Implications for Korea based on ICILS

Nan Sim Cho (Vice-President, KICE)

KICE

I. Introduction

Introduction

Computer and Information Literacy (CIL) is an essential ability

- Many countries are putting effort in enhancing students' key competencies in education in order to foster future leaders in an era of internationalization.

- South Korea has been attentive to such international trends and participated in ICILS 2013.

- Through ICILS, we were able to measure CIL, identify relationships between contextual variables, and gain insights regarding policies on CIL education at the international level.
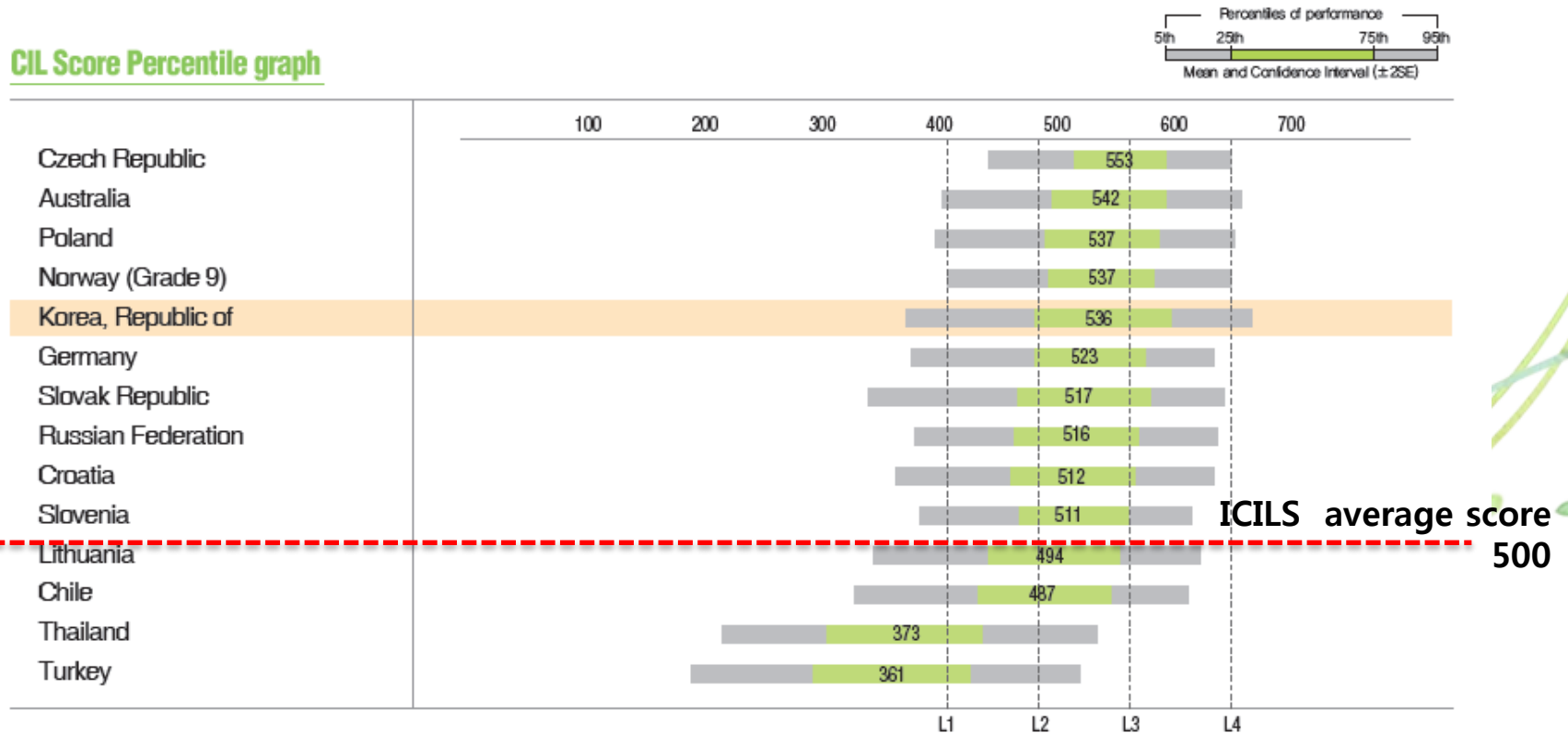
II. ICILS 2013 Results in Korea

Korea Institute for Curriculum and Evaluation
KICE

Students' CIL

The average CIL scores of Korea was higher than the average ICILS score.

