



# The Transformative Role of Science Teachers in Shaping Tomorrow's Schools

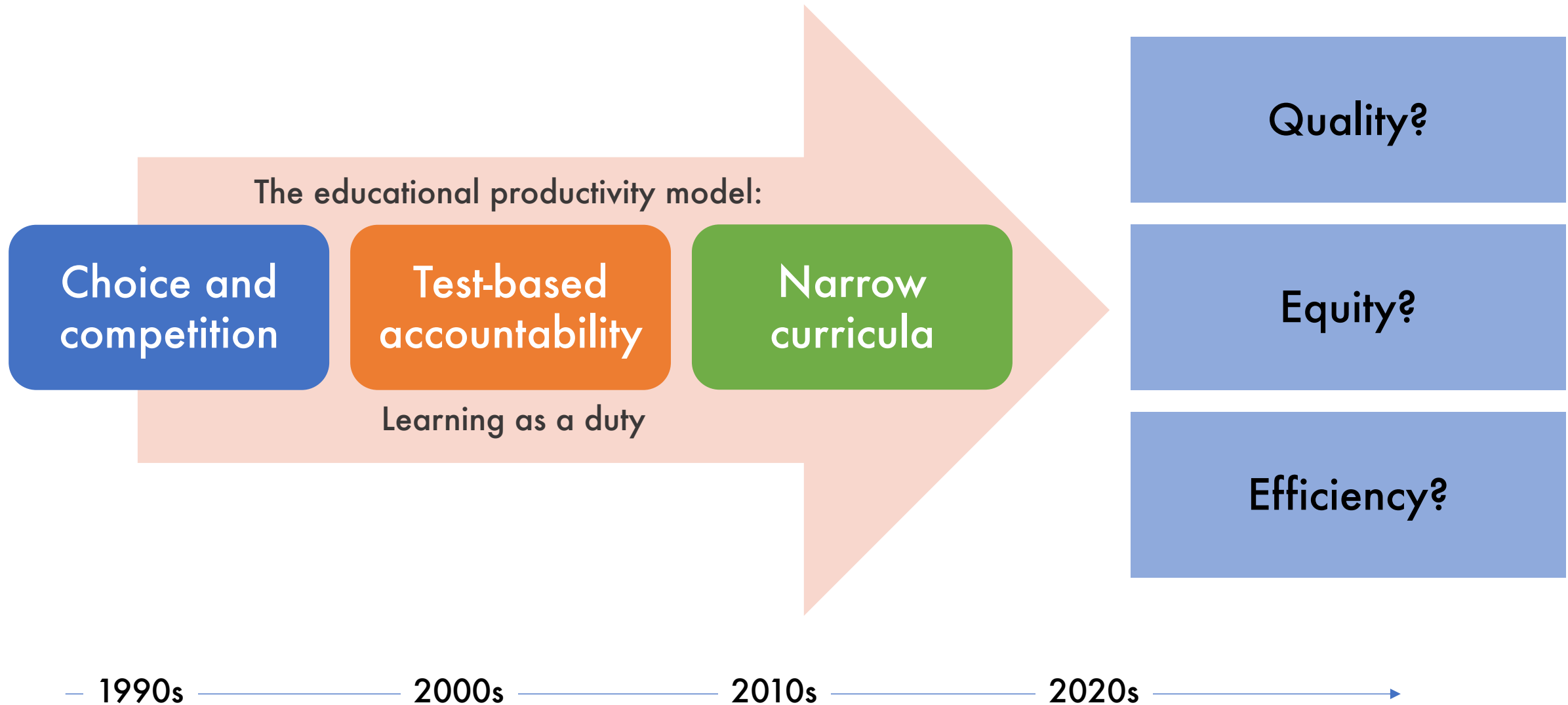
Pasi Sahlberg  
8 July 2024



