Role of Education in Promoting Social Mobility - Focusing on Learner Agency

Students as well as Teachers

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What is Social-Mobility?

- **Social mobility** is the movement of individuals, families, households, or other categories of people within or between social strata (e.g., income, wealth, occupation, social status) in a society. It is a change in social status relative to one's current social location within a given society.

(https://en.wikipedia.org/wiki/Social_mobility)

Social Mobility in the World: A Broken Social Elevator(OECD, 2018)

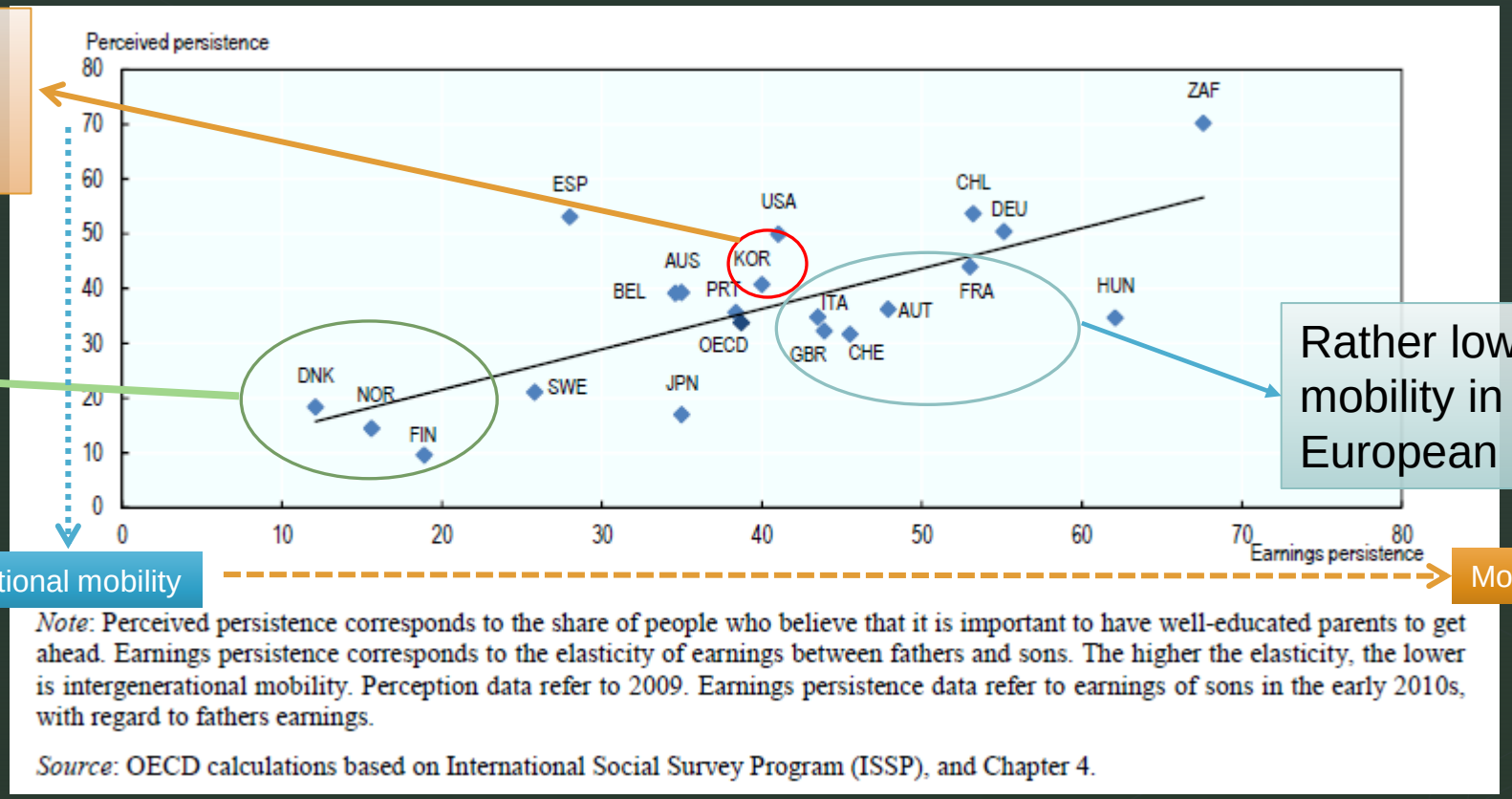
1. A lack of social mobility in general
2. Sticky floors & sticky ceilings
3. Sticky floors and ceilings also apply to income mobility over the individuals' life course
    - It could take 5 generations for the offspring of low-income families to reach the average income level
4. High level of inequality and low social mobility reinforce each others
5. Risks and opportunities in the middle

Level of Social Mobility in the World

- Perceived and Actual Mobility of Earnings Over One Generation(OECD, 2018)

Educational mobility is high but earnings mobility is around average

Very high social mobility in Nordic countries



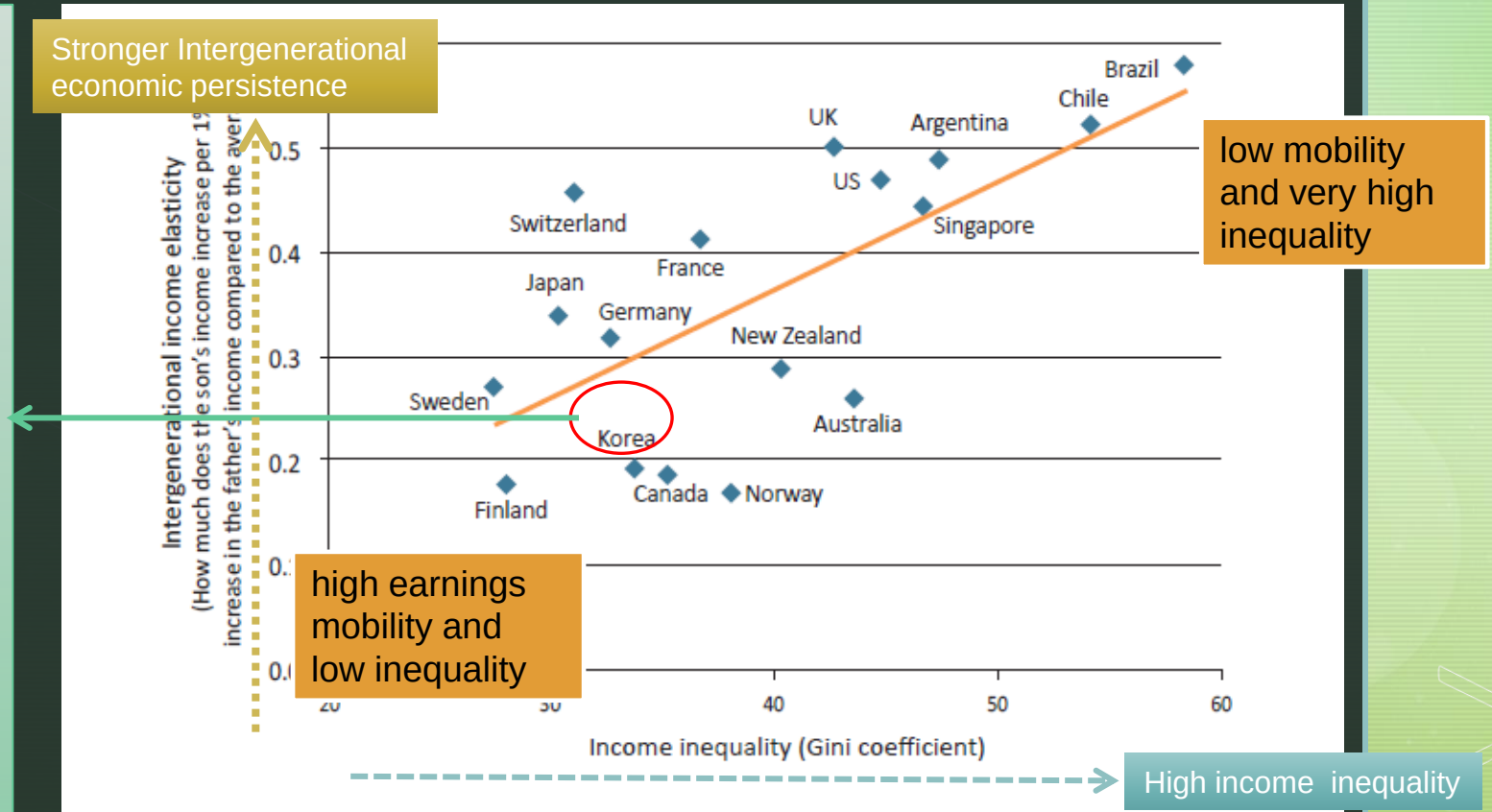
Rather low social mobility in Continental European countries

Source : OECD(2018). A Broken Social Elevator? How to Promote Social Mobility

Level of Social Mobility in the World

- Income inequality/Intergenerational persistence in economic status (The Great Gatsby Curve) (Kim, 2015)
- Earnings mobility is negatively correlated with overall levels of income inequality

