.	.	.	.
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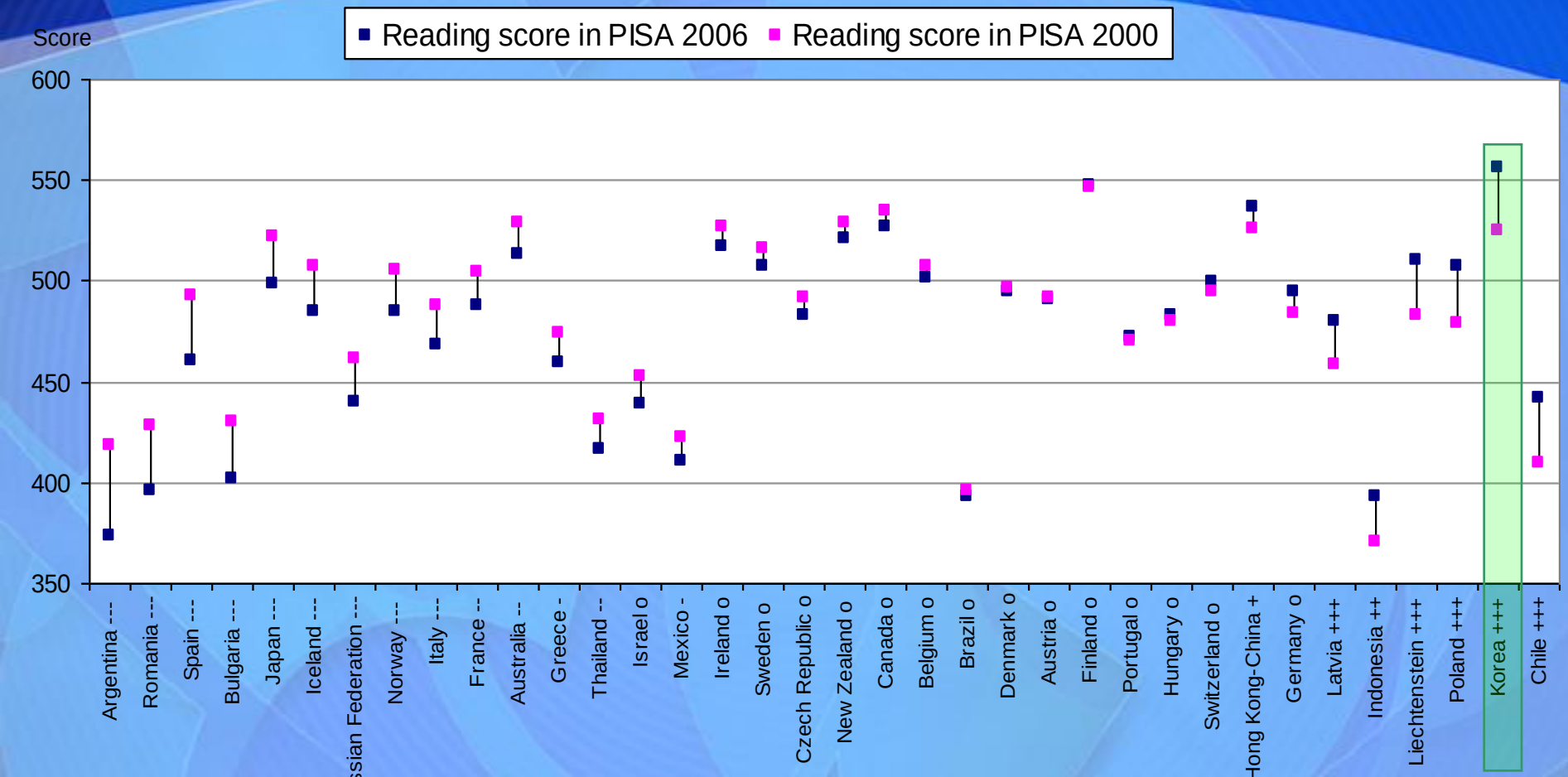
Trends in Reading



Source: OECD(2006) PISA 2006 volume 1 Figure 6.21

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Trends in Mathematics

PISA 2000		PISA 2003		PISA 2006	
Country	Means	Country	Means	Country	Means
Japan	557	Hong Kong-China	550	Chinese Taipei	549
Korea	**547**	Finland	544	Finland	548
New Zealand	537	**Korea**	**542**	Hong Kong-China	547
.	.	.	.	**Korea**	**547**
.	.	.	.	Netherlands	531
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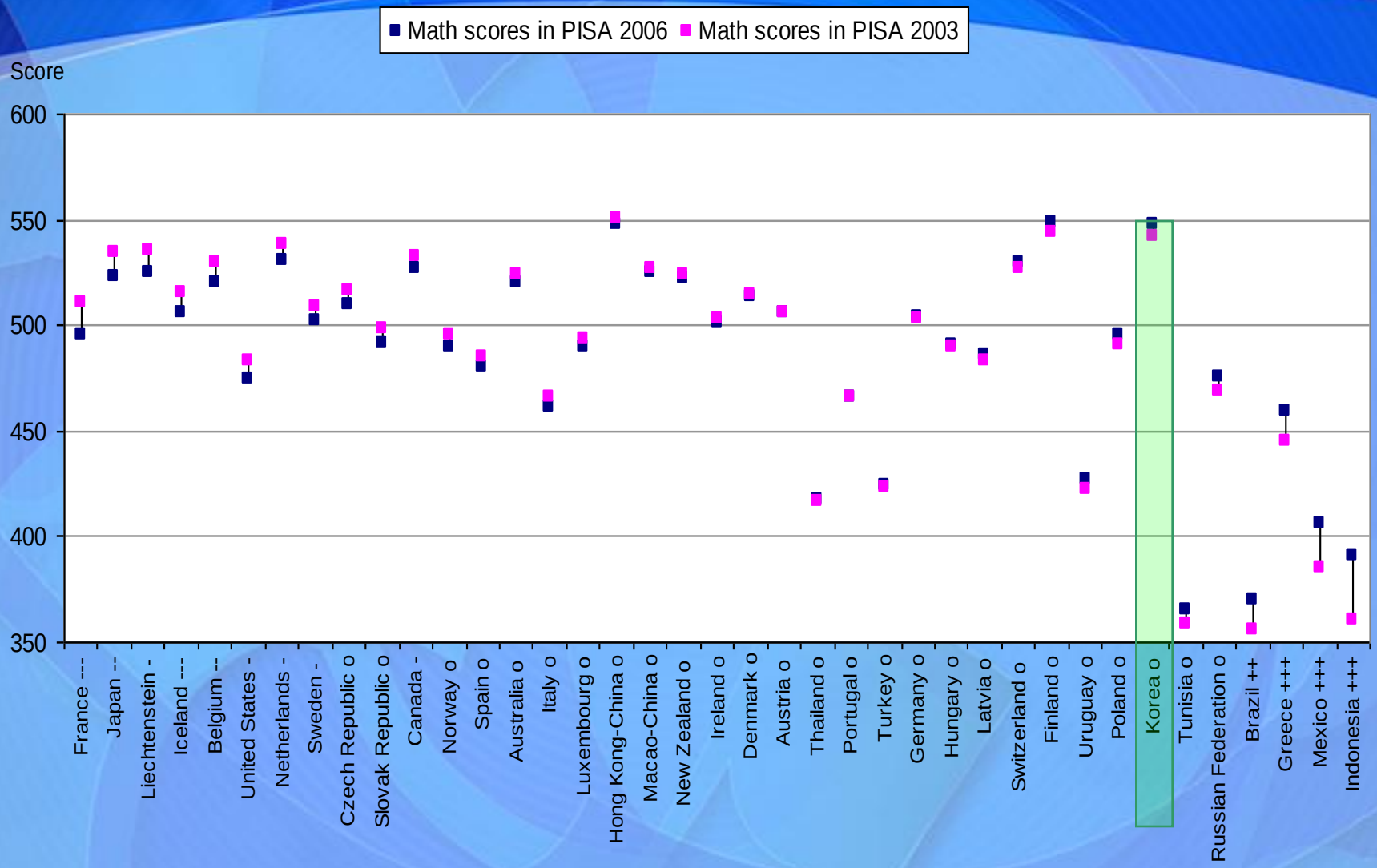
Trends in Mathematics



Source: OECD(2006) PISA 2006 volume 1 Figure 6.21

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Trends in Science

PISA 2000		PISA 2003		PISA 2006	
Country	Means	Country	Means	Country	Means
Korea	552	Finland	548	Finland	563
Japan	550	Japan	548	Hon Kong-China	542
.	.	Hong Kong-China	539	Canada	534
.	.	Korea	538	Chinese Taipei	532
.	.	.	.	Estonia	531
.	.	.	.	Japan	531
.	.	.	.	New Zealand	530
		.	.	Australia	527
		.	.	Netherlands	525
				Liechtenstein	522
				Korea	522
				.	

Difference between PISA 2006 and PISA 2003 science scores based on link items :

-10.4 (not statistically significant)

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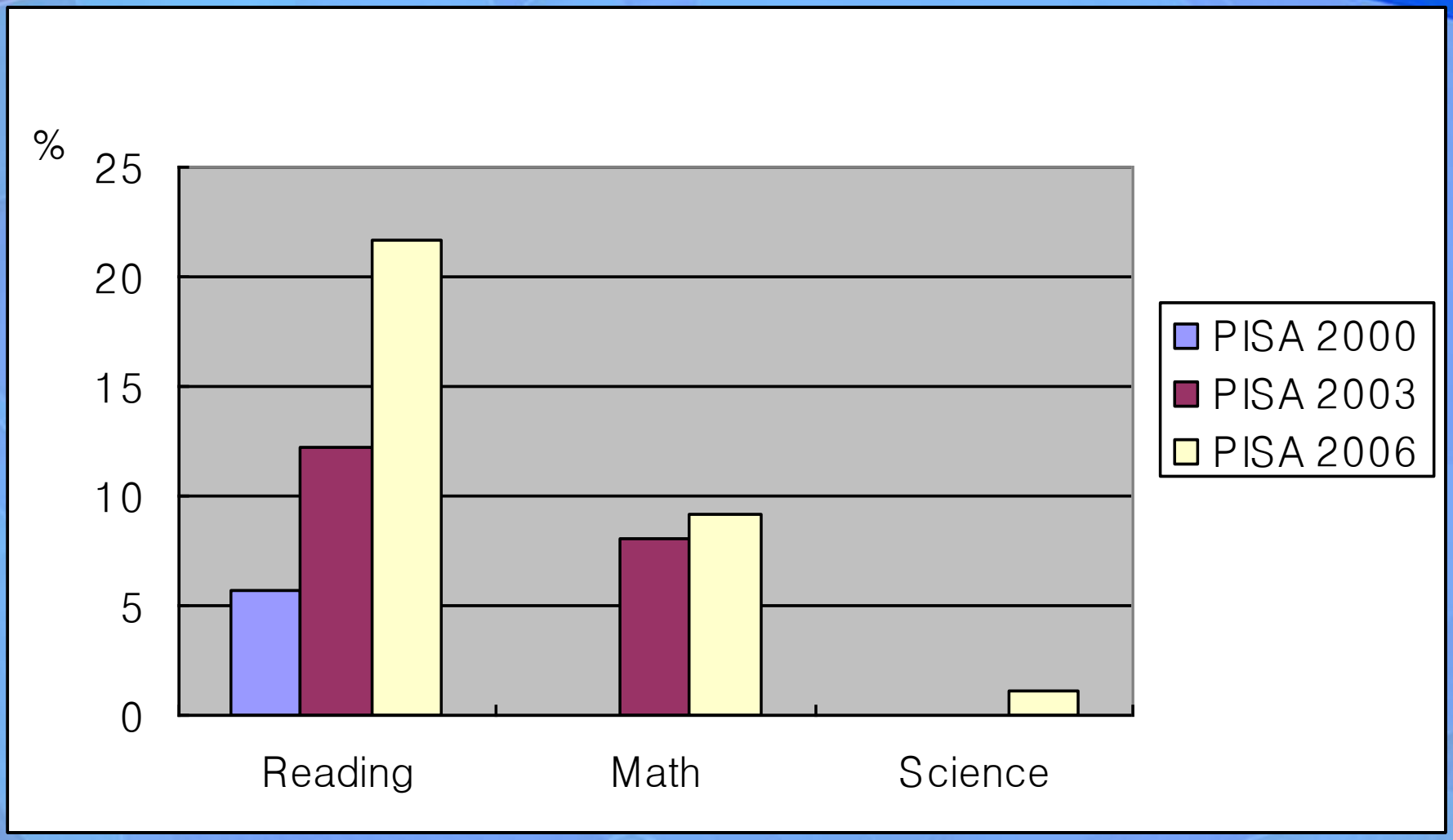
Percentages of Students at the Top Proficiency Level