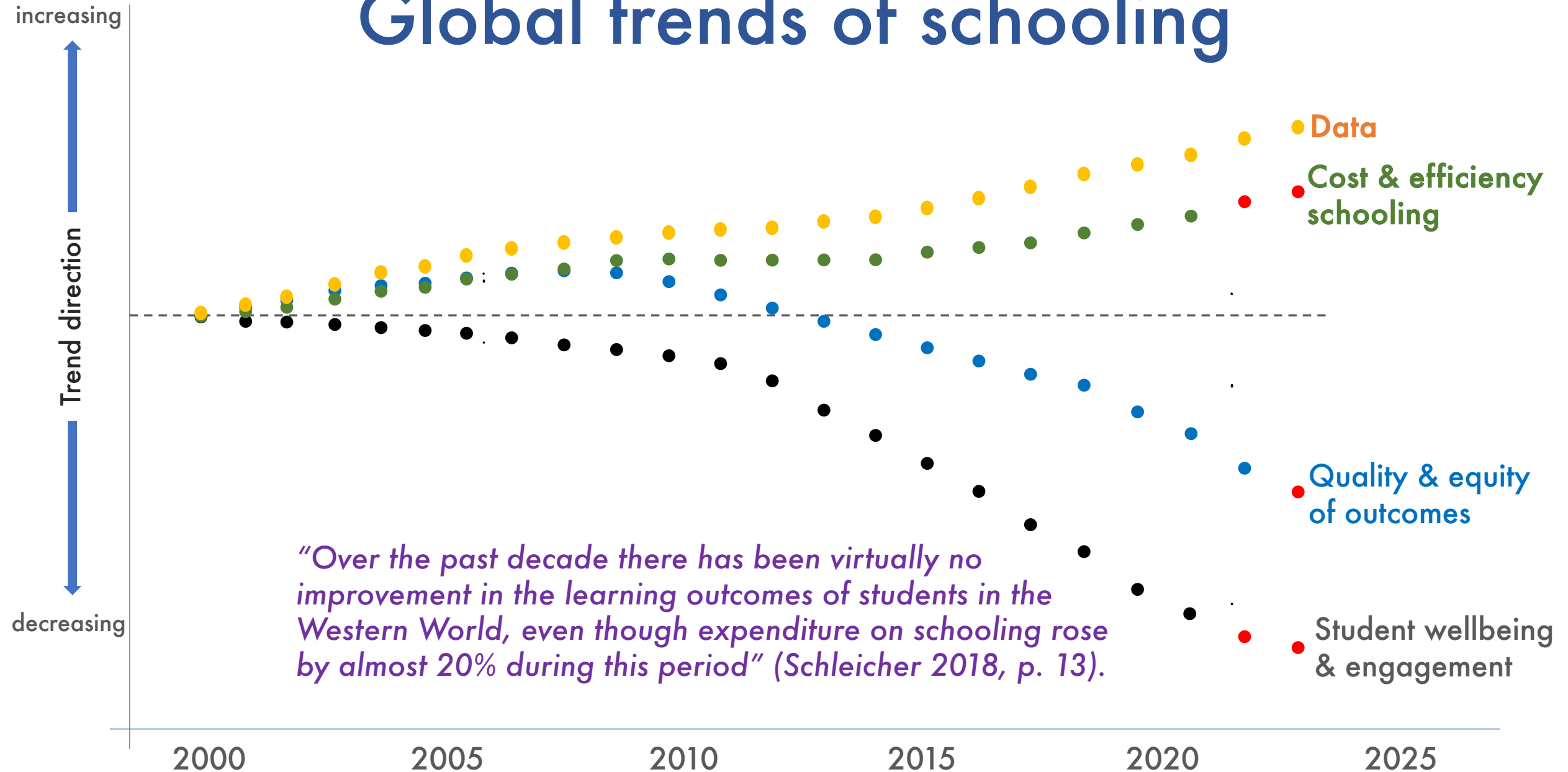
**Part 1:**

# **The Big Picture of Schooling**

# Global education reform movement

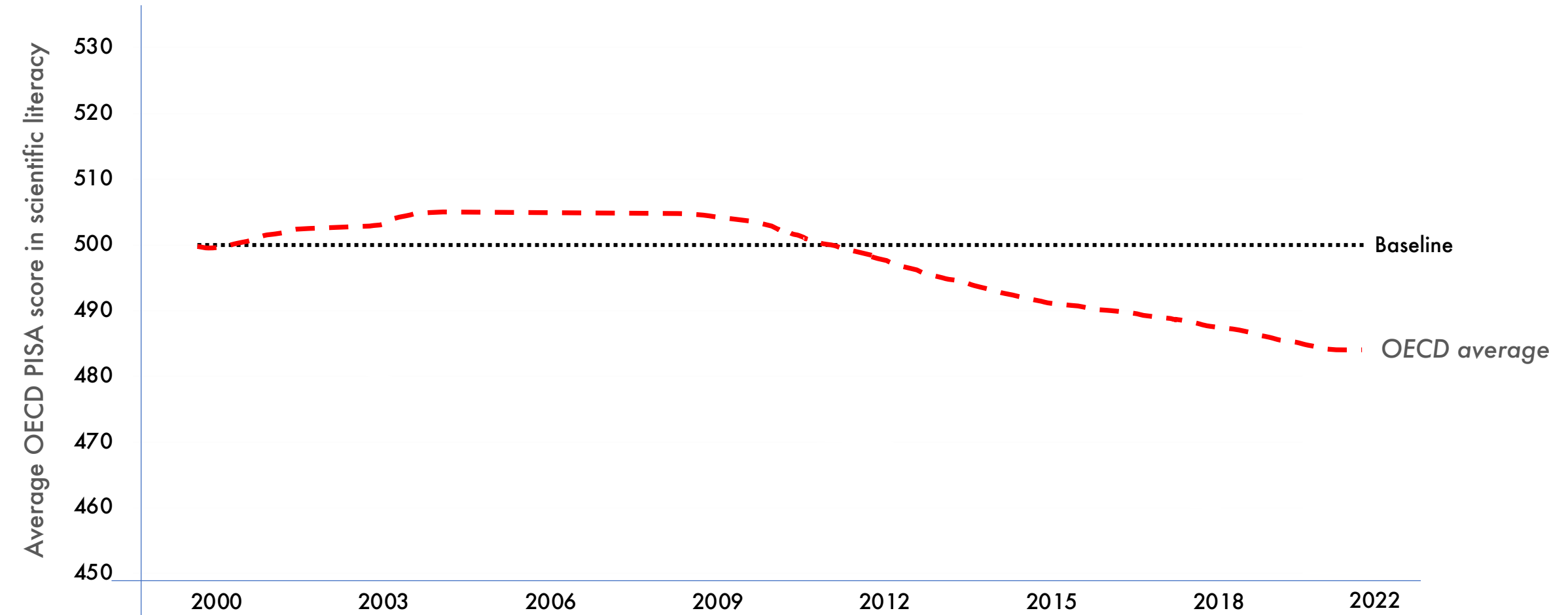