- Korea has been perceived as high social mobility partly due to (Kim, 2009)
  - the collapse of the old social hierarchies with the end of the Japanese colonial rule
  - the abolition of the class system and land reforms after the Korean War
  - national aspiration for education; expansion of public education
  - job creation driven by rapid economic growth
  - high school equalization policy
  - an increase in universal education opportunities



Source : Kim, Hisam (2015). Resetting Education Policy to Restore Social Mobility. KDI Focus, 54

OECD Policy Recommendations

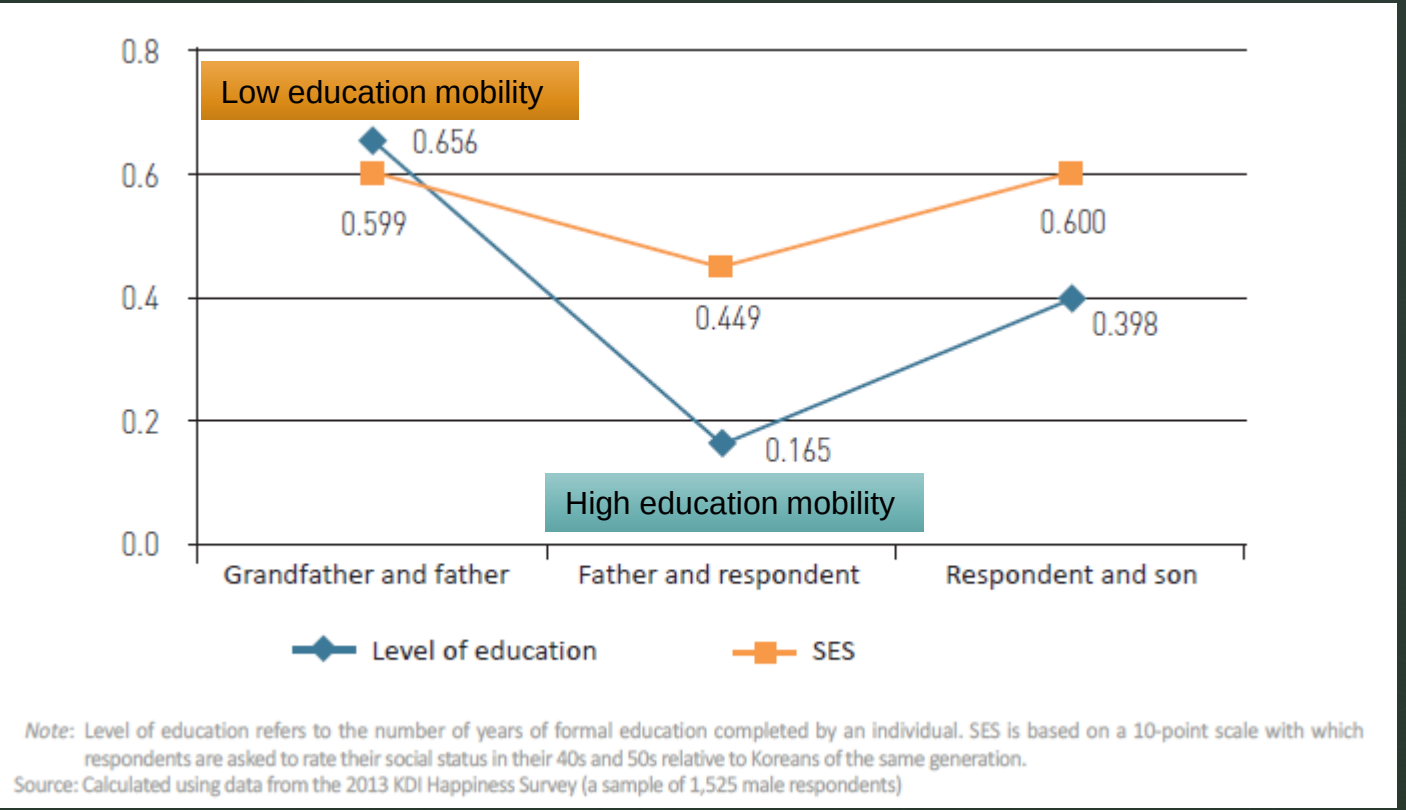
Source : OECD(2018). A Broken Social Elevator? How to Promote Social Mobility

- Design policies to grant all children equal opportunities
- Countries which in the past spent more on education tend to have higher educational mobility
- → not just confined to spending more overall but rather to target spending on effective programmes and ensuring their quality and equal access
- Education measures to support social mobility and to avoid unequal opportunities in the long run include access to high-quality early education and care, as well as formal education for all, while preventing school drop-out.
- → Fostering Student agency and Teacher agency

Intergenerational Mobility in Korea

- Intergenerational Correlation Coefficient in terms of Educational Attainment and SES(Kim, 2015)

- Korea did not experience serious income inequality until the 1990s
- The correlation coefficient between each respondent's grandfather's educational attainment and their father's educational attainment, then between their father's and themselves declining for three generations and then increasing from the third to fourth generation (u-shape)

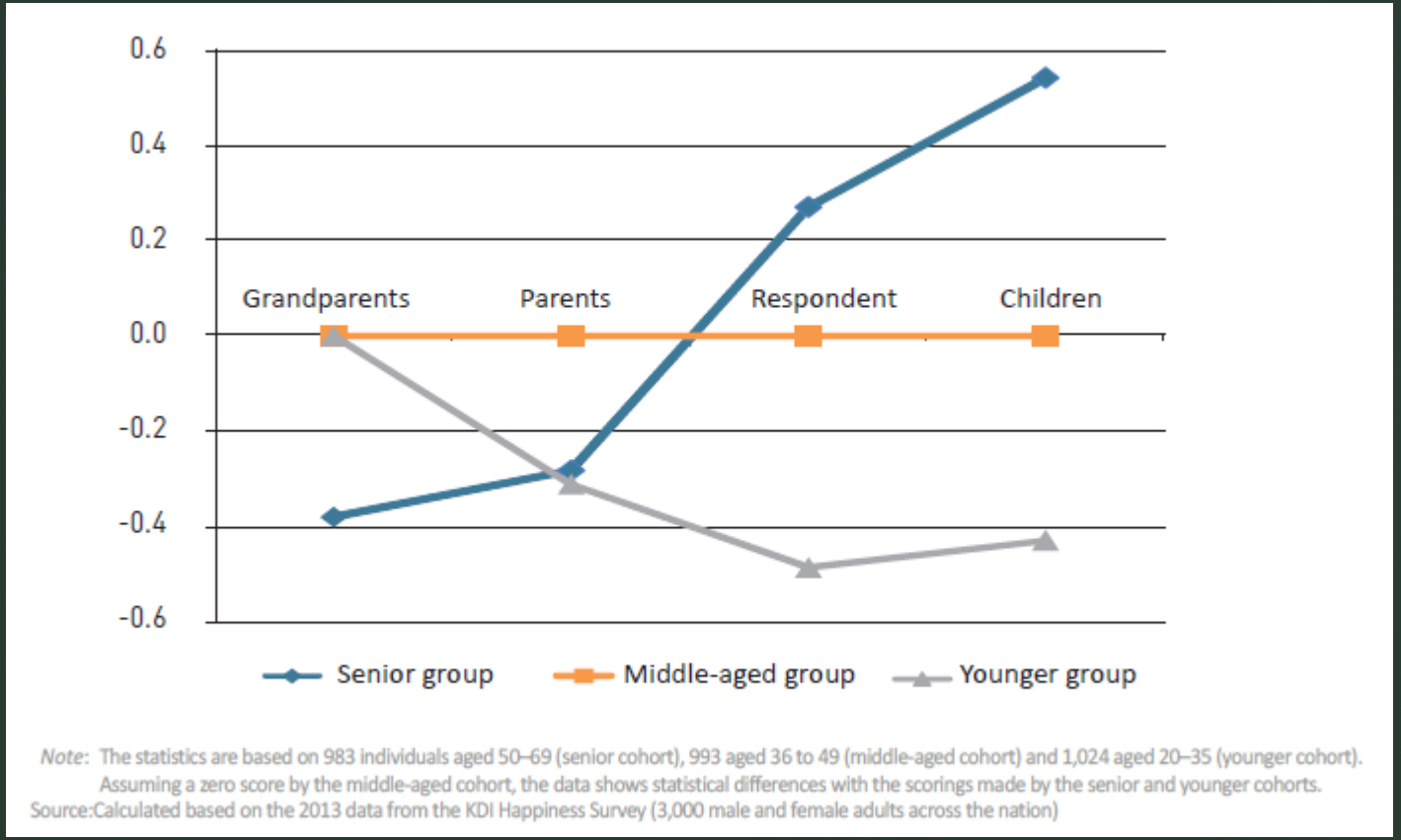


Source : Kim, Hisam (2015). Resetting Education Policy to Restore Social Mobility. KDI Focus, 54