CIL Score Percentile graph

Country	Score
Czech Republic	553
Australia	542
Poland	537
Norway (Grade 9)	537
Korea, Republic of	536
Germany	523
Slovak Republic	517
Russian Federation	516
Croatia	512
Slovenia	511
Lithuania	494
Chile	487
Thailand	373
Turkey	361

ICILS average score 500

Students' CIL by gender

Korea emerged as the country with the largest gender gap in CIL.

Gender Differences in CIL (Females - Males)

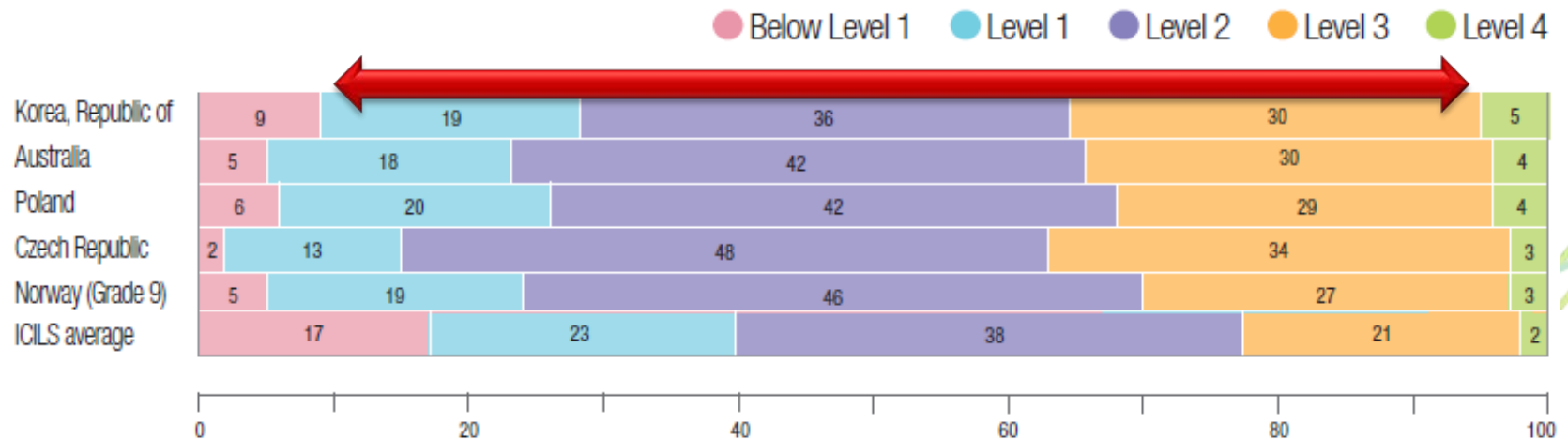Gender difference is not statistically significant
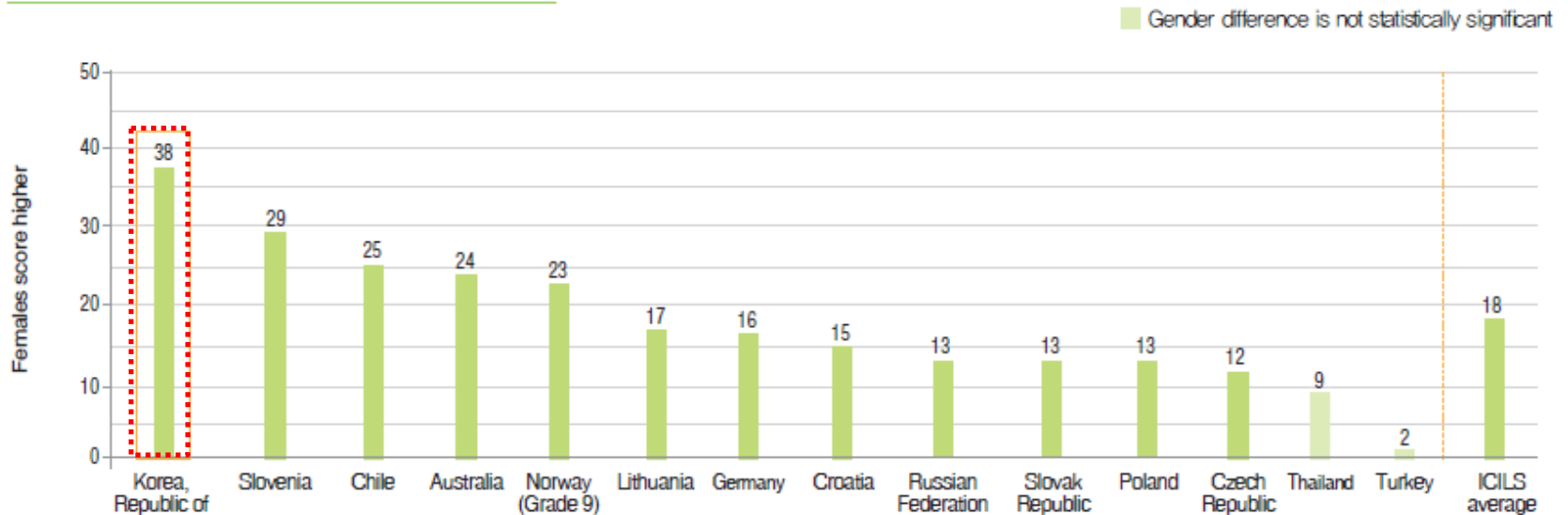
* The difference of points by gender was rounded off; therefore the results can be different from the raw difference of each gender.