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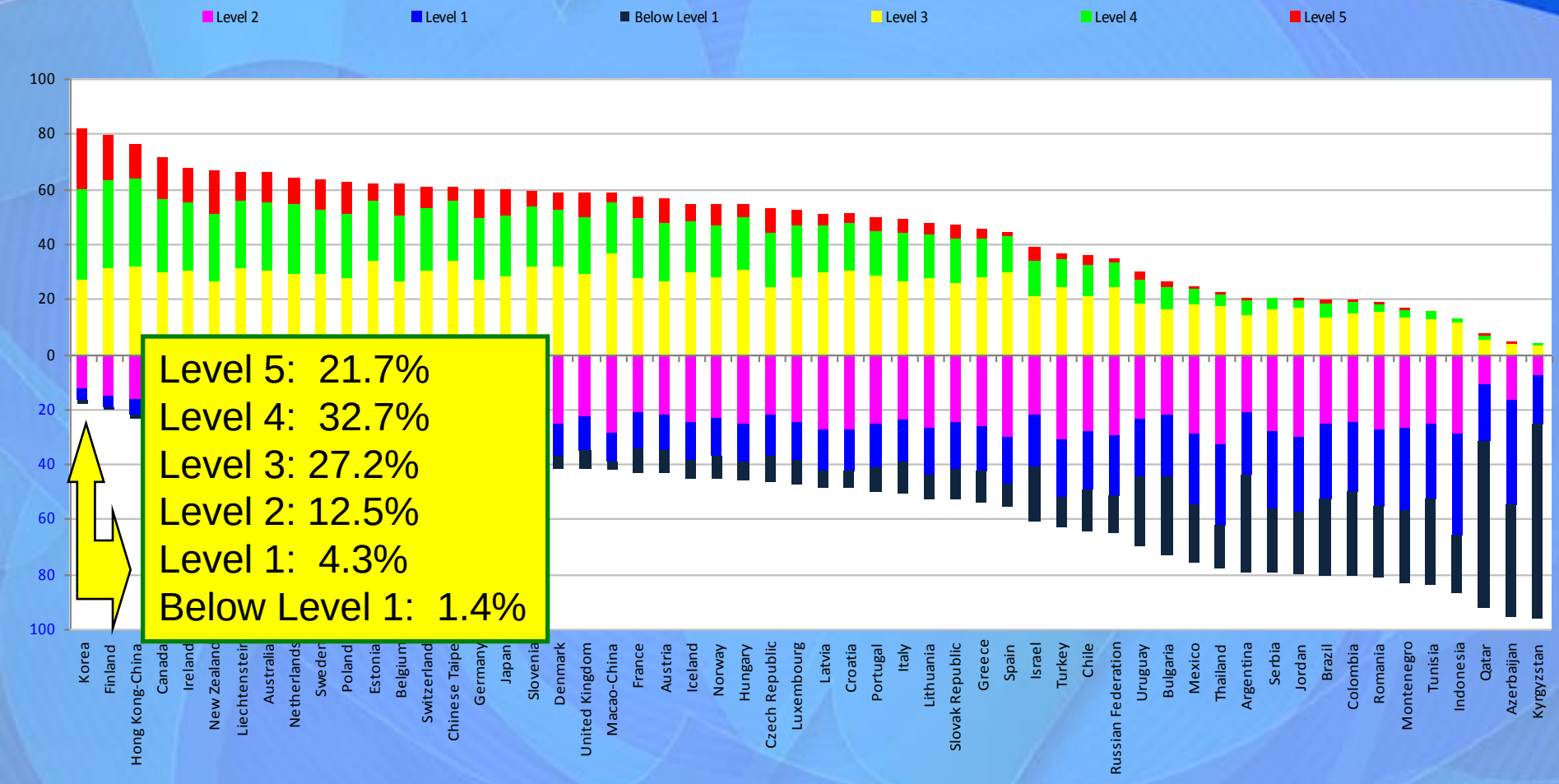
% of Students at Each Proficiency Level on the Reading Scale (PISA 2006)



Source: OECD(2006) PISA 2006 volume 1 Figure 6.1

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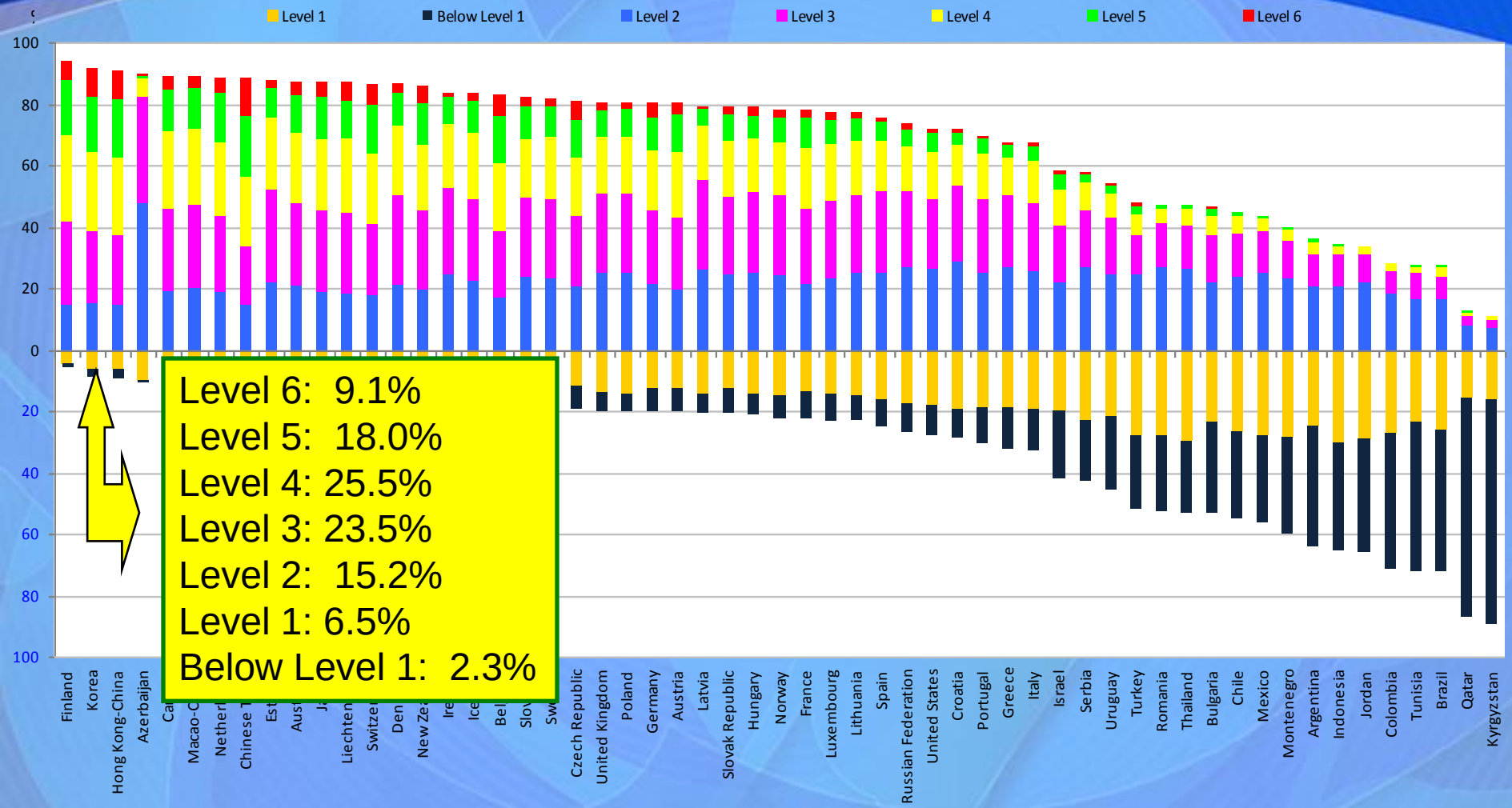
% of Students at Each Proficiency Level on the Mathematics Scale (PISA 2006)



Source: OECD(2006) PISA 2006 volume 1 Figure 6.19

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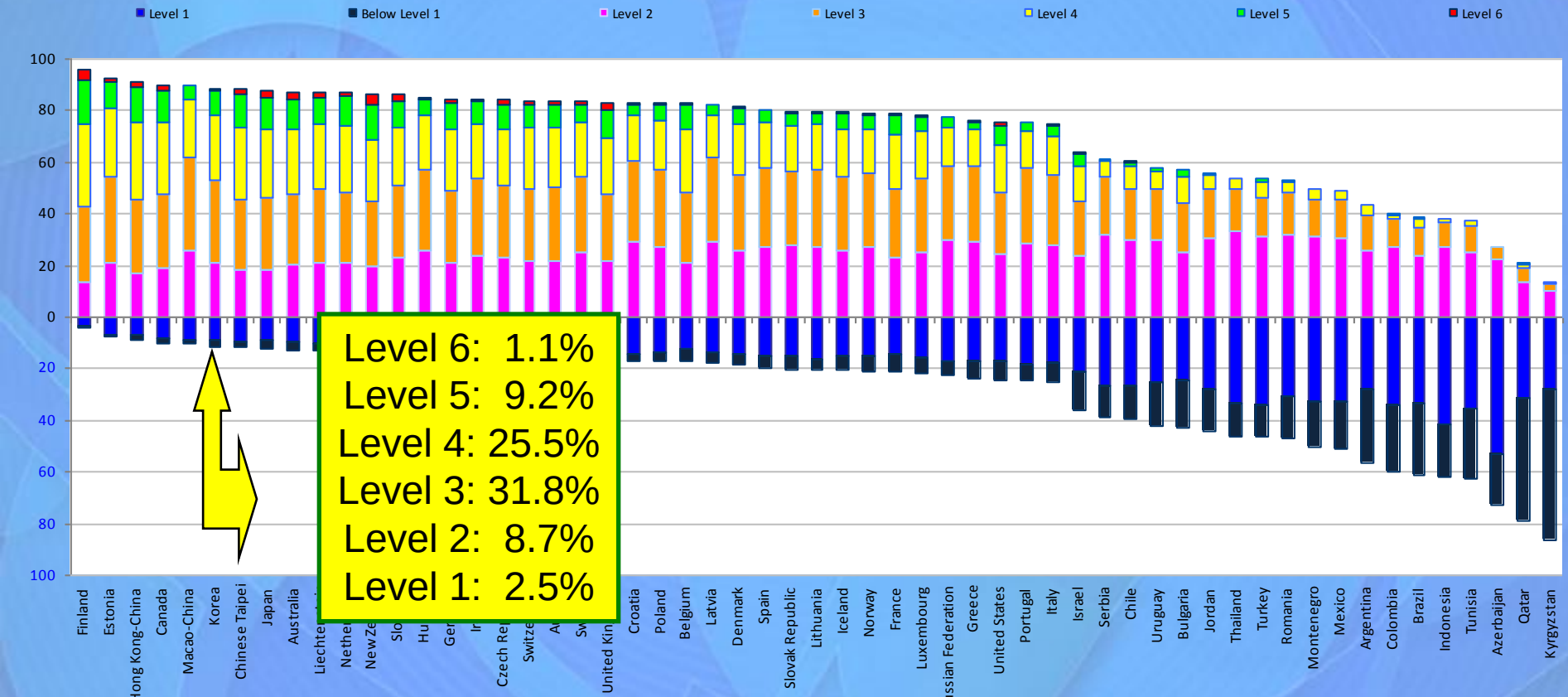
% of Students at Each Proficiency Level on the Science Scale (PISA 2006)



Source: OECD(2006) PISA 2006 volume 1 Figure 2.11a

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The Reasons Behind Different Achievement Levels Across the Three Domains

Why is Achievement in Science Declining?