Intergenerational Mobility in Korea

- Education can serve as a social mobility ladder for lower-income children when public education is opened up
- When it is difficult for the educated to be offered a promising job opportunity simply due to attending a lower-ranked school—with the lack of financial backing from parents being a hurdle to attending prestigious schools—education is perceived as a channel to pass on social class status to the next generation (Kim 2015, p.18)

- Perception of Education as a Ladder to Higher Social Status by Age Group(Kim, 2015)



Source : Kim, Hisam (2015). Resetting Education Policy to Restore Social Mobility. KDI Focus, 54

Inequality of Individual Achievements due to Environmental Effects(Lee & Cho, 2016)

Inequality of Education

	GINI		CV	
	Absolute Contribution	Relative Contribution	Absolute Contribution	Relative Contribution
Cons	0.000	0.000	0.000	0.000
Father's Edu	0.030	0.309	0.052	0.279
Male	0.007	0.071	0.012	0.066
Grow region	0.002	0.024	0.004	0.021
No of siblings	0.003	0.029	0.005	0.024
Age	0.004	0.039	0.006	0.032
Residual(efforts)	0.051	0.529	0.108	0.578
Total	0.096	1.000	0.188	1.000

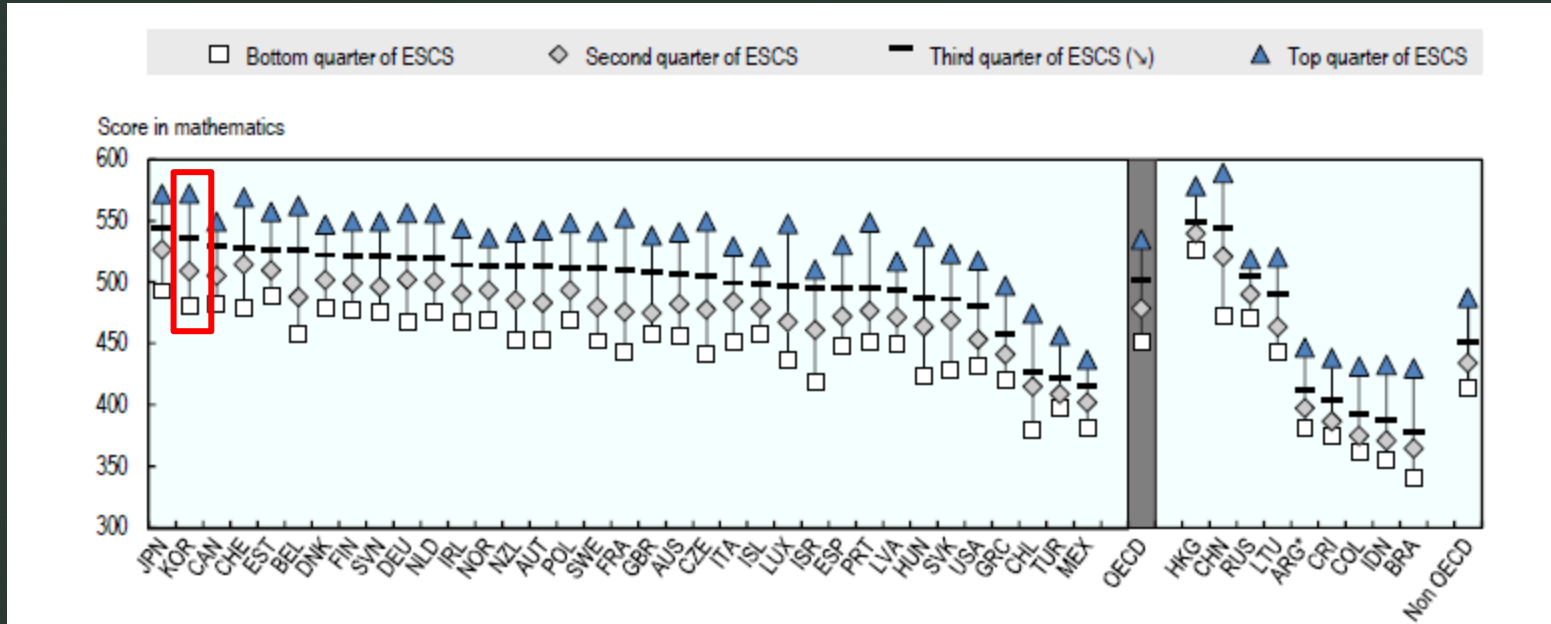
Inequality of Income

	GINI		CV	
	Absolute Contribution	Relative Contribution	Absolute Contribution	Relative Contribution
Cons	0.000	0.000	0.000	0.000
Father's Edu	0.037	0.107	0.052	0.076
Male	0.138	0.396	0.262	0.384
Grow region	0.002	0.007	0.004	0.005
No of siblings	0.000	0.000	0.000	0.000
Age	0.003	0.008	0.004	0.006
Residual(efforts)	0.168	0.482	0.360	0.528
Total	0.348	1.000	0.682	1.000

Educational Inequality Exists across Countries

- Scores in mathematics by socio-economic status of parents, 2015(OECD, 2018)

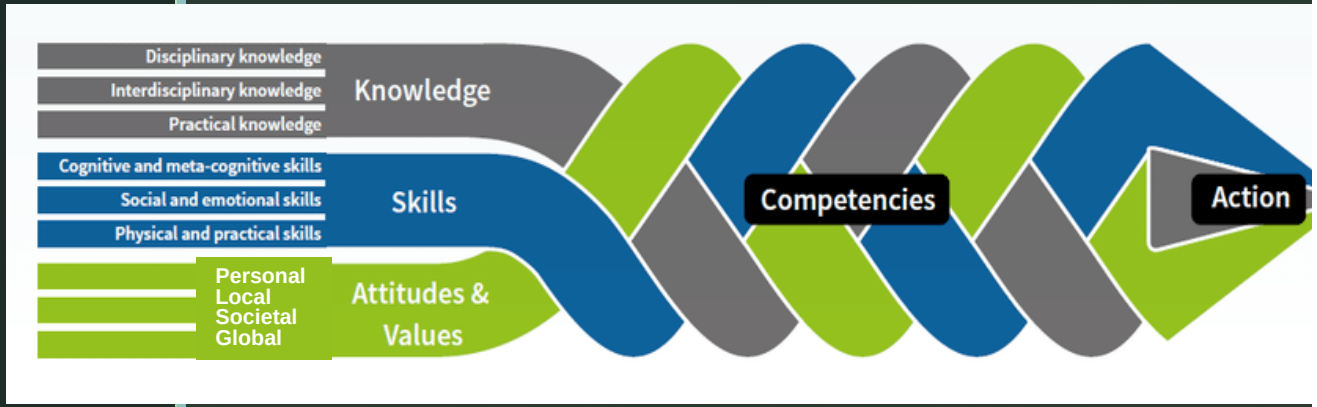
- As parent's ESCS(Economic, Social and Cultural Sates) goes up, their children's mathematics achievement scores go up
- The achievement gap between different ESCS of Korea is rather large than other countries



Note: ESCS refers to the PISA (Programme for International Student Assessment) index of economic, social and cultural status.
*Argentina: Coverage is too small to ensure comparability.

Source : OECD(2018). A Broken Social Elevator? How to Promote Social Mobility

The Future of Education and Skills 2030: OECD Learning Framework 2030



OECD(2018). The Future of Education and Skills : *Education 2030*

What is Student Agency?

- **Future-ready students** need to exercise agency, in their own education and throughout life. Agency implies a sense of responsibility to participate in the world and, in so doing, to influence people, events and circumstances for the better. Agency requires the ability to frame a guiding purpose and identify actions to achieve a goal(OECD, 2018, p. 4).
  1) A personalized learning environment that supports and motivates each student to nurture his or her passions, make connections between different learning experiences and opportunities, and design their own learning projects and processes in collaboration with others.
  2) Building a solid foundation: literacy and numeracy remain crucial. In the era of digital transformation and with the advent of big data, digital literacy and data literacy are becoming increasingly essential, as are physical health and mental well-being.