Students' CIL by proficiency level

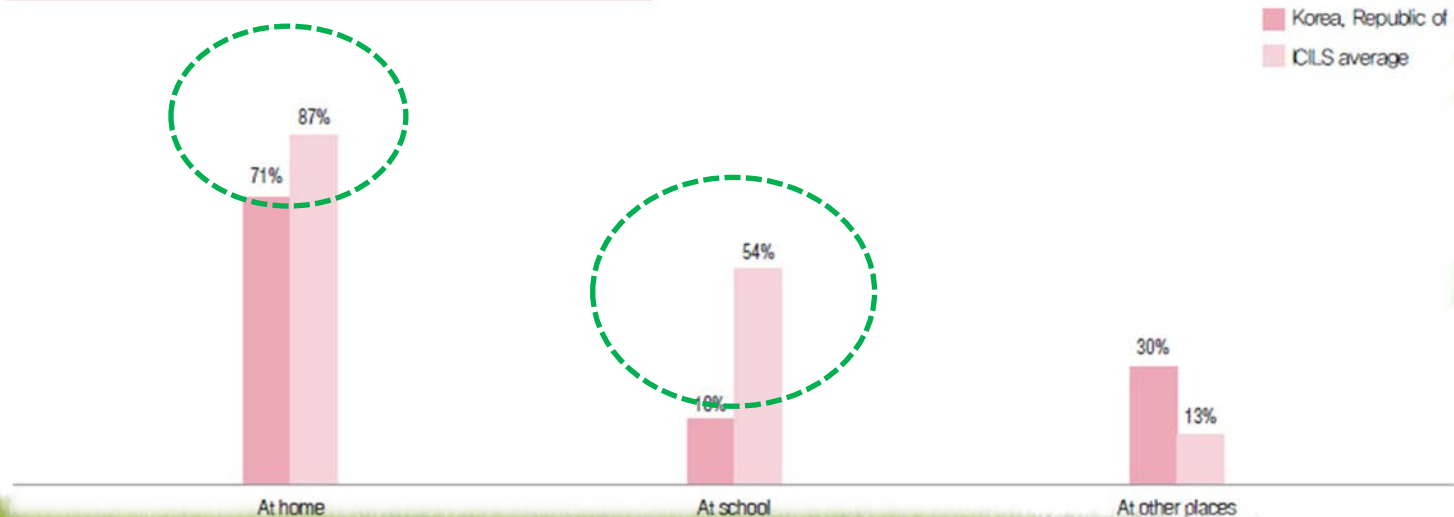Korea has the largest gaps between the lowest level to highest level among the top five performance countries.

Percentages of Students at Each Proficiency Level across Countries (%)

	Below Level 1	Level 1	Level 2	Level 3	Level 4
Korea, Republic of	9	19	36	30	5
Australia	5	18	42	30	4
Poland	6	20	42	29	4
Czech Republic	2	13	48	34	3
Norway (Grade 9)	5	19	46	27	3
ICILS average	17	23	38	21	2

Students' learning experiences

Korean students report little experience with learning that makes active use of computers.