- The instructional time in science was reduced an average of 45 minutes a week for grade 4, 5, 6, 7, 10.
- Science subjects became optional, not core for grade 11 and 12 students.
- Science and Technology professions have become less attractive to Korean students.
- The university entrance system changed. Students don't need to take exams on science although they will continue their studies in areas related to science in university.

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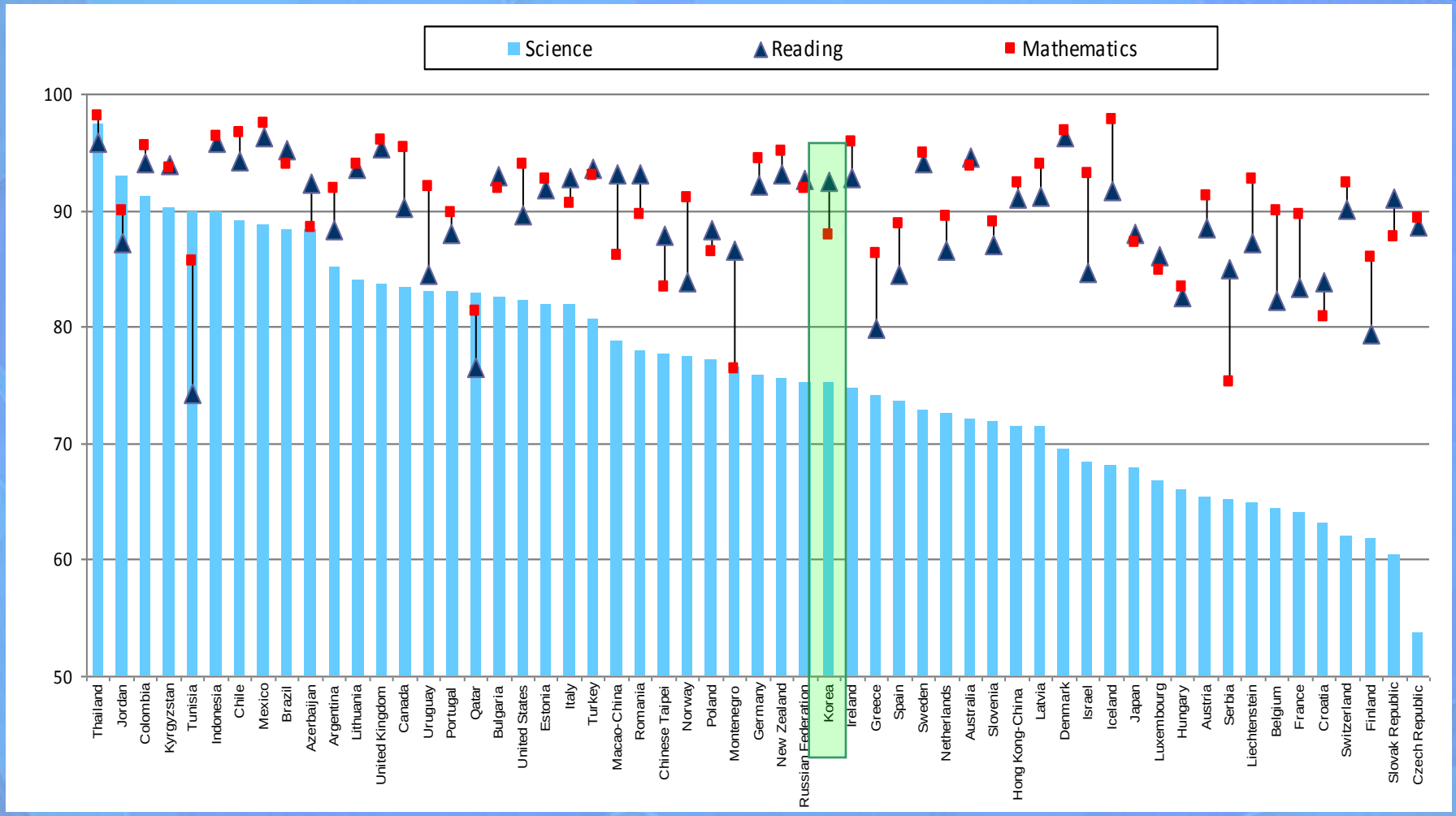
Students' Perceptions of the Importance of Doing Well in Science, Reading and Mathematics



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Source: OECD(2006) PISA 2006 volume 1 Figure 3.11

Why is Achievement in Reading Improving?

- The new national curriculum put more emphasis on critical and creative thinking skills through reading and writing.
- Reading assessment more focused on thinking ability.
- The university entrance system changed. Essay test that assesses both writing skills and logical thinking abilities introduced.

Attitudes Toward Each Domain

Attitudes toward each domain are relatively low.

General Interest in Science

Source: OECD(2006) PISA 2006 volume 1 Figure 3.8

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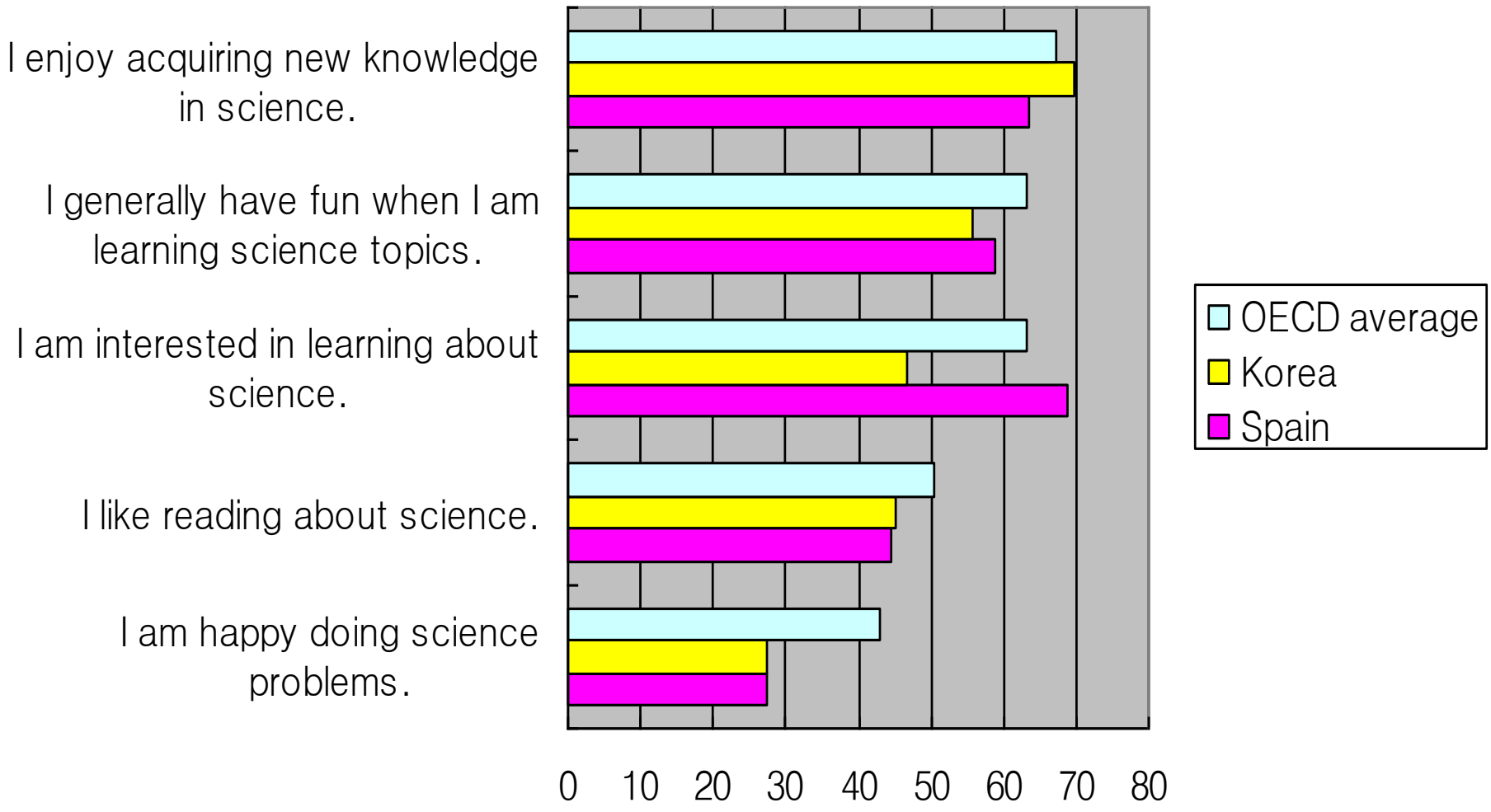
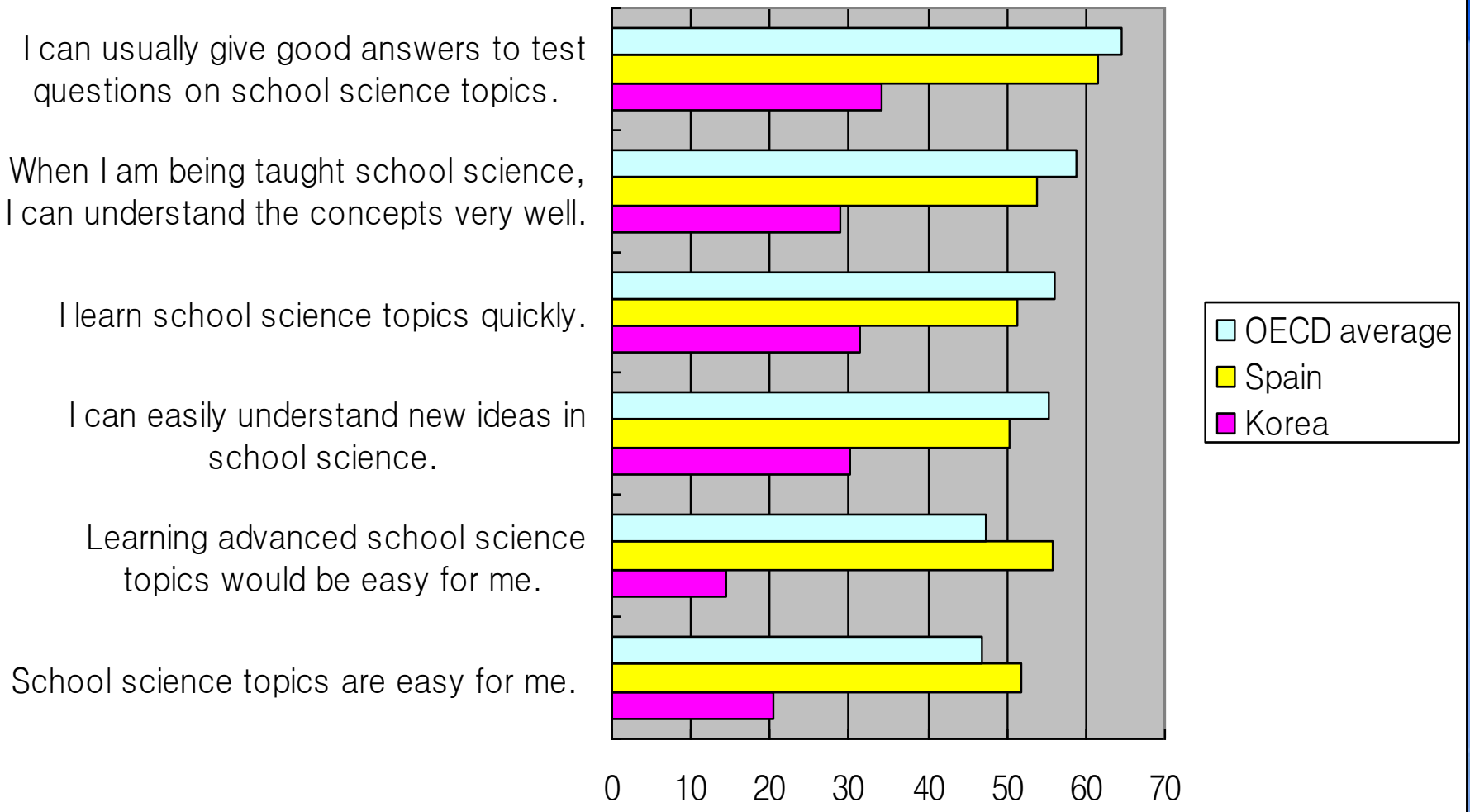
Enjoyment of Science