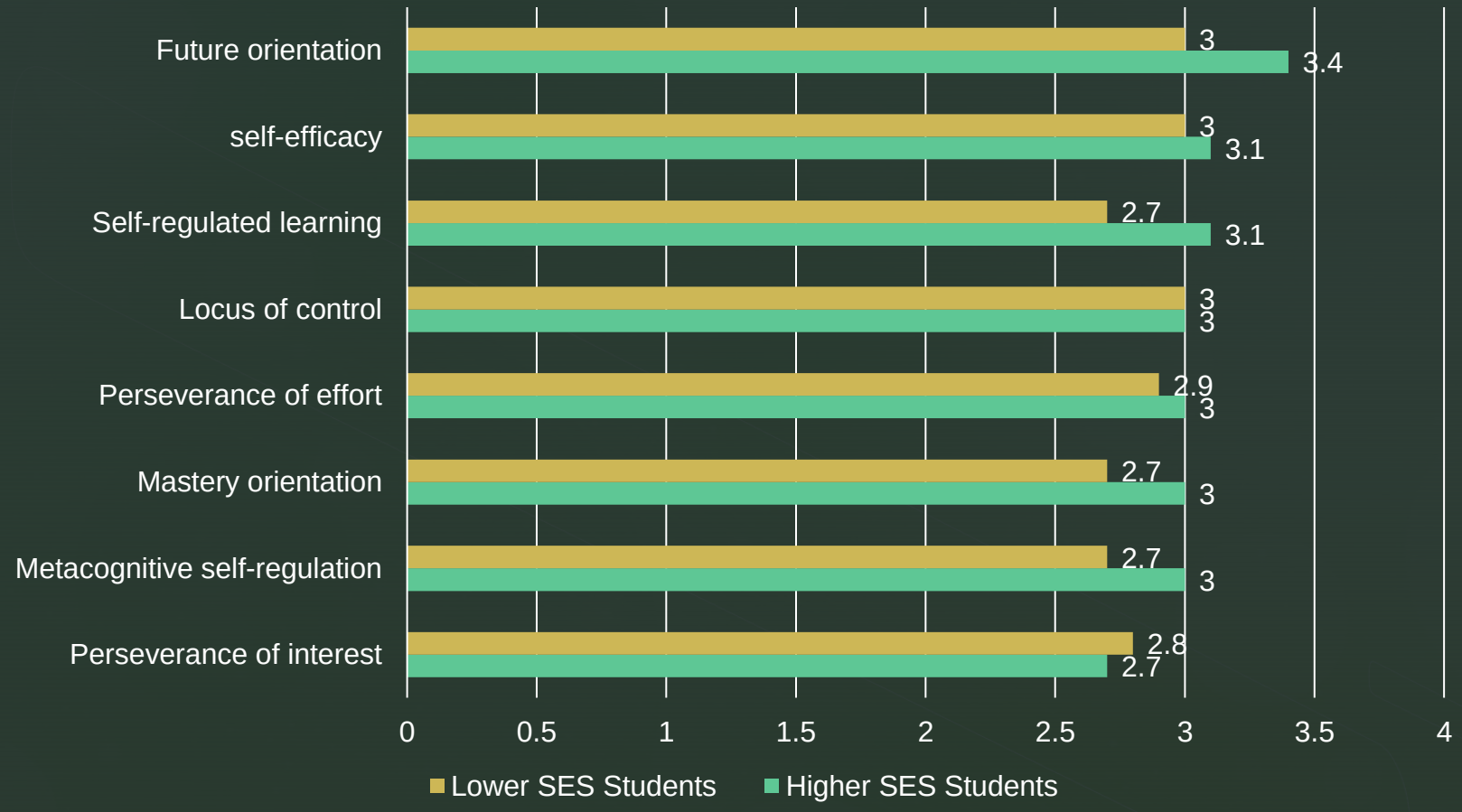
Key Constructs related to "Student Agency"

- Student agency relates to the development of an **identity** and a **sense of belonging**.
  - **motivation**, **hope**, **self-efficacy** and a **growth mindset** (the understanding that abilities and intelligence can be developed) to navigate towards well-being
- This enables them to act with a sense of **purpose**, which guides them to flourish and thrive in society(OECD, 2018).

Construct	Source	Example Item
Self-efficacy	Chen, Gully, & Eden, 2001	In general, I think that I can achieve goals that are important to me.
Perseverance of interest[a]	Duckworth & Quinn, 2009	New ideas and projects sometimes distract me from previous ones.
Perseverance of effort	Duckworth & Quinn, 2009	I finish whatever I begin.
Locus of control	Levenson, 1981	I can pretty much determine what will happen in my life.
Mastery orientation	Midgley et al., 2000	An important reason why I do my classwork is because I like to learn new things.
Meta-cognitive self-regulation	Pintrich & DeGroot, 1990	I ask myself questions to make sure I understand the material I have been studying in this class.
Self-regulated learning	Consortium on Chicago School Research, 2009	I set aside time to do my homework and study.
Future orientation	Consortium on Chicago School Research, 2009	What I learn in class is necessary for success in the future.

(Zeiser, Scholz, & Cirks, 2018)

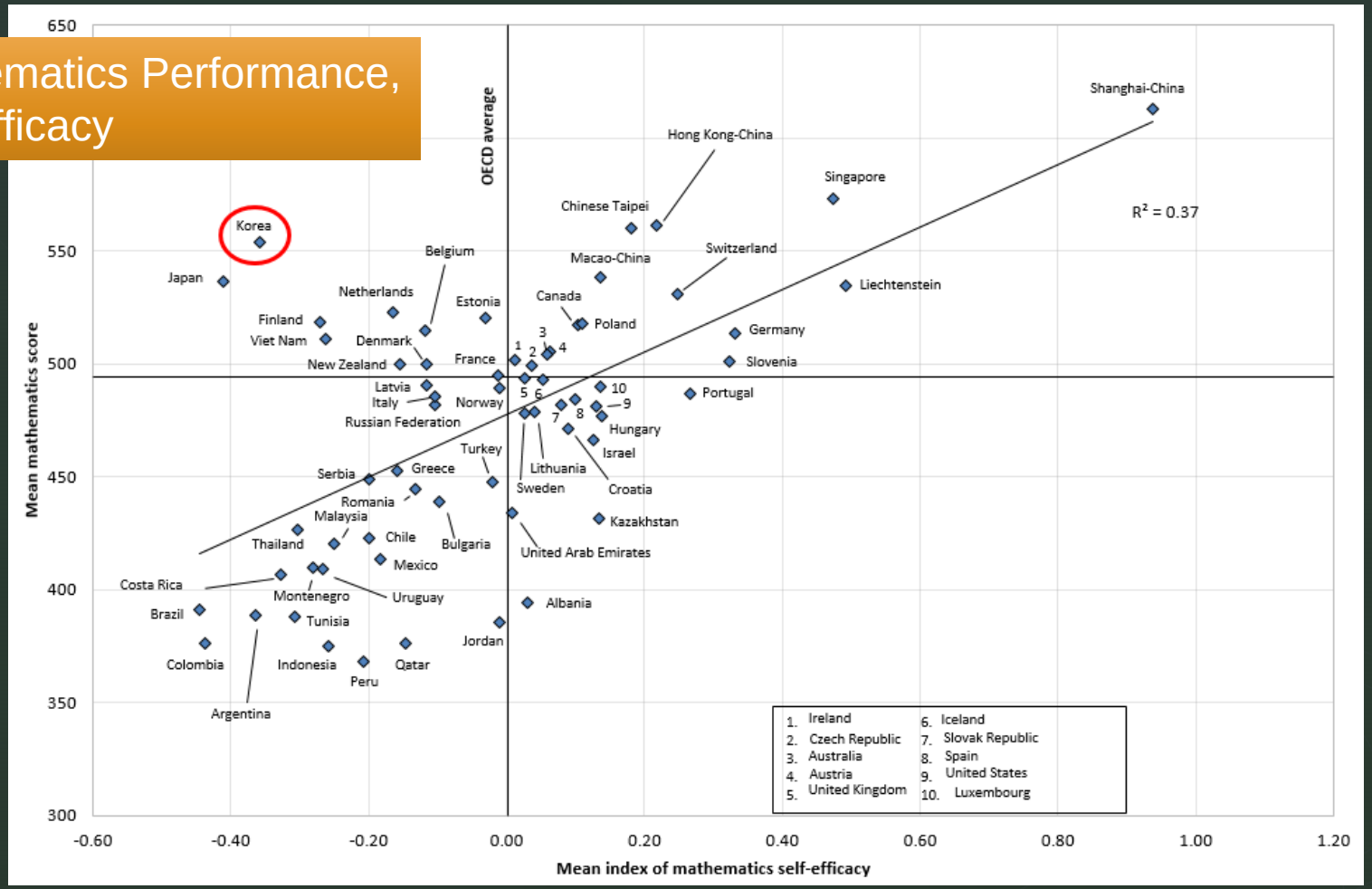
Differences in Student Agency by Socioeconomic Status (SES)



Source: Zeiser, Scholz, & Cirks, (2018). Maximizing Student Agency Implementing and Measuring Student-Centered Learning Practices. AIR report