- Koreans had the lowest scores, respectively, on the use of computers for learning purposes and completing ICT assignments at school.

- Also, the percentages of students' computer use at home and school was lower than other participating countries.

Comparison of Percentages of Students' Computer Use

Legend: Korea, Republic of / ICLS average

- At home: 71%, 87%
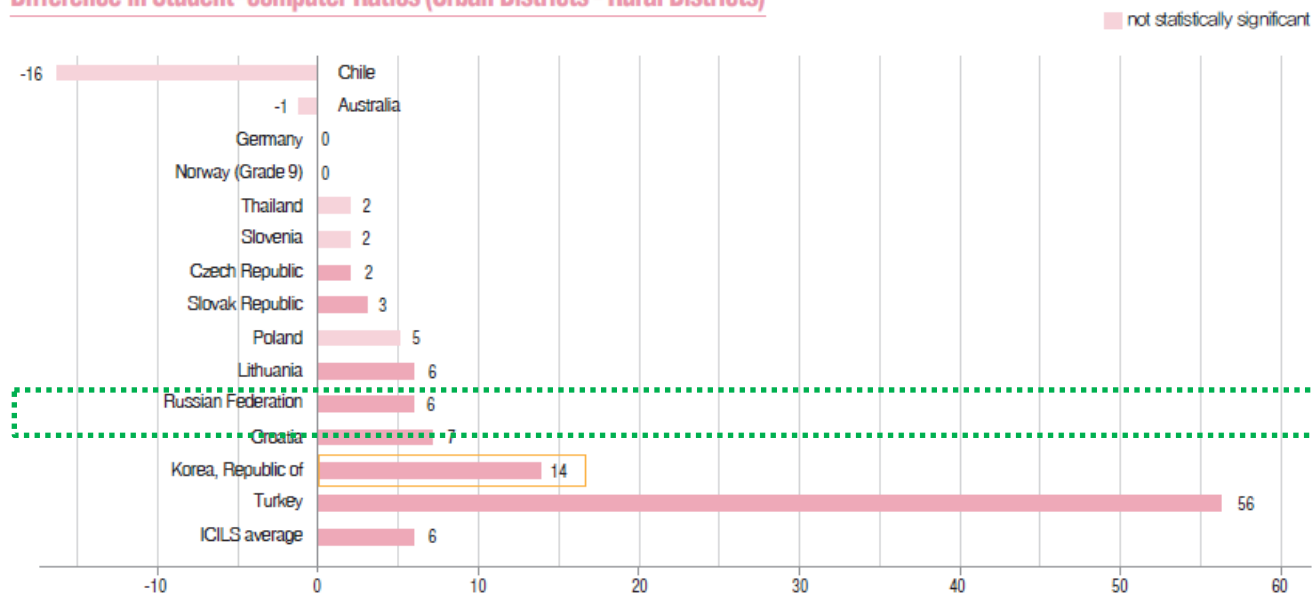- At school: 18%, 54%
- At other places: 30%, 13%

Schools' computer resources

Korea showed the highest number of students per computer, and showed a relatively large gap between districts.

- ICILS reveals that about 20 students share each computer at school in Korea, whereas the ICILS average is 18 students per computer.