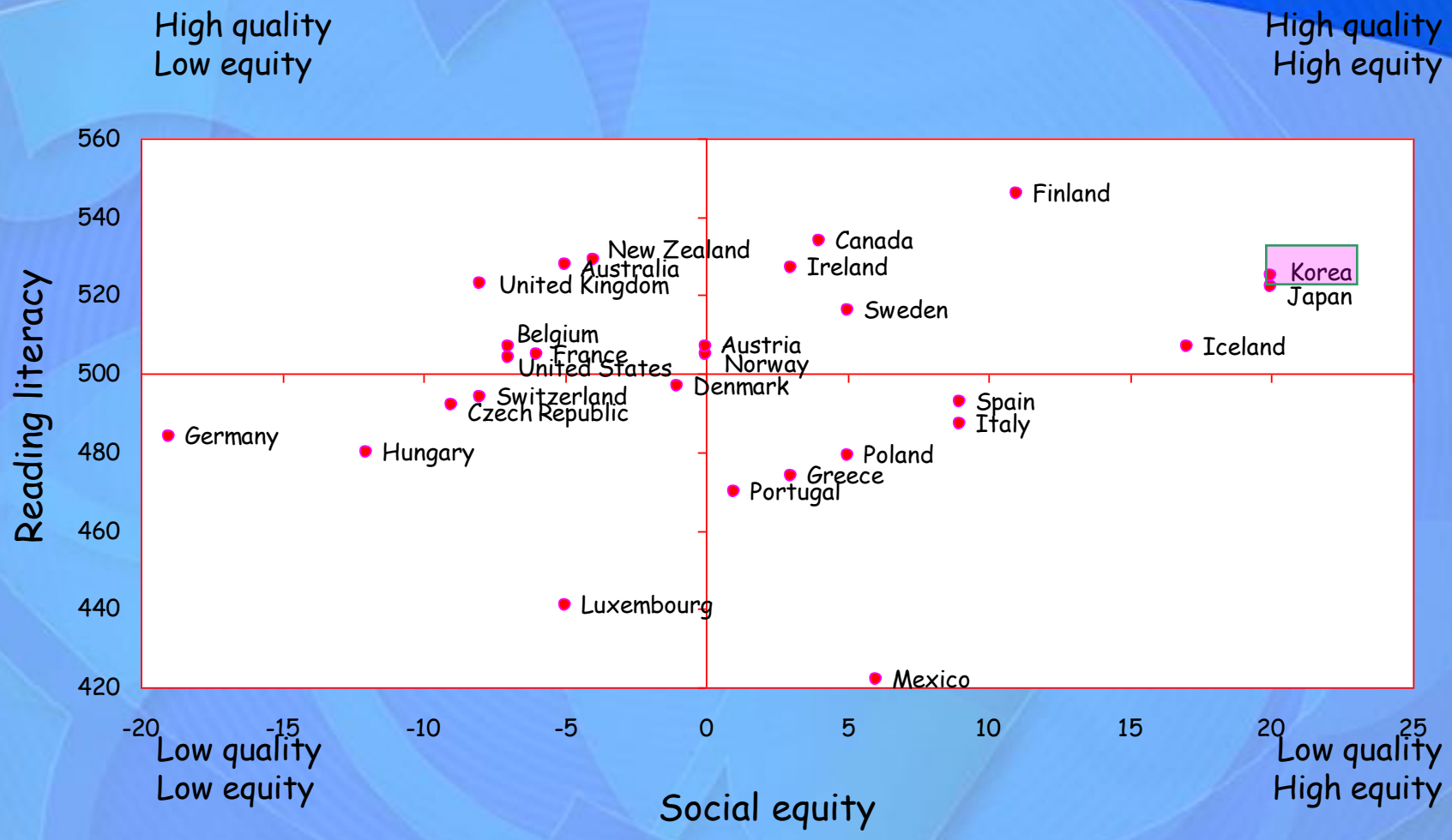
Source: OECD(2006) PISA 2006 volume 1 Figure 3.10

Self-concept in Science



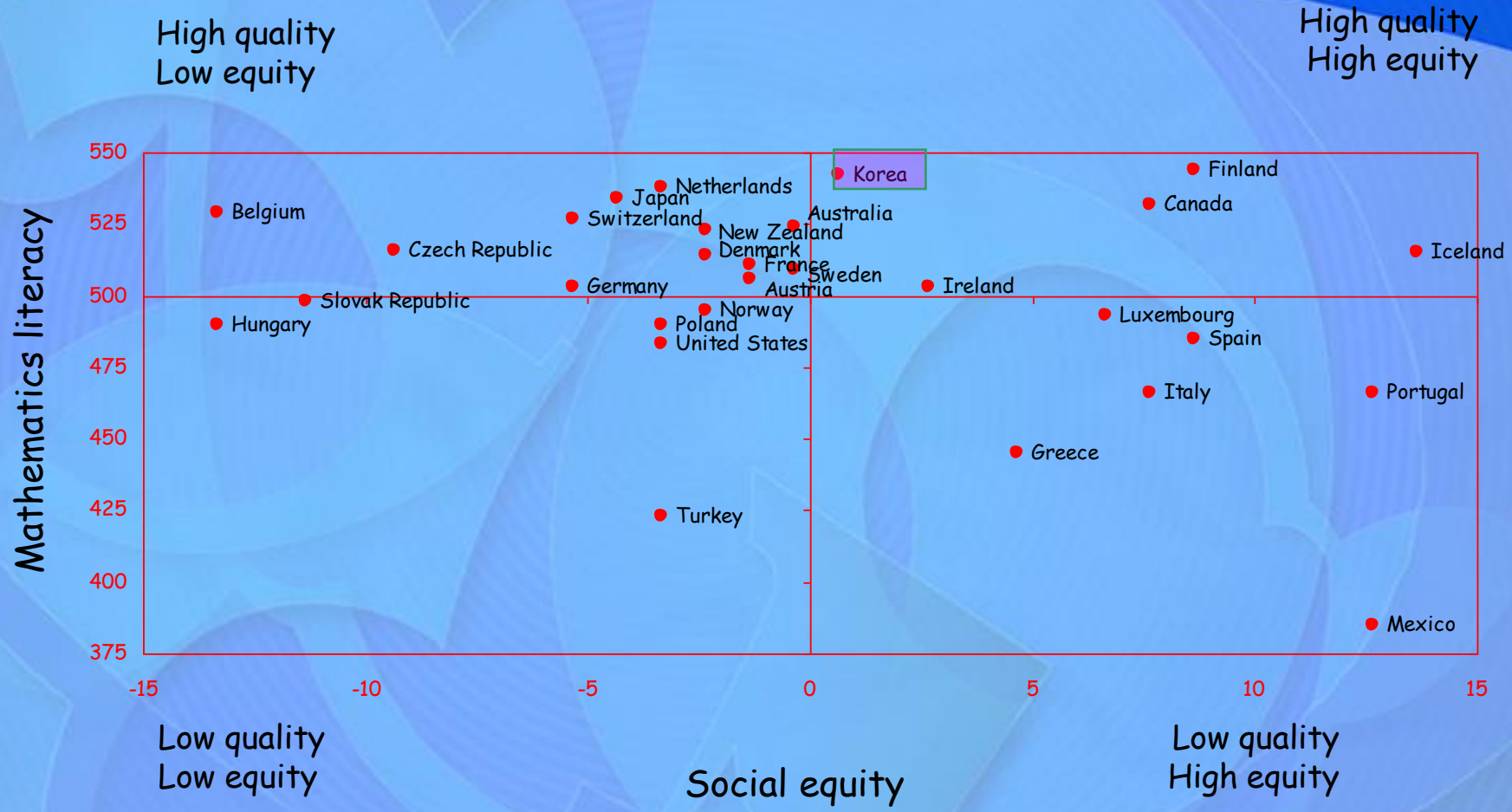
Source: OECD(2006) PISA 2006 volume 1 Figure 3.7

Equity in Reading Literacy (PISA 2000)



Source: OECD(2001) *Knowledge and skills for life*, Table 2.3a

Equity in Mathematics Literacy (PISA 2003)