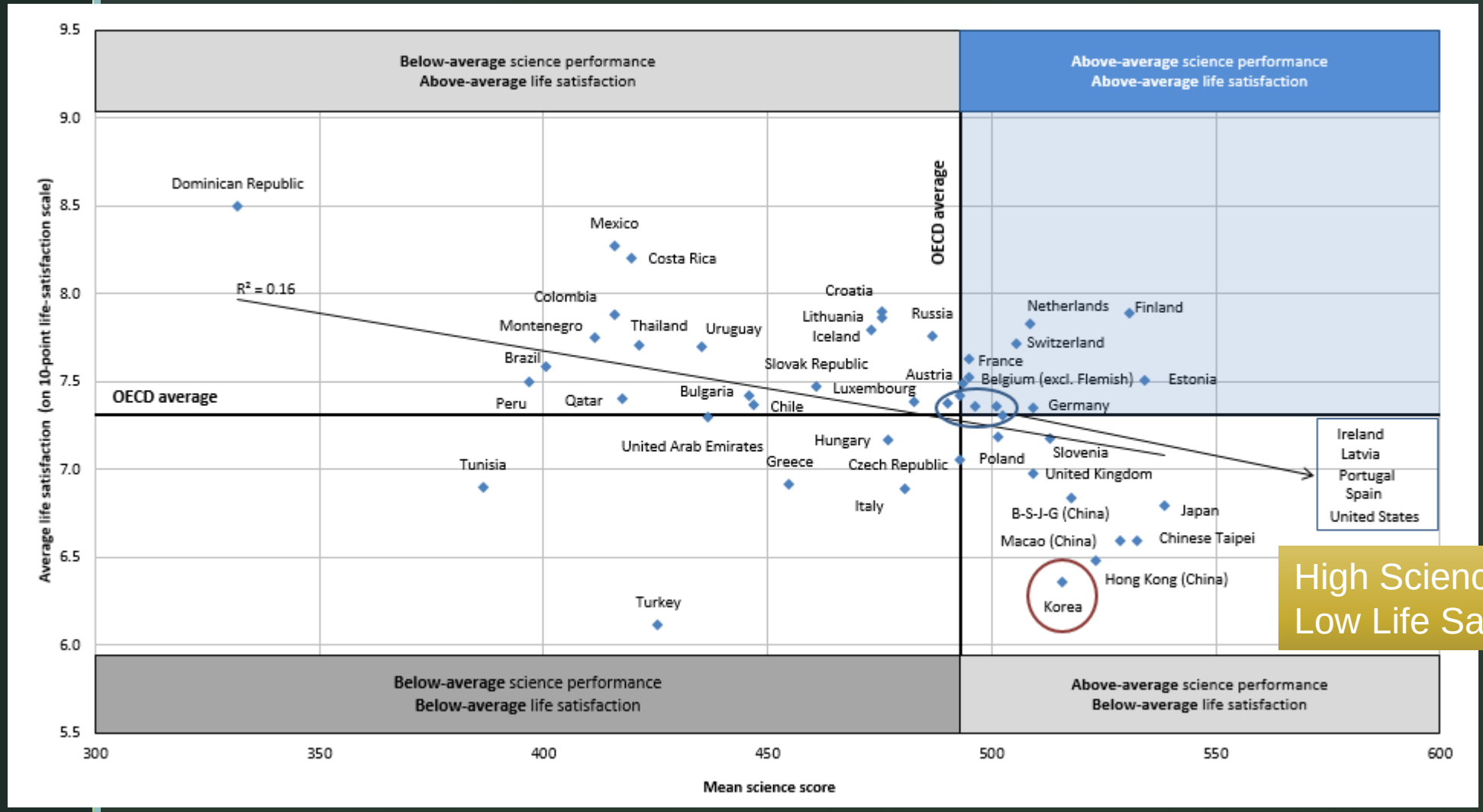
Country-level association between mathematics performance and mathematics self-efficacy

High Mathematics Performance, Low Self-Efficacy



Source: OECD, PISA 2012 Database, Tables I.2.3a and III.4.1d.

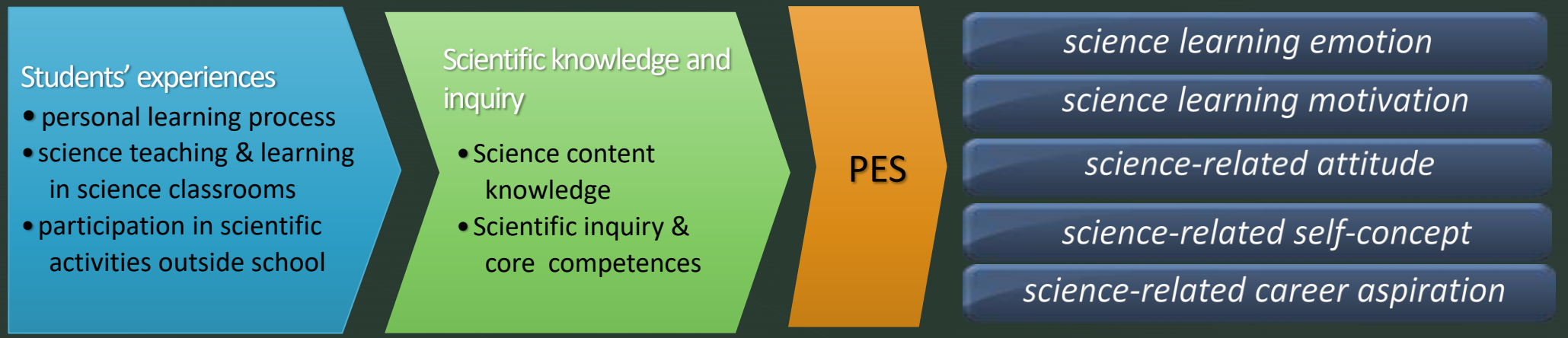
Life satisfaction and performance across education systems



High Science Performance, Low Life Satisfaction

Source: OECD, PISA 2015 Database, Tables I.2.3 and III.3.2.

Positive Experiences about Science



Context

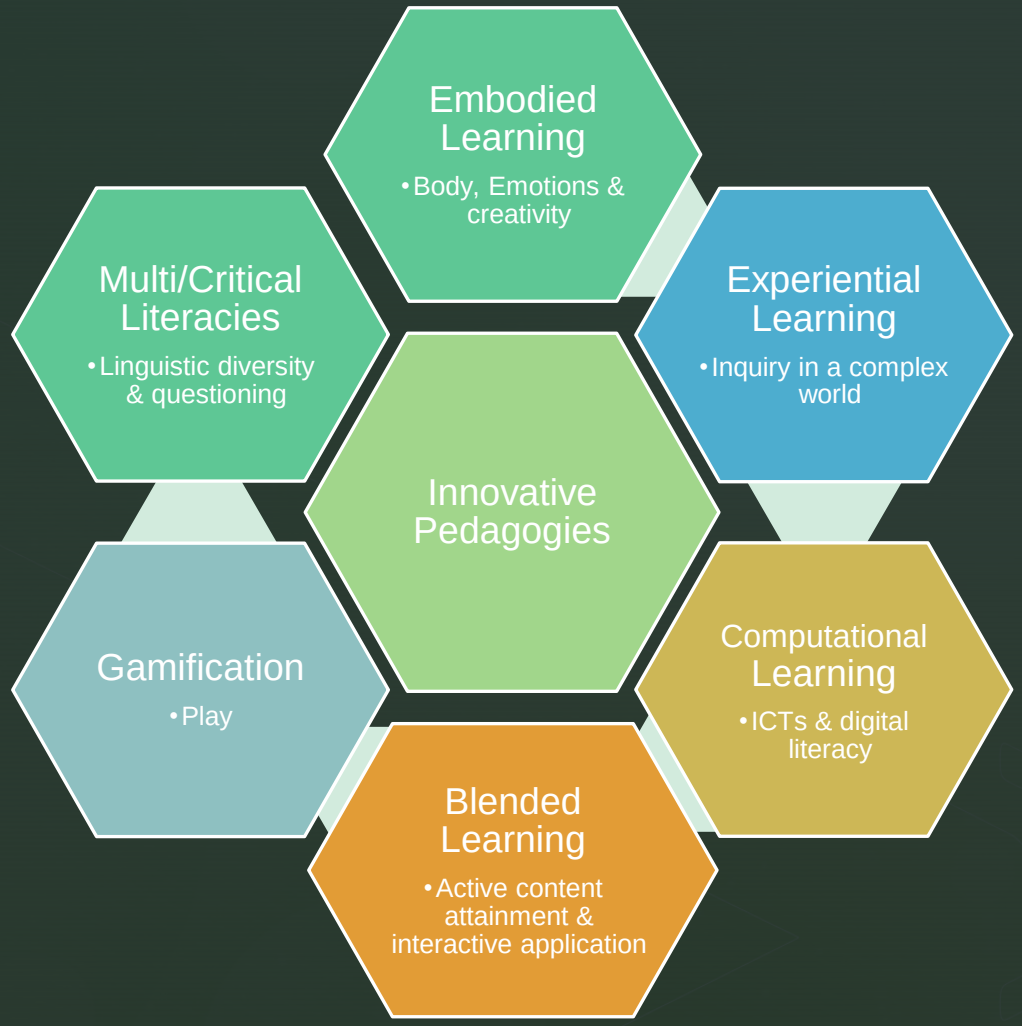
Background variables : student, school, region

- In general, PES of male students higher than female counterparts
- PES of younger students is higher than older counterparts

- PES improved after participating science leading programs(student-centered activities)
- attitude, emotions > self-concept