# Global trends of schooling

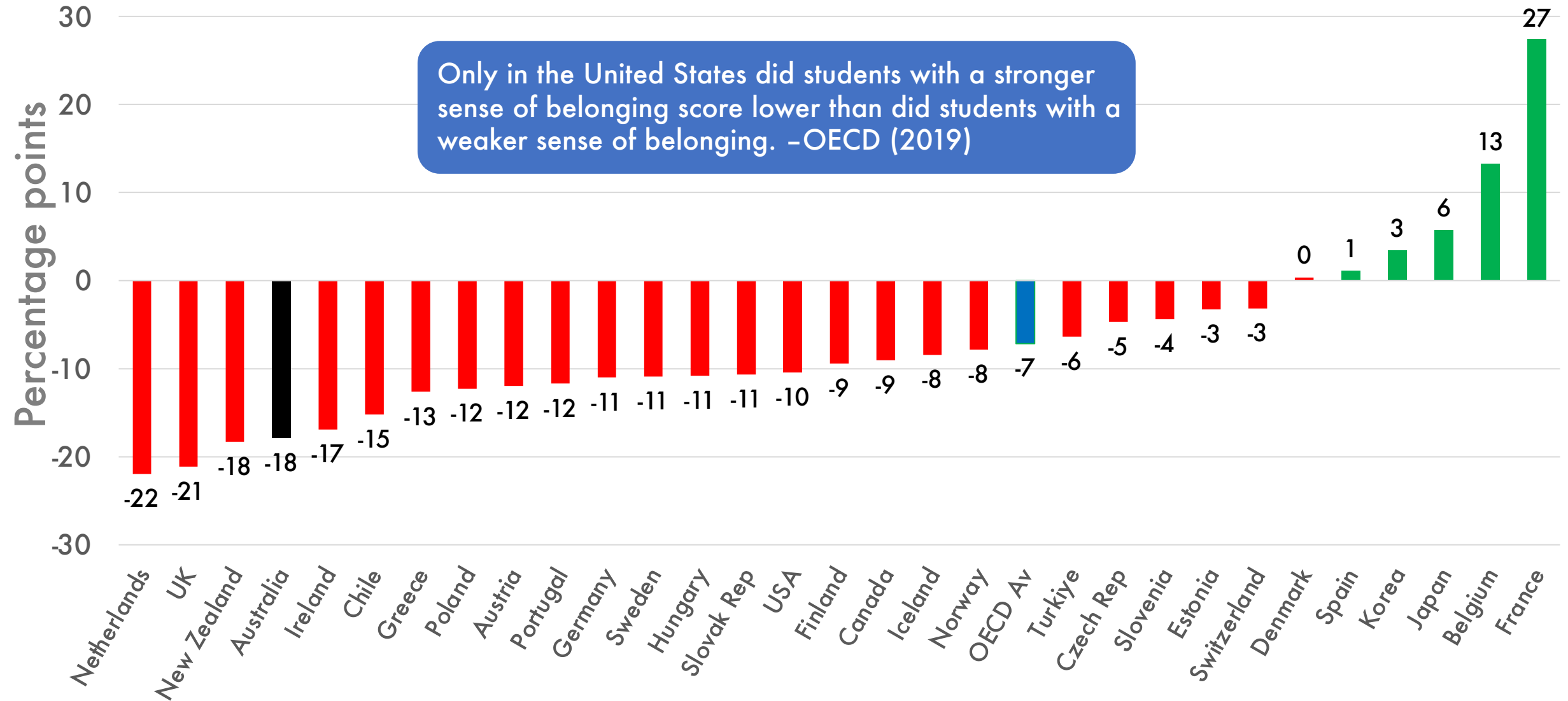


# Performance trend: Scientific literacy

*15-year-old students' scientific literacy in OECD countries*