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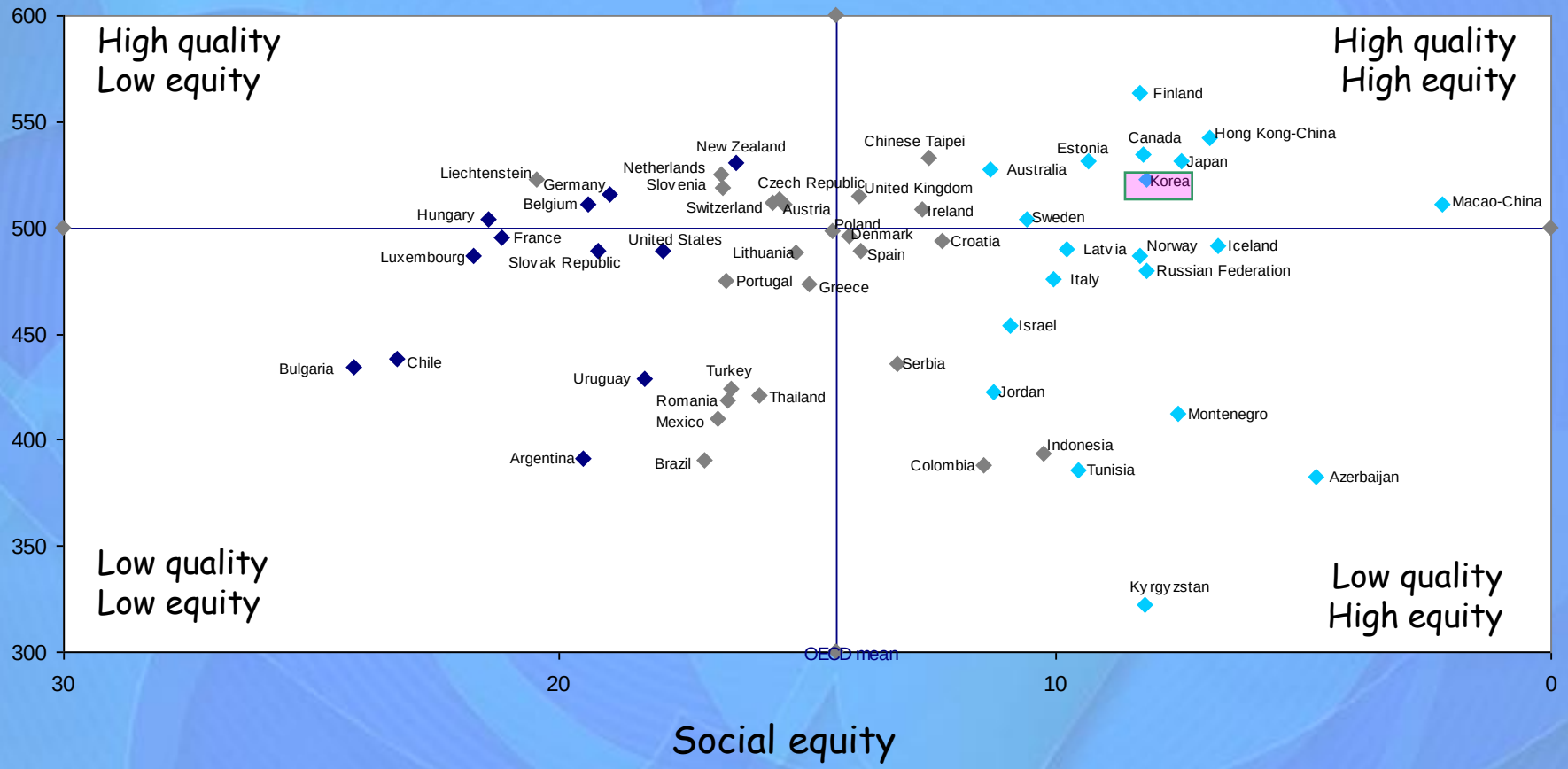
Source: OECD(2004) ***Learning for tomorrow's world*****, Table 4.3a**

Equity in Science Literacy (PISA 2006)



Source: OECD(2006) PISA 2006 Volume 1, figure 4.10

The CBAS Results for Korea

Implementation of CBAS

- Aims: to add value to science assessment and to implement computer-based assessment in an international setting.
- Participating countries: Korea, Denmark, Iceland
- When : June 2006
- The number of Korean schools participated: 79
- The number of Korean students participated: About 1500 (20 students per school)
- Testing Period: 1-hour

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Characteristics of CBAS Items

- Adding value to science assessment
  - allowing assessment of aspects of science not available in paper and pencil test
  - providing real life contexts by using simulations and videos
  - Production of items consistent with the conceptual framework for PISA 2006
- Reducing reading load in order to reduce influence of reading ability
- Minimising ICT skills requirement in CBAS

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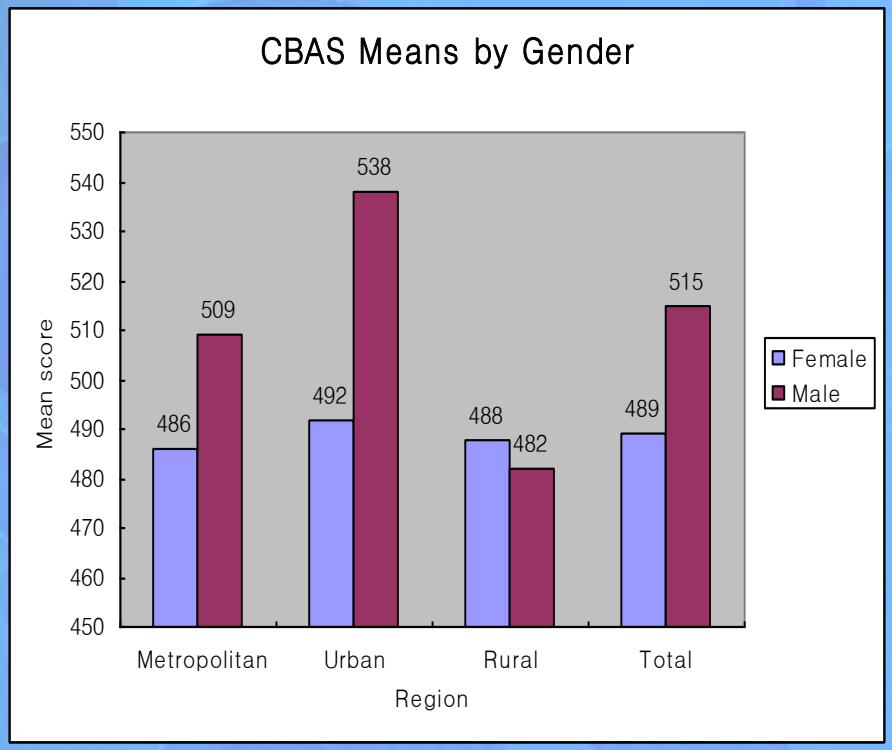
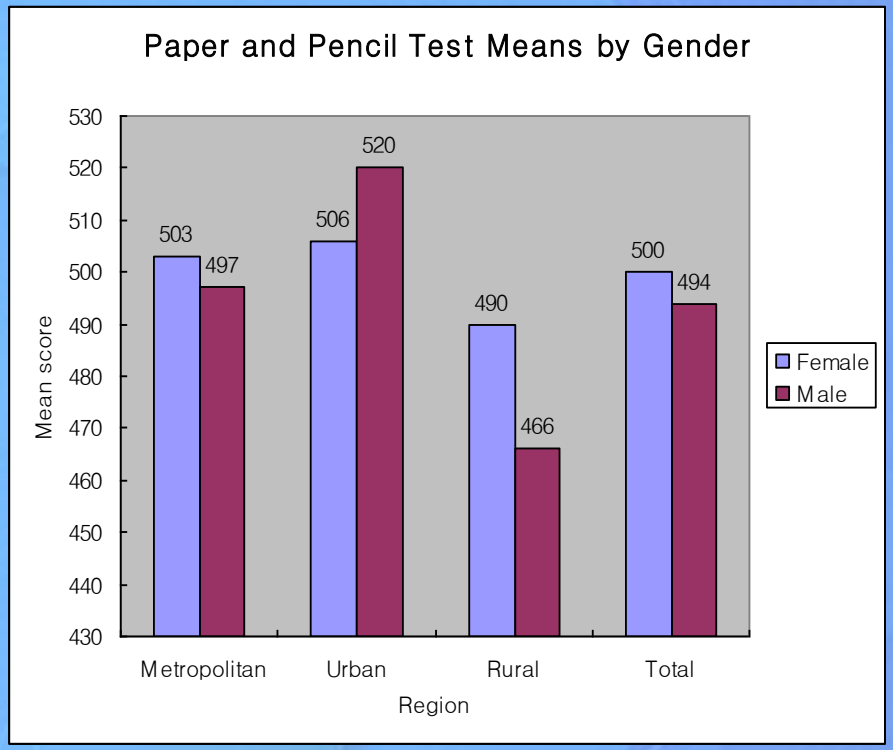
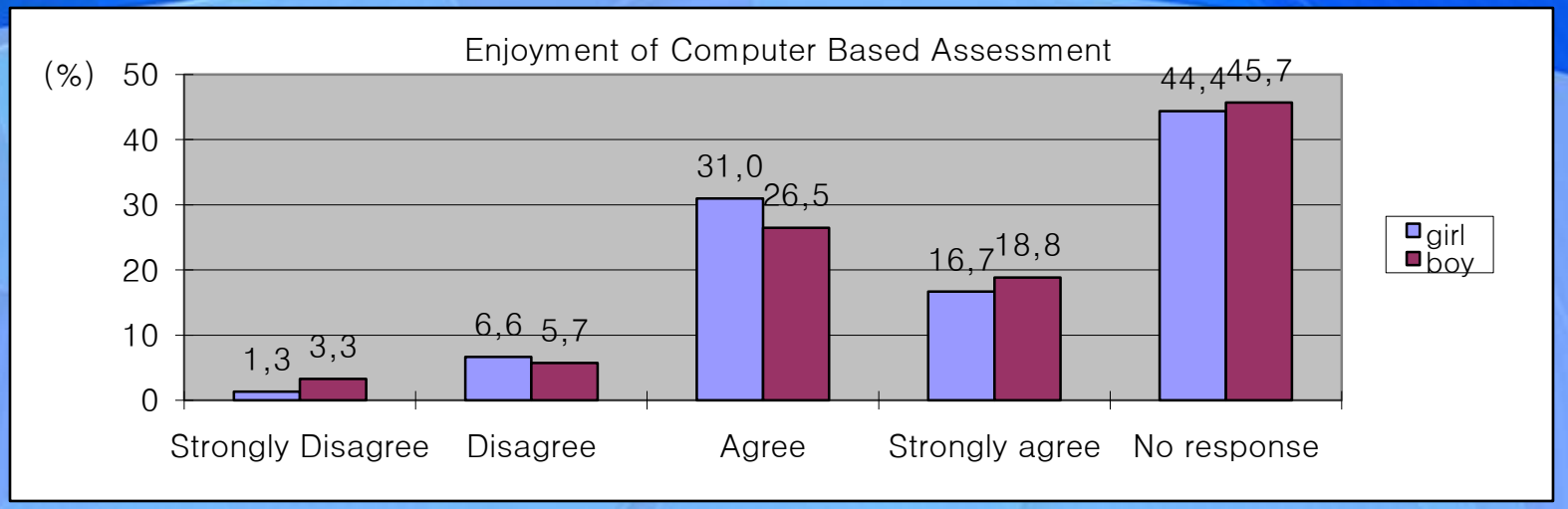
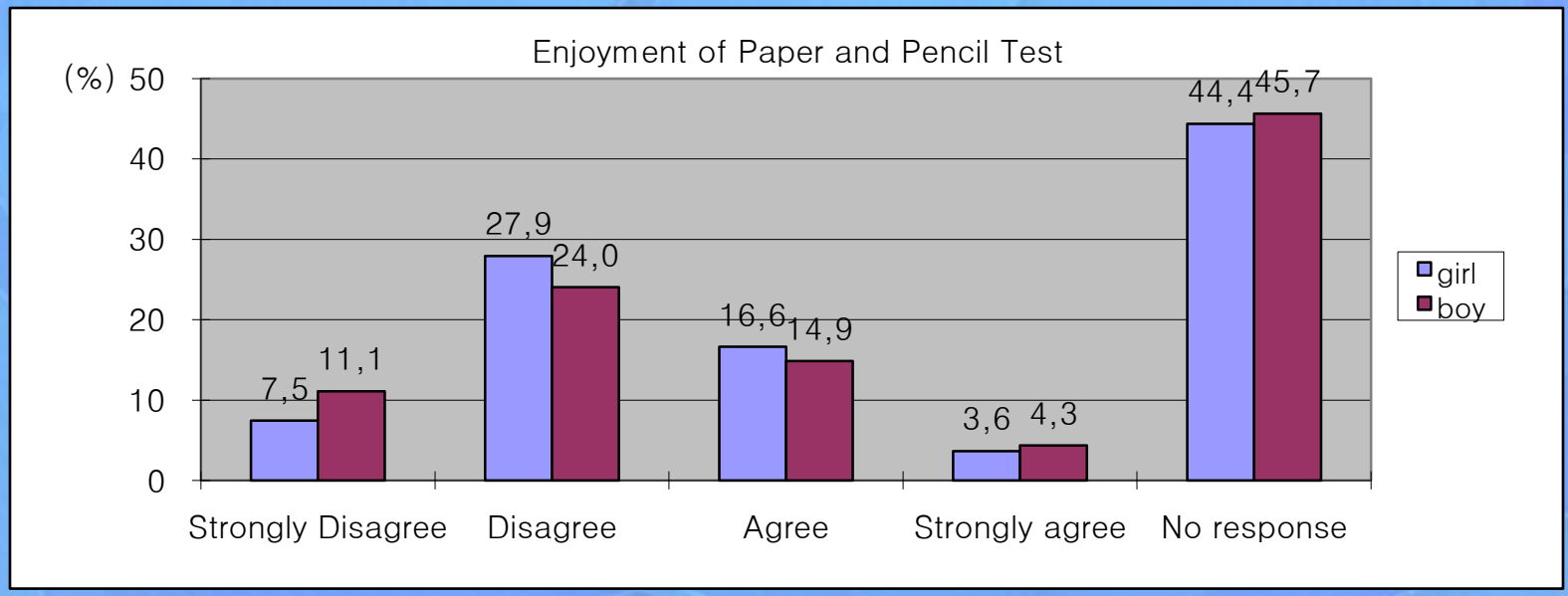
Gender Differences by Region