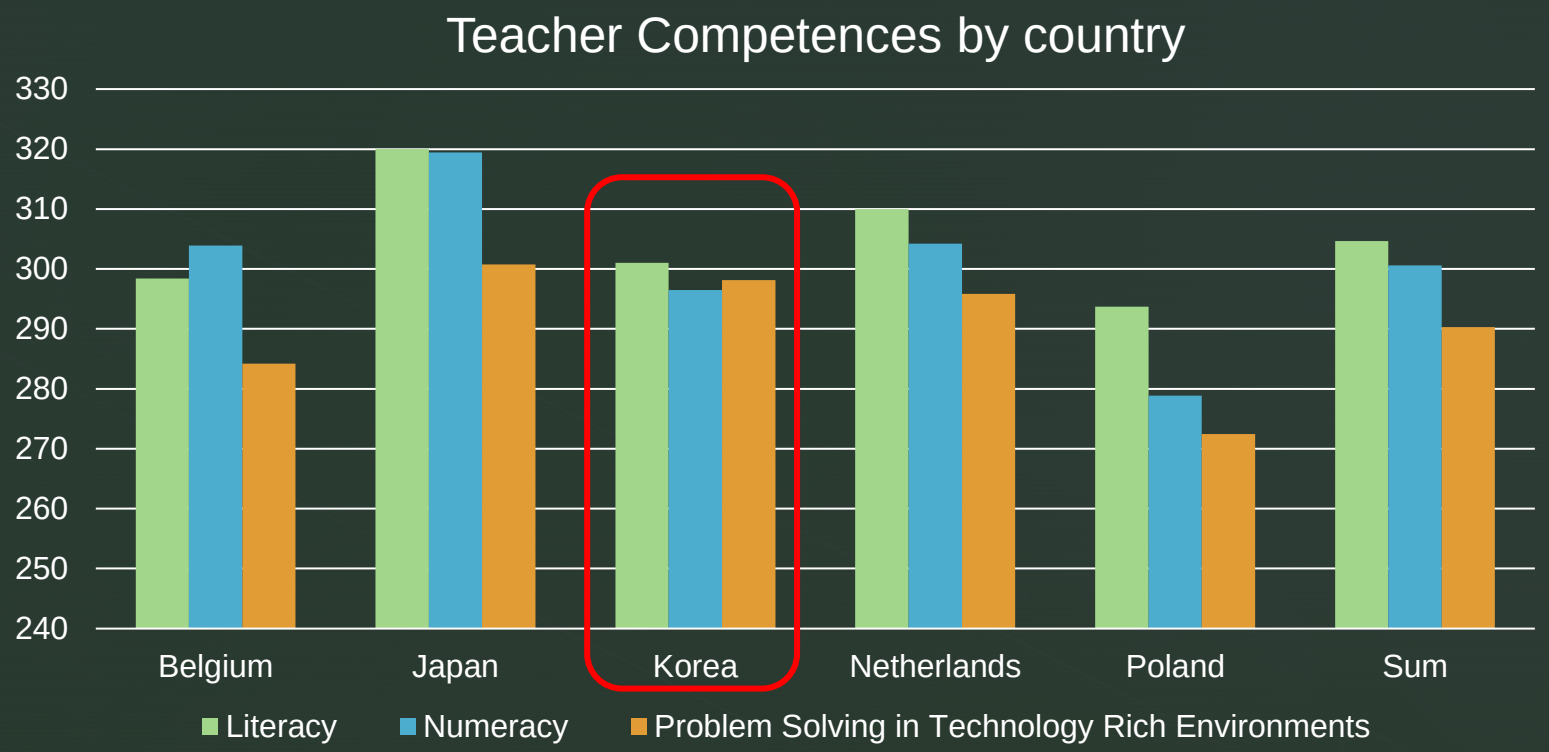
Innovative Pedagogies for Powerful Learning (OECD, 2018)

- Teachers as Designers of Learning Environments
- → Role of teachers and curricula for educational reform
- Teacher Agency is important as much as Student Agency



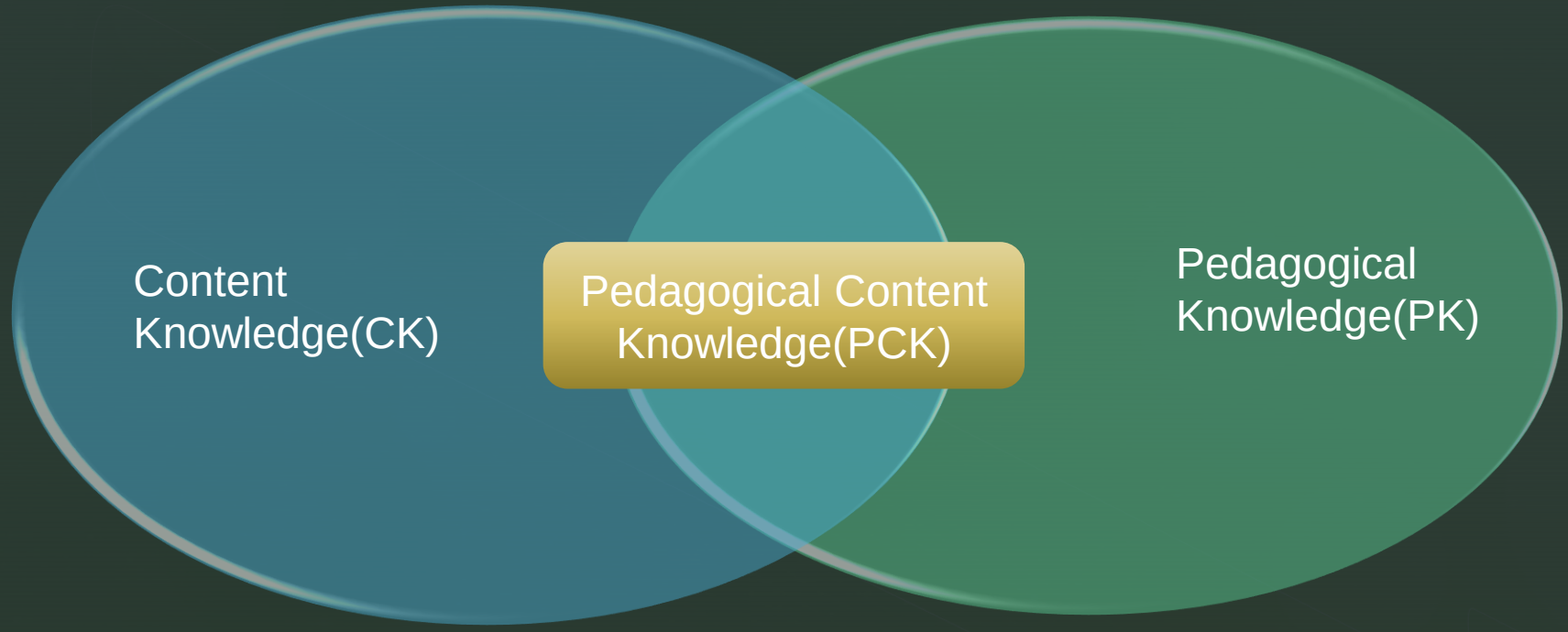
Teachers' Competences Level

- From PIAAC(2013), selected a total of 539 primary & secondary teachers of 5 countries(strong PISA performance countries)
- Korean Teachers' competency levels were about the average
- Compared to their relative competency levels at the time of admission to higher ED, their actual competency levels were lower than expectation



Source : Kwak & Lee(2016). The search for factors affecting competences of school teachers in leading countries: Using PIAAC data. Information, 19(4), 1057-1064

Teacher Knowledge(Shulman, 1986)



I can teach science

I can teach children science

I can teach children

Creative Teaching Practices

Students' creativity

- 21st century learners' core competencies
- National curriculum of Korea
- How to think, ask questions, & solve problems

Teachers' creativity

- Developing more creative instructions & resources
- Cultivating more creative learning environments
- Fostering teachers' own creativity

➢ **Teaching Creatively**

- Imaginative approach to make learning more interesting and effective
- Teachers act creatively to adapt relevant strategies to the content and experiences
- Teachers are creative in developing materials & experiences for students' learning

➢ **Teaching for Creativity**

- Teaching intended to develop children's own creative thinking
- Teachers encourage children to identify their creative abilities
- Teachers foster children's creativities by developing curiosity, originality, sensitivity, etc.