- There is a persistent gap in the number of computers available at schools between urban and rural areas.
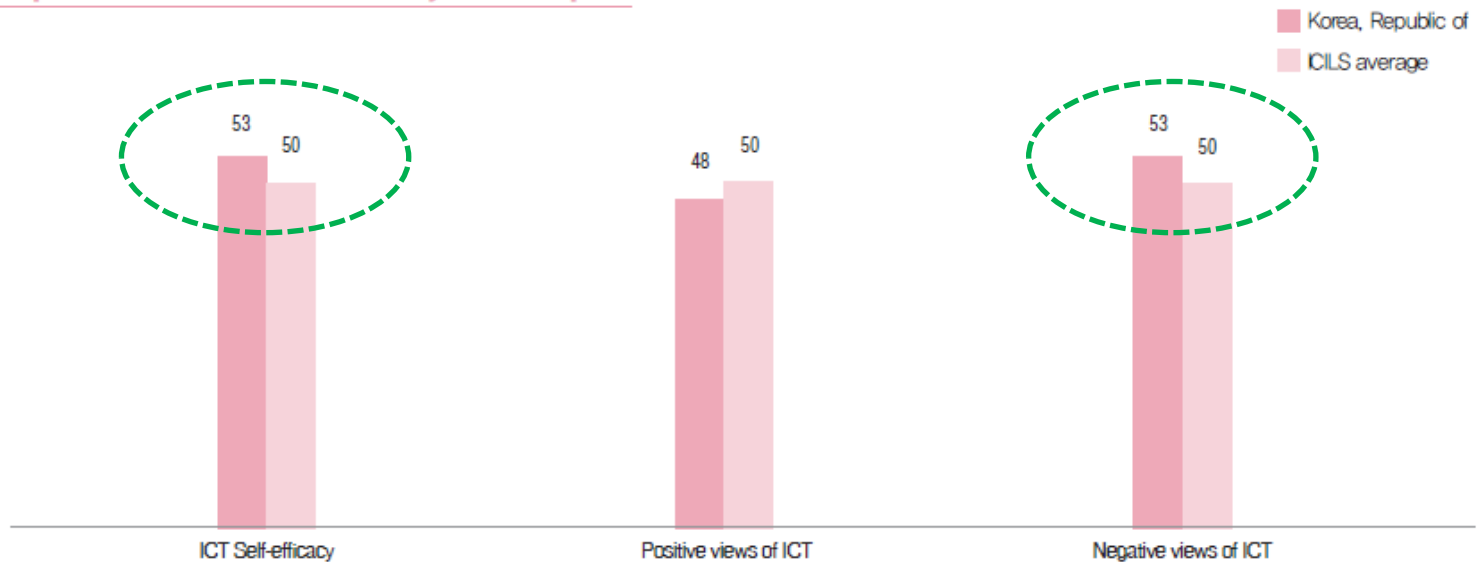

Difference in Student–computer Ratios (Urban Districts - Rural Districts)

not statistically significant

-16	Chile
-1	Australia
0	Germany
0	Norway (Grade 9)
2	Thailand
2	Slovenia
2	Czech Republic
3	Slovak Republic
5	Poland
6	Lithuania
6	Russian Federation
7	Croatia
14	Korea, Republic of
56	Turkey
6	ICILS average

Teachers' view about ICT

● Korean teachers report little experience with learning that makes active use of computers.

- Korean teachers showed the second highest ICT self-efficacy after Australia but were not positive about using ICT in teaching and learning.

Comparison of Teachers' Self-efficacy and Perception

Legend: Korea, Republic of / ICILS average

ICT Self-efficacy: 53, 50

Positive views of ICT: 48, 50

Negative views of ICT: 53, 50

Teachers' view about ICT

Teachers hold negative perceptions of the use of ICT and are reluctant to participate in ICT professional development programs.

- Korean teachers showed the second highest ICT self-efficacy after Australia but were not positive about using ICT in teaching and learning.

- Korean teachers were particularly less likely than their counterparts worldwide to use ICT in their teaching and learning processes.

- The percentages of teachers participating in ICT-related professional development activities were all below 50%, excluding the component 'observing other teachers using ICT in teaching'.

III. Policy Recommendations from ICILS results in Korea

The CIL education policy in Korea

Mandatory Software Education in the Revised National Curriculum of 2015

- Computer and information education in Korea, first introduced as part of occupational training in the early 1970s

- In the recent years, new efforts have been made to foster and develop computational thinking in students, and beyond teaching students basic ICT skills.

- The MOE has sought to introduce mandatory software education by adding new units to the "Practical Course" classes for G5 & G6 and also introducing the new "Information" subject for middle school students in the revised Curriculum of 2015.

Policy Recommendations

◆ Paradigm shift for reducing the information gap

- The information gap persists in Korea.
- Therefore, Korean policymakers now need to identify and analyze all the causes of this widening gap and find fitting policy solutions accordingly.

Policy Recommendations

📍 Development of human and physical infrastructure for information education at public schools

- An educational environment that allows more student access to ICT in schools should be constructed.

Policy Recommendations

- Enhancement of the teacher capability to provide learner-centered information education.

  - The Korean government should develop a national system for training teachers, with a view to ensure the sustainability of information education in Korea.

Thank you.