Enjoyment of CBAS & P.P Test





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What do the PISA Results Mean for the Korean Education?

- The PISA results provided an opportunity:
  - To restore public trust in public education
  - to identify the strengths and weakness of the Korean educational system
  - to re-confirm the necessity of efforts to maintain and develop students' high achievement during their university studies and into their adulthood

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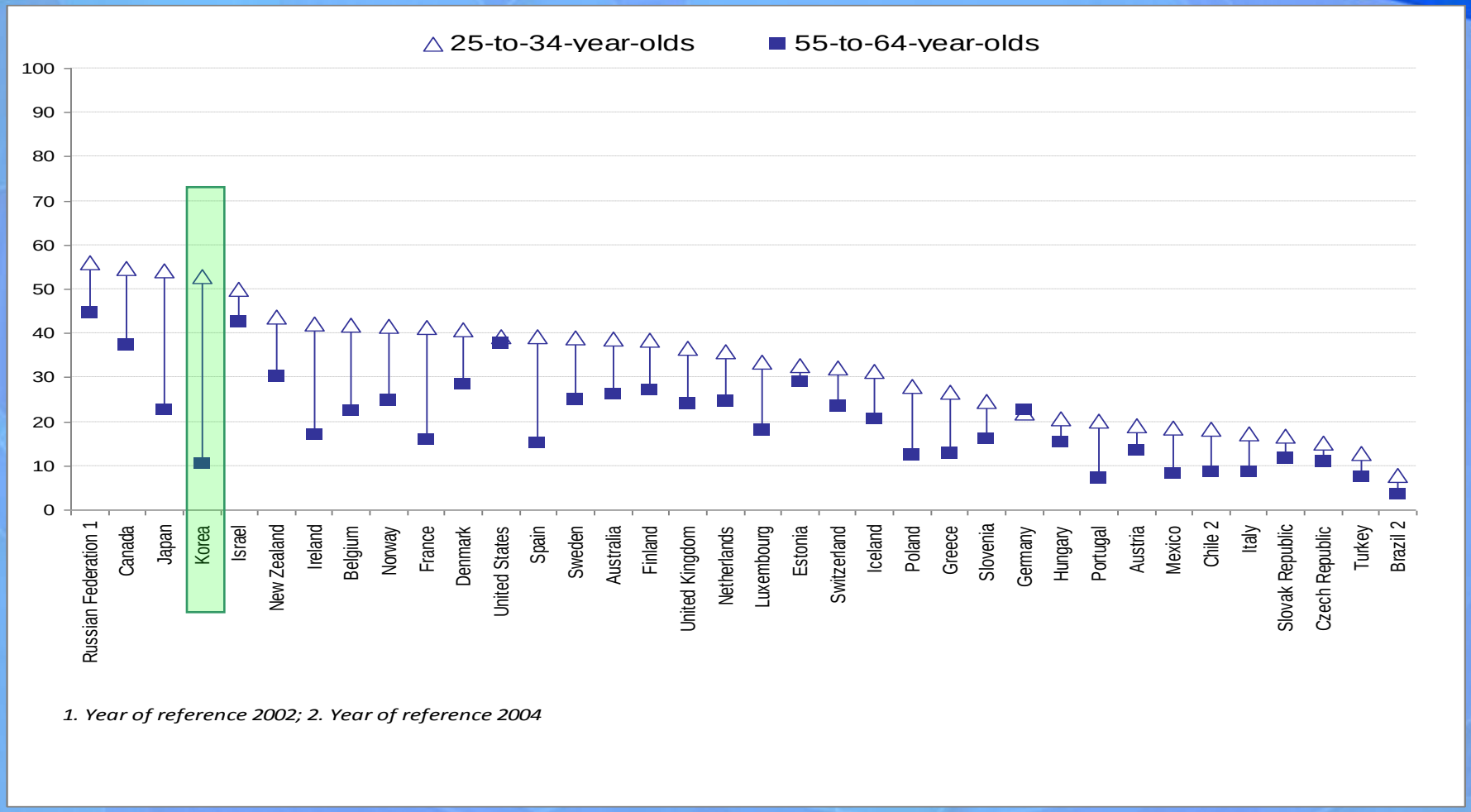
The Korean Education System

Population that Has Attained at Least Tertiary Education (2006)



1. Year of reference 2002; 2. Year of reference 2004

Source: OECD(2008) Education at a glance Chart A1.2

History of Education In Korea

- 4th C – 1910: Traditional Confucianism
- 1910 – 1945: Japanese Occupation
- 1945 - 1950s: Expansion of Democratic Education
  - 1940s: Established a modern education system (single track system 6-3-3-4)
  - 1950s: Introduced compulsory education (Elementary education)
- 1960s - 1970s Quantitative Expansion
  - 1968 : Abolition of Entrance Exam to Middle School
  - 1974: High School Equalization Policy
- 1980s: Qualitative Development
  - 1980: July 30 Educational Reform
- 1990s – present: Human education in preparation for future society
  - 1995: Education Reform
  - 2008: New challenges

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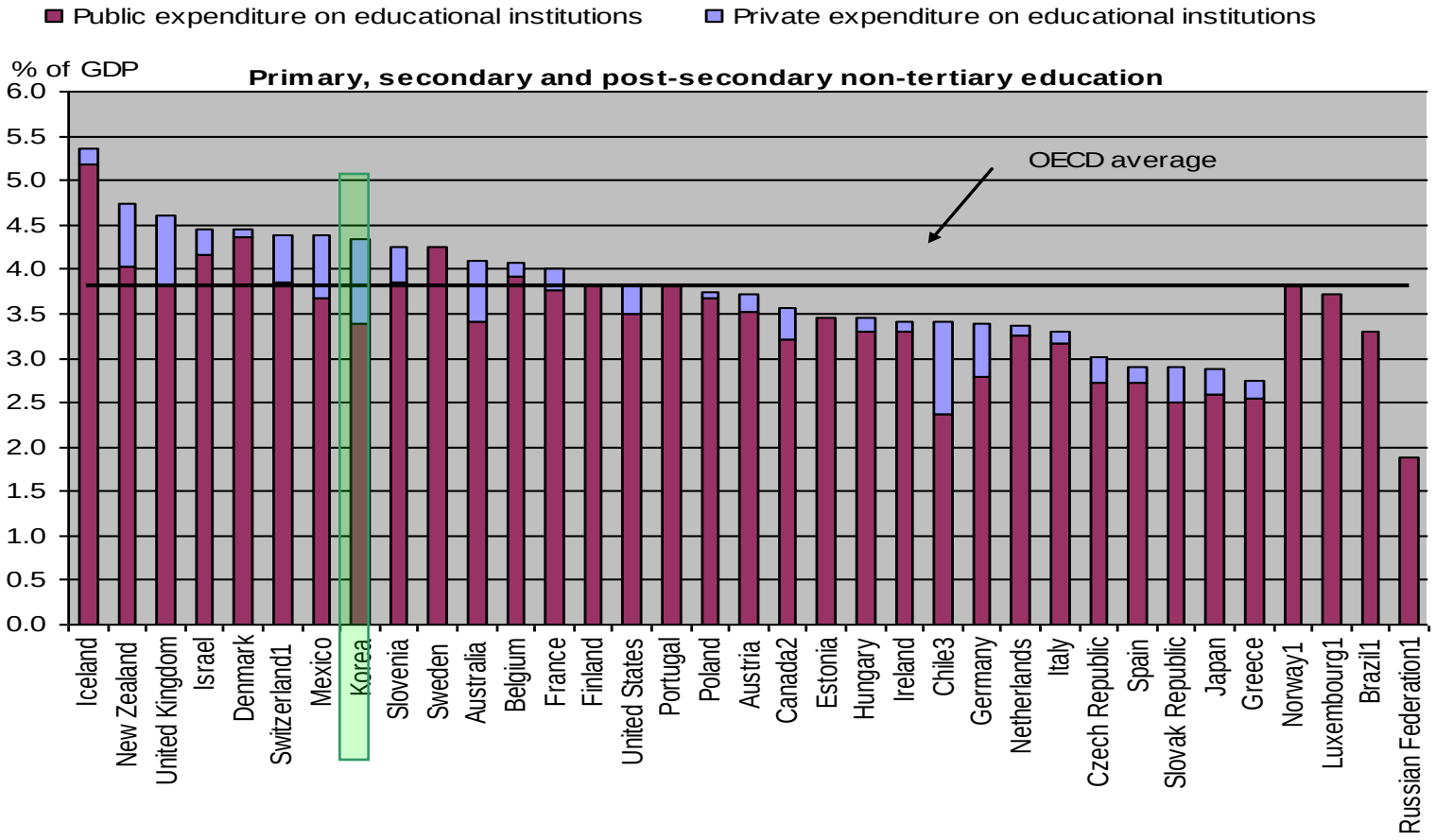
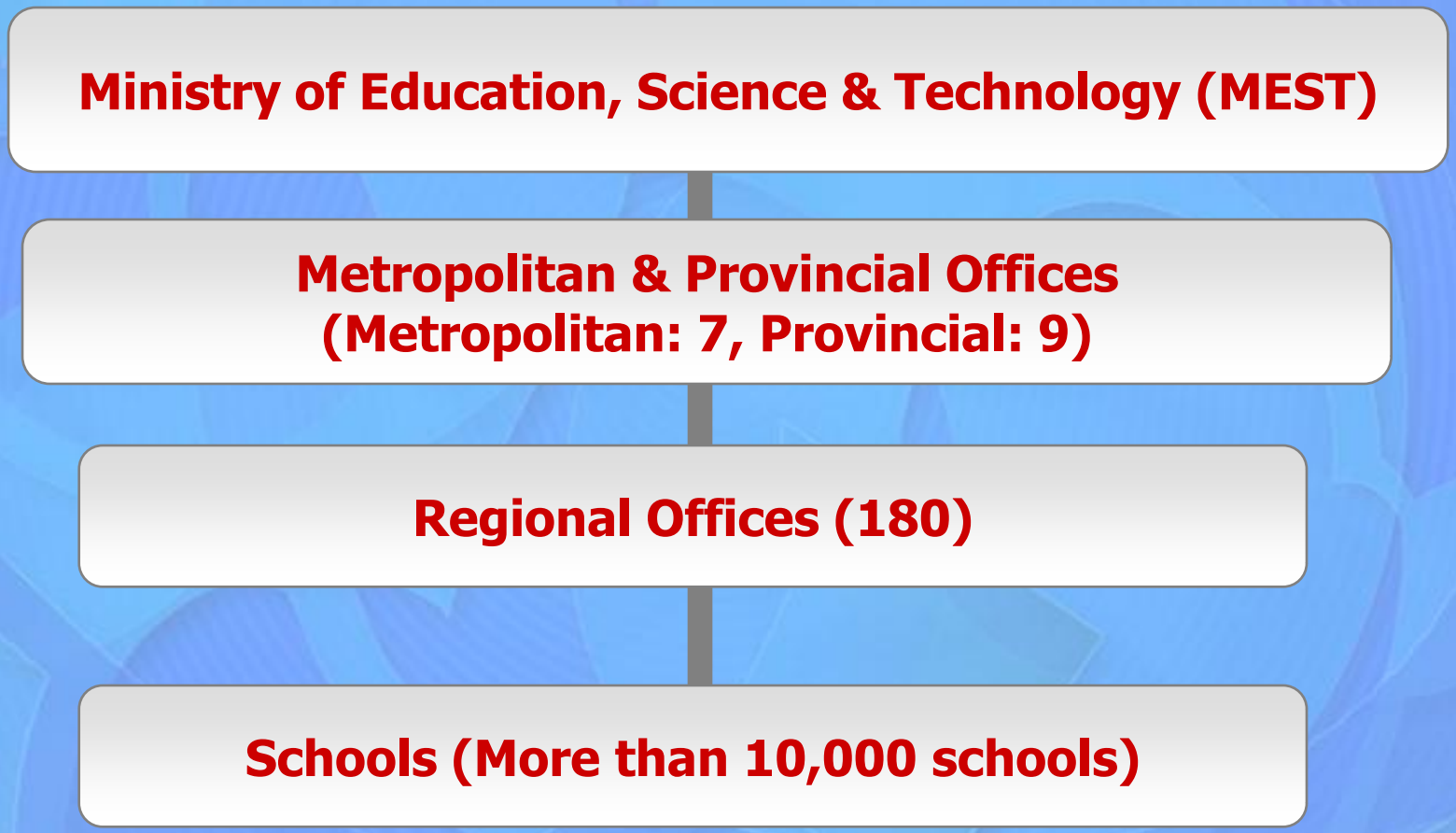
Expenditure on Educational Institutions as a Percentage of GDP (2005)

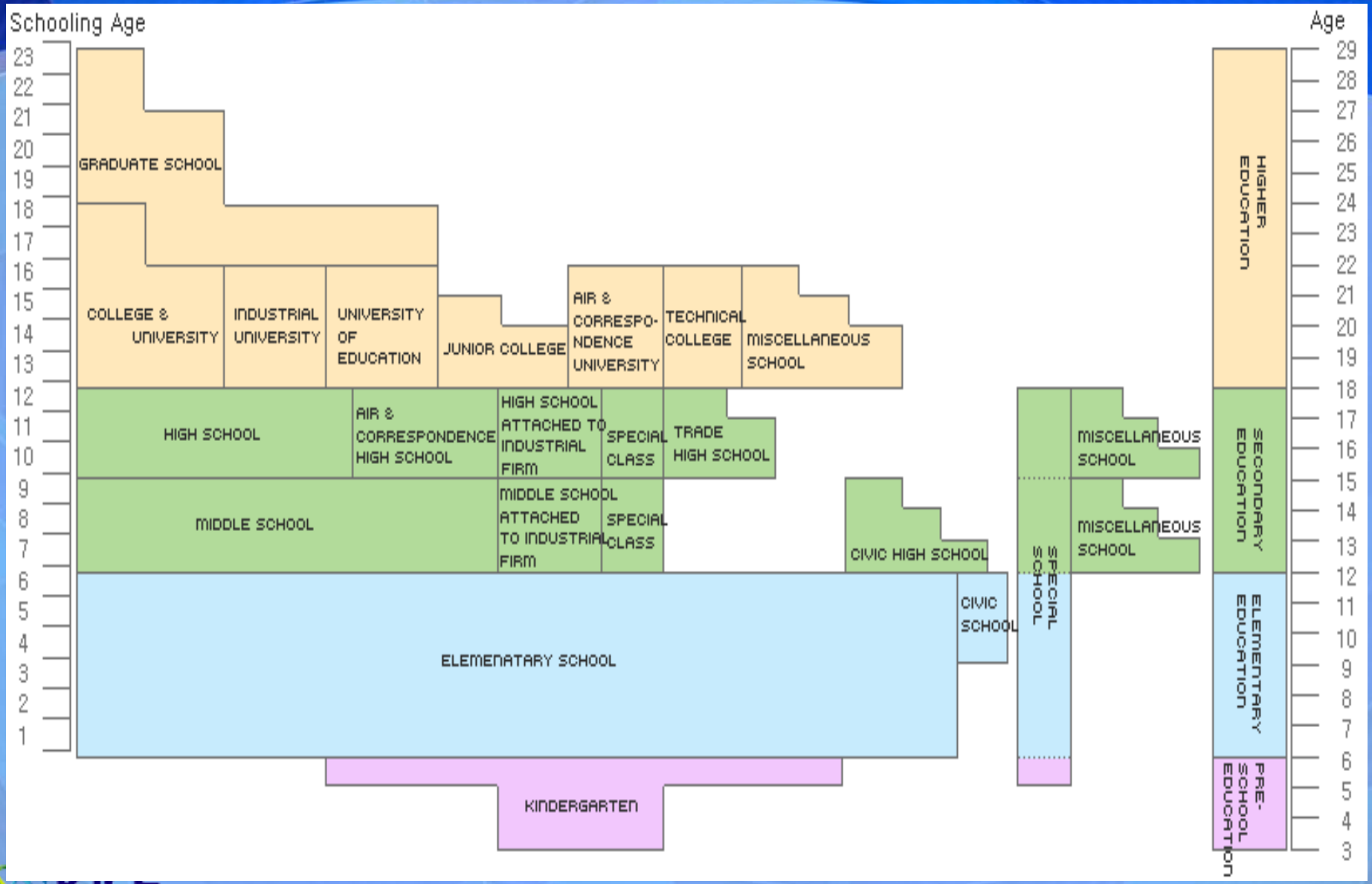


Source: OECD(2008) Education at a glance Chart B2.2

Structure of Educational Administration



School Ladder System

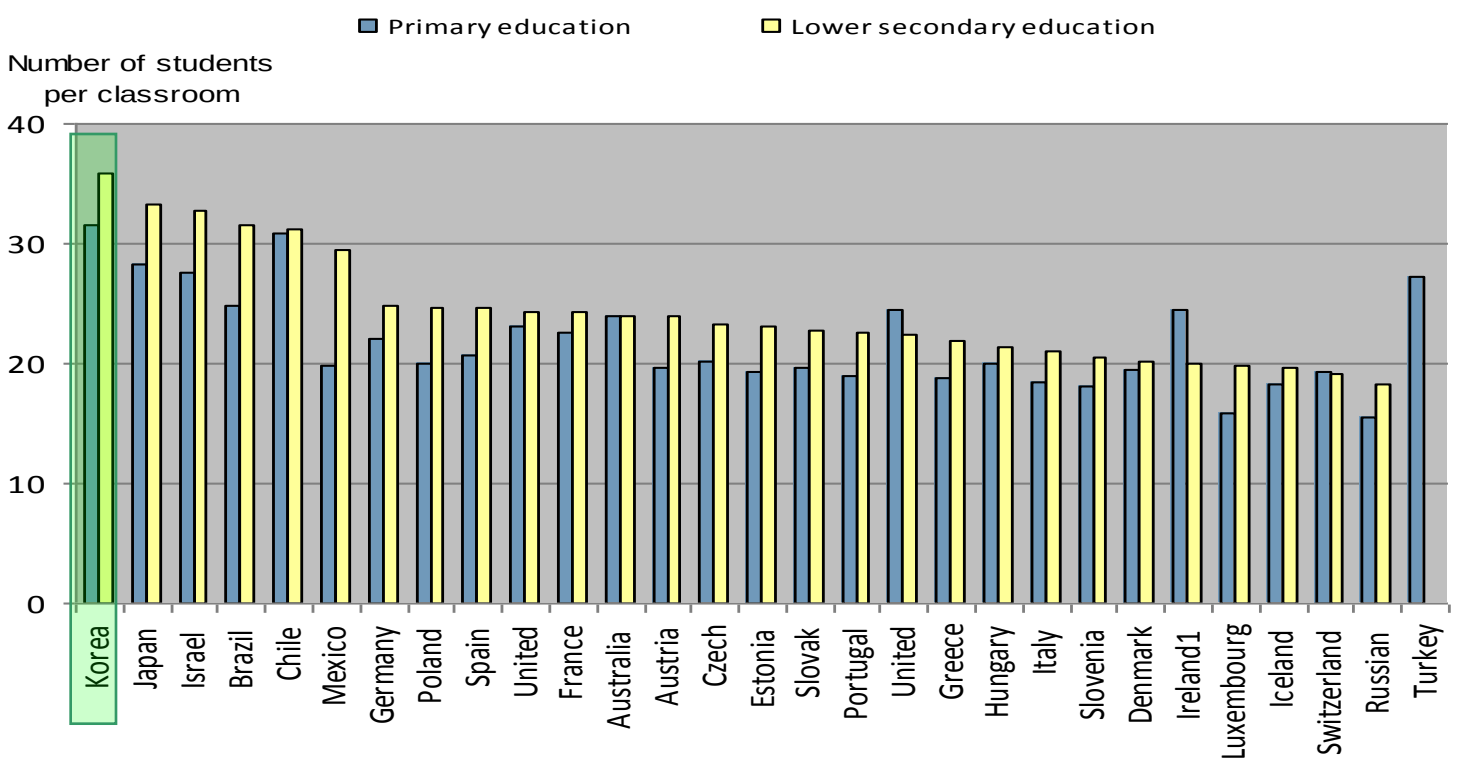


Number of Schools by Type (2006)

Kindergarten	8,275
Primary School	5,647
Middle School	2,947
General High School	1, 382
Vocational High School	713
Special School	142
Junior College	161
University – undergraduate	224
Total	19,586

Source: MEST(2008)

Average Class Size in Educational Institutions, by Level of Education (2006)



1. Public institutions only

Source: OECD(2008) Education at a glance Chart D2.2

National Curriculum

- The national curriculum has been revised regularly in accordance with a five- to ten-year cycle.
- The national curriculum sets strict regulations for the number of school days, the subjects to be taught for each school year, and the time allocation for each subject in each school year.
- But there is some room for modification by local education authorities and schools.
- The national curriculum provides criteria for the development of textbooks and general guidelines for teaching-learning activities and methods of assessment

Korean National Curriculum Revision

Revision	Proclamation Year	Features
1st National Curriculum	1955	Curriculum centered around school education
2nd National Curriculum	1963	Experiential curriculum
3rd N		n
4th N		
5th N		
6th N		
7th N		
2007 Nat		

Change of Curricular Choice

	National	Local	School	Student
1998	42%	52%	6%	0%
2002	26%	20%	20%	20~50%

Teacher Education Programs

	Elementary School Teacher	Secondary School Science Teacher
Institution	• 11 university of education • 1 national university of education • 1 Physical Education College	• College of education • Teacher training courses at ordinary universities • Graduate school of education
Credit requirements	• Minimum 140 credits (30-44 credits in liberal arts, 12-24 in subject education, 2-5 in teaching practicum, 6-16 in Arts and PE practices, 15-30 in advanced courses)	• College of education: 130-140 credits (20% in liberal arts, 40% in major subjects, 20% in elective subjects) • Teacher training courses: 30 credits (9 education general and 3 teaching practicum)
Teacher's qualification examination	• Conducted by metropolitan/provincial offices of education	

- 1st exam: a written test on both pedagogy and special areas
- 2nd exam: essay writing,
- 3rd exam: practical test, interview

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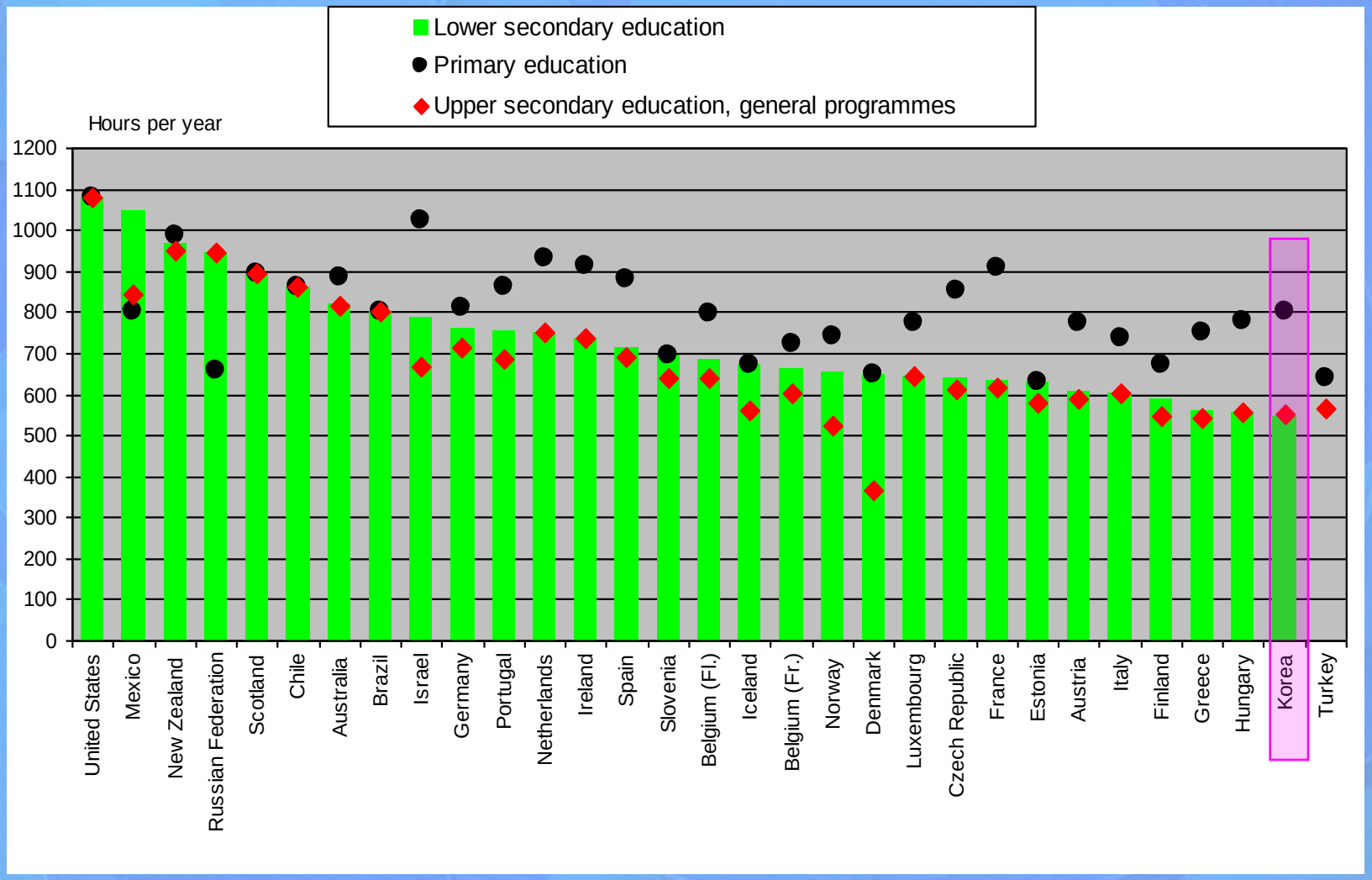
Professional Development Programs

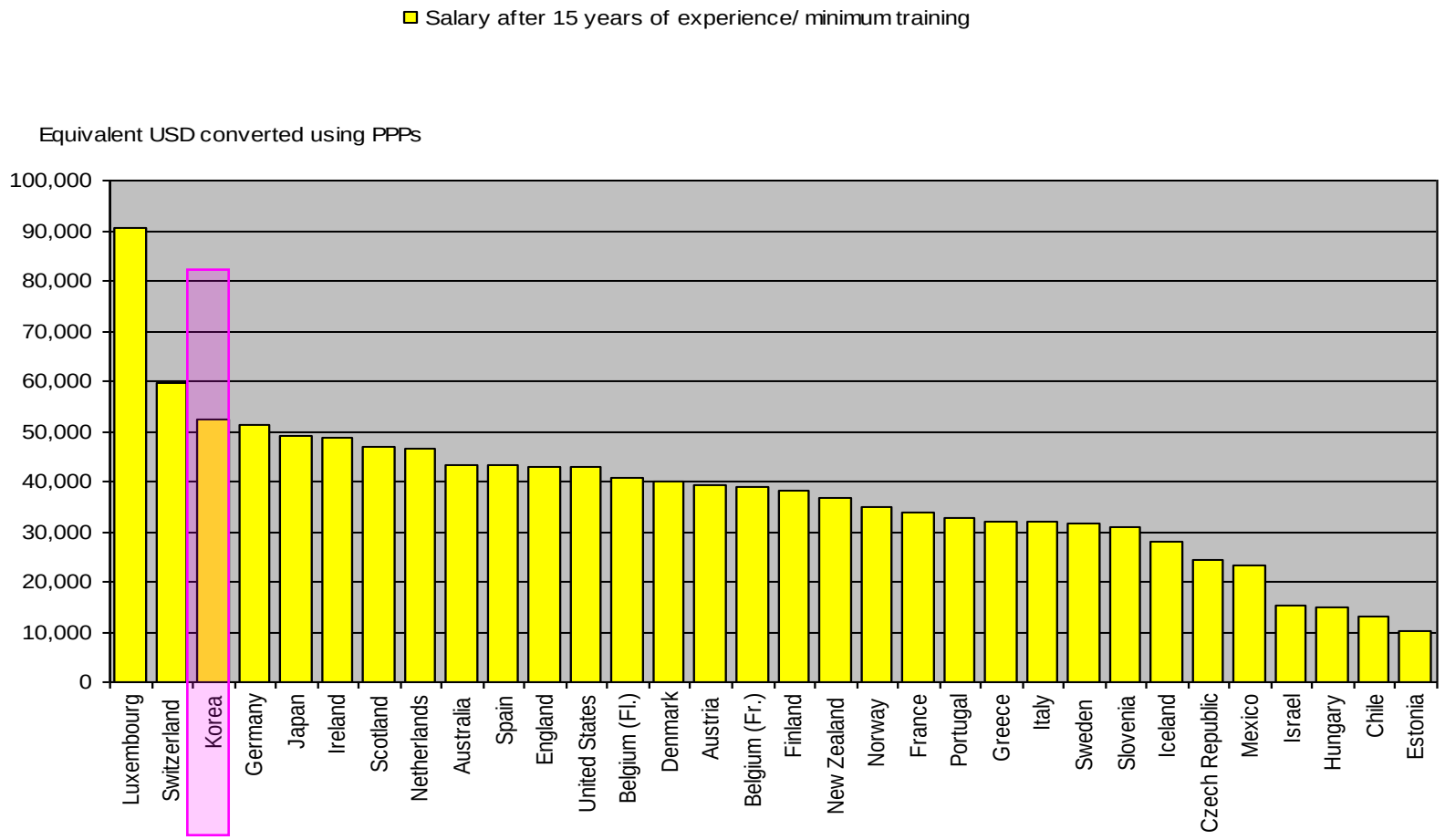
Type	Purpose	Organizer	Period
Certificate training programs	To promote (Grade II teachers → Grade 1 teachers)	Metropolitan/ Provincial Office of Education	180 hours
Professional job training	To improve teachers' effectiveness and their ability to teach subjects	District office of education, science institutions, science center, academic society	15, 30, 60 Hours
Overseas in-service training	To improve international understanding and professionalism	Metropolitan/ Provincial Office of Education	2 – 4 weeks
Special training	To improve teacher professionalism	Domestic or foreign training centers designated by the Ministry of Education	Up to 2 years

Number of Teaching Hours per Year, by Level of Education (2006)



Source: OECD(2008) Education at a glance Chart D4.2

Teachers' Salaries in Lower Secondary Education (2006)



Source: OECD(2008) Education at a glance Chart D3.1

National Assessment of Educational Achievement

- Purpose:
  - To diagnose the educational achievements and the trends of the achievements
  - To provide basic information to improve the curriculum and to check the problems of the curriculum implementation
- Yearly survey
- Subjects: Korean, Social Studies, Science, Mathematics, English
- Grade: 6^{th}, 9^{th}, 10^{th}
- Sampling: 3-5% students
- Test results:
  - Provides students with their scores and achievement levels
  - Publish reports at the national level

Characteristics of Korean Education

- Rapid Expansion in all Levels of Schooling
- Efficiency in policy implementation
- High Equity in education
- Zeal for education

Problems & Issues of Korean Education

- **Extreme Competition for College Entrance**
  - Low confidence in school education
  - High private expenditure for tutoring
- **Over-centralized educational administration**
  - Lack of diversity
- **Debate between Excellence and Equity**

Current Reform Initiatives

Current Reform Initiatives (I)

1. Autonomy & Accountability

- Autonomy of Local Education Offices and Schools
  - Central Government plays a minimum role in establishing standard for the education system and narrowing educational gap
  - Provide national education policy through consultations with local education offices
- Transparent Education Administration
  - Disclose School Information : School administration system and policy, budgeting and planning process

Source: MEST(2008)

Current Reform Initiatives (II)

2. High School Education Reform – *300 Project*

- 150 Public Boarding Schools
  - Select schools in rural areas to become public boarding schools:

    88 in 2008 -> 150 in 2011

- 50 Professional "Meister" Schools
  - Designate 50 specialized vocational schools to meet the needs of industry: 20 in 2008 -> 50 in 2011

- 100 Autonomous Private Schools
  - Designate 100 private schools by 2011 with autonomy in school administration
  - Start with schools in rural areas and small towns in 2008

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Source: MEST(2008)

Current Reform Initiatives (III)

3. Primary and Secondary Education

- Support and Stimulate Low-Performance Students
  - Analyze cause of low-performance and strengthen support to narrow the educational gap
  - Identify best practices of guiding low-performance student and provide incentives to best teachers
  - Provide tutoring and counseling to low-performance students

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Source: MEST(2008)

Thank you