Jeffrey & Craft (2004)

Three Components of Creativity (Amabile, 1998)

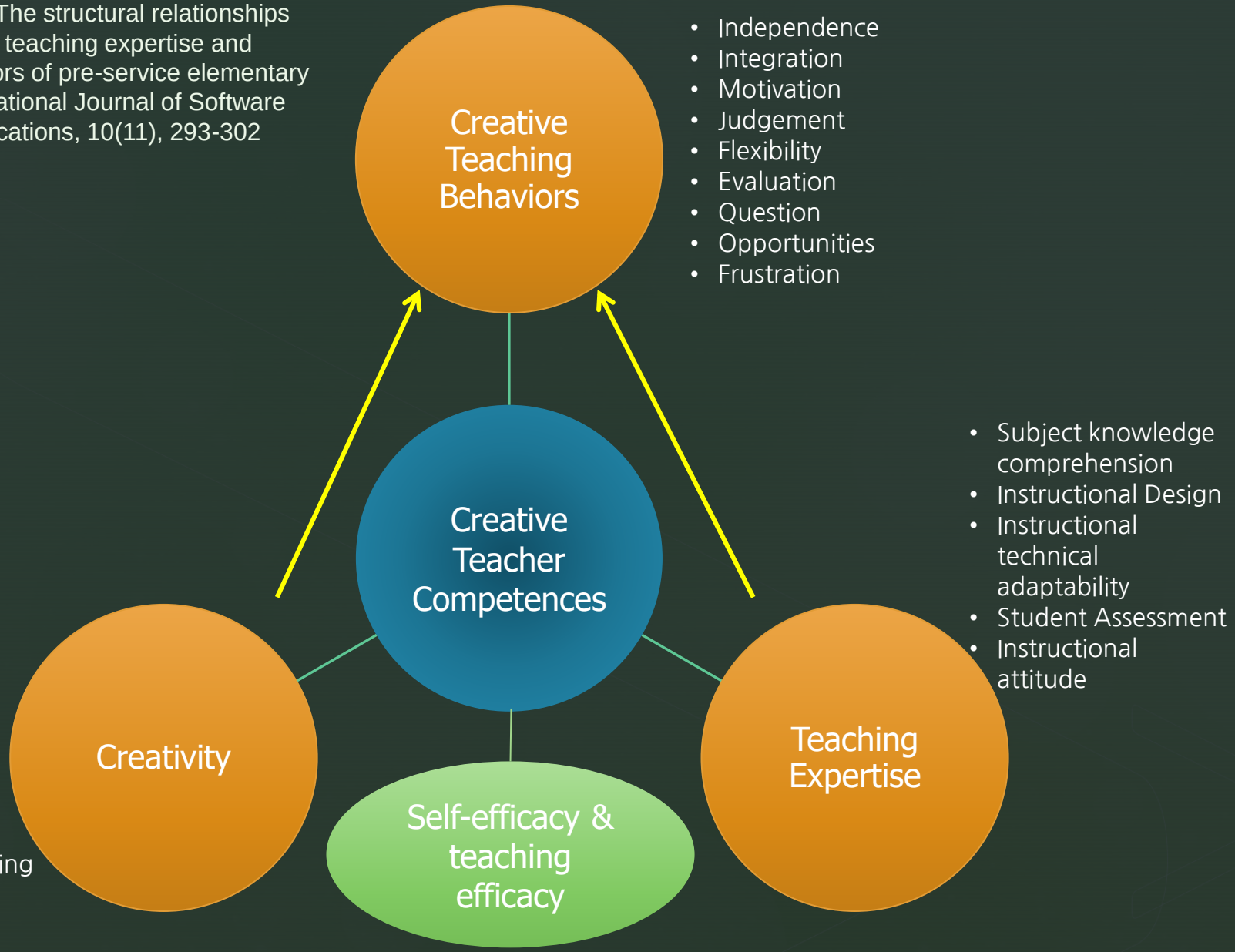
How flexibly and imaginatively people approach problems?

Intrinsic is more effective than extrinsic

Technical, procedural, and intellectual knowledge

Model of Creative Teacher Competences

Lee, Choi & Kim (2016). The structural relationships among teacher creativity, teaching expertise and creative teaching behaviors of pre-service elementary teachers in Korea, International Journal of Software Engineering and its Applications, 10(11), 293-302



- Independence
- Integration
- Motivation
- Judgement
- Flexibility
- Evaluation
- Question
- Opportunities
- Frustration

- Thinking Ability
  - Inference
  - Questioning
  - Critical thinking
  - Integration
- Imagination & Originality
  - Openness
  - Fluency
  - Elaboration
  - Divergent thinking

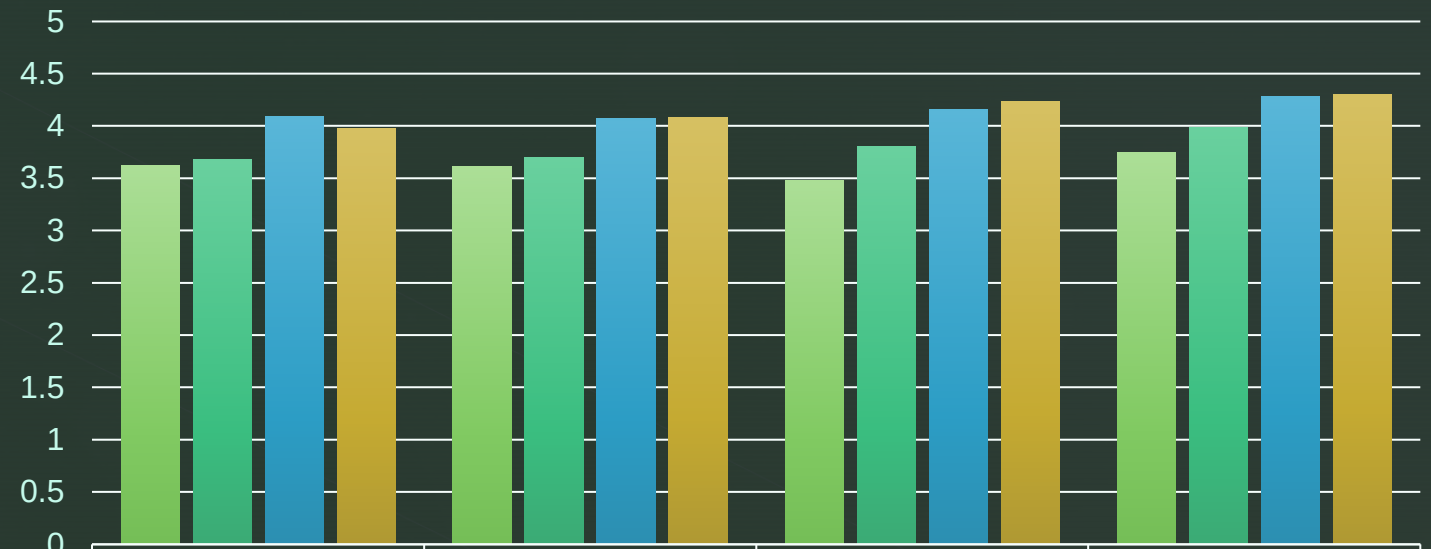
- Subject knowledge comprehension
- Instructional Design
- Instructional technical adaptability
- Student Assessment
- Instructional attitude

Creative Teacher Competences Measures

Teacher Creativity (Mean=3.88)	Thinking Ability	Inference(8), Questioning(8), Critical thinking(7) Integration(8)
	Imagination & Originality	Openness(5), Fluency(5), Elaboration (5), Divergent thinking(5)
Teaching Expertise (Mean=4.25)		Subject Knowledge Comprehension(4), Instructional Design(5), Instructional Technical Adaptability(11), Student Assessment(3), Instructional Attitude(10)
Teacher Motivation (Mean=3.47)		Grit(12), Mastery goals(5), Performance-approach goals(5), Performance-avoidance goals(5)
Creative Teaching Behaviors (Mean=4.17)		Independence(5), Integration(5), Motivation(5), Judgement(5), Flexibility(5), Evaluation(5), Question(5), Opportunities(5), Frustration(5)

Creative Teaching Competence Level : Pre-service elementary teachers

- Pre-service teachers' competence level shows stagnation on Year 3
- Need to re-think about teacher certification, license & employment exam



	Thinking ability	Imagination & Originality	Teaching expertise	Creative teaching behaviors
First year	3.62	3.61	3.48	3.75
Second year	3.68	3.7	3.8	3.99
Junior	4.09	4.07	4.16	4.28
Senior	3.98	4.08	4.23	4.3

Creative Teaching Competence Level : In-service elementary teachers

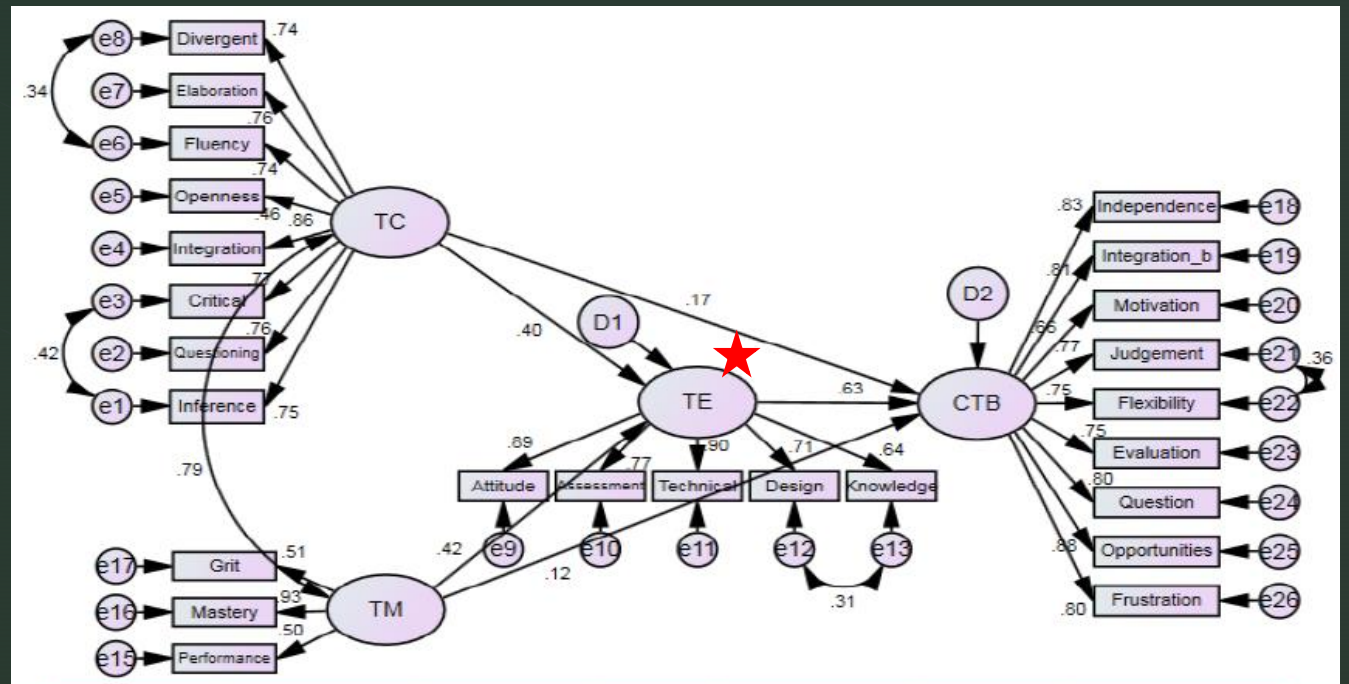
- In-service teachers' competence level shows a drop in 3-5 years of experience
- → Need to re-shape teacher professional development programs and counseling service for 3-5 years experienced teachers

	teaching career	N	Mean	S.D		Sum of Squares	df	Mean Square	F
Teacher Creativity	1-2years	11	4.09	0.53	Between Groups	2.557	4	.639	2.570*
	3-5years	36	3.72	0.51					
	6-10years	42	3.83	0.47	Within Groups	36.799	148	.249	
	11-15years	29	4.06	0.50					
	More than 16 years	35	3.88	0.52	Total	39.356	152		
Teaching Expertise	1-2years	11	4.28	0.53	Between Groups	2.092	4	.523	2.288
	3-5years	36	4.11	0.46					
	6-10years	42	4.18	0.46	Within Groups	33.818	148	.228	
	11-15years	29	4.43	0.49					
	More than 16 years	35	4.32	0.50	Total	35.909	152		
Teacher Motivation	1-2years	11	3.56	0.39	Between Groups	1.298	4	.324	2.024
	3-5years	36	3.37	0.43					
	6-10years	42	3.42	0.44	Within Groups	23.724	148	.160	
	11-15years	29	3.63	0.38					
	More than 16 years	35	3.49	0.35	Total	25.022	152		
Creative Teaching Behaviors	1-2years	11	4.31	0.42	Between Groups	4.503	4	1.126	4.557**
	3-5years	36	3.91	0.54					
	6-10years	42	4.05	0.44	Within Groups	36.559	148	.247	
	11-15years	29	4.33	0.50					
	More than 16 years	35	4.30	0.53	Total	41.062	152		

*$p < .05$, **$p < .01$

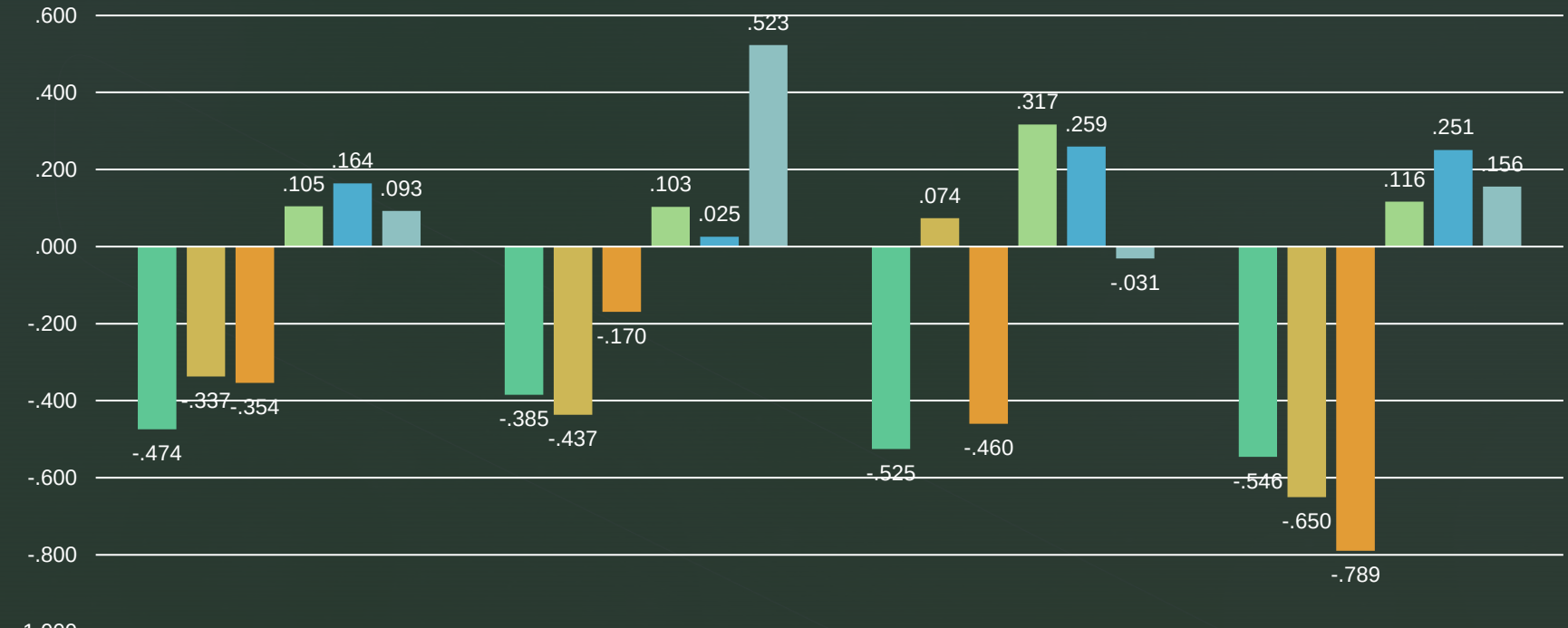
SEM of Teacher Creativity(TC), Teacher Motivation(TM), Teaching Expertise(TE) and Creative Teaching Behaviors(CTB)

- Teacher creativity and teacher motivation had a significant impact on teaching expertise and teaching expertise had a significant effect on creative teaching behaviors.
- Teacher motivation had an indirect effect on creative teaching behaviors through teaching expertise.



	x^2	df	p	TLI(NNFI)	CFI	RMSEA(CI*)
Model fit	453.259	265	.00	.921	.931	.068 (.058-.079)

Teacher Satisfaction and Self-Efficacy: PISA 2015 Teacher Questionnaire



	Satisfaction with the current job environment (WLE)	Satisfaction with teaching profession (WLE)	Self-efficacy related to teaching science content (WLE)	Self-efficacy related to science content (WLE)
Korea	-.474	-.385	-.525	-.546
B-S-J-G (China)	-.337	-.437	.074	-.650
Chinese Taipei	-.354	-.170	-.460	-.789
Australia	.105	.103	.317	.116
United States	.164	.025	.259	.251
Germany	.093	.523	-.031	.156

Korea B-S-J-G (China) Chinese Taipei Australia United States Germany

Conclusions

1. Korea was high social mobility society, but not any more
   - Sticky floors & sticky ceilings are similar to many other OECD countries
   - Young generation perceives that educational & social mobility in Korea is low
2. Education can be promoters or inhibitors of social mobility
3. Future ready students should be able to develop Student Agency
   - Korean students' level of student agency seems to be low relative to our students' academic performance level
   - Need to collect more empirical evidences
4. Teachers can have a critical role in developing student agency in turn which will lead to more social mobility
   - Korean teachers' competence level has a room for further improvement despite of their initial potentials
   - Level of Creative Teacher Competences can be monitored from pre-service to in-service teachers to ensure teachers' critical role in educational reform
   - Teacher expertise, teacher competence, teacher knowledge and teacher motication are all complicated & complex concepts → need to approach with caution & more empirical data

Q & A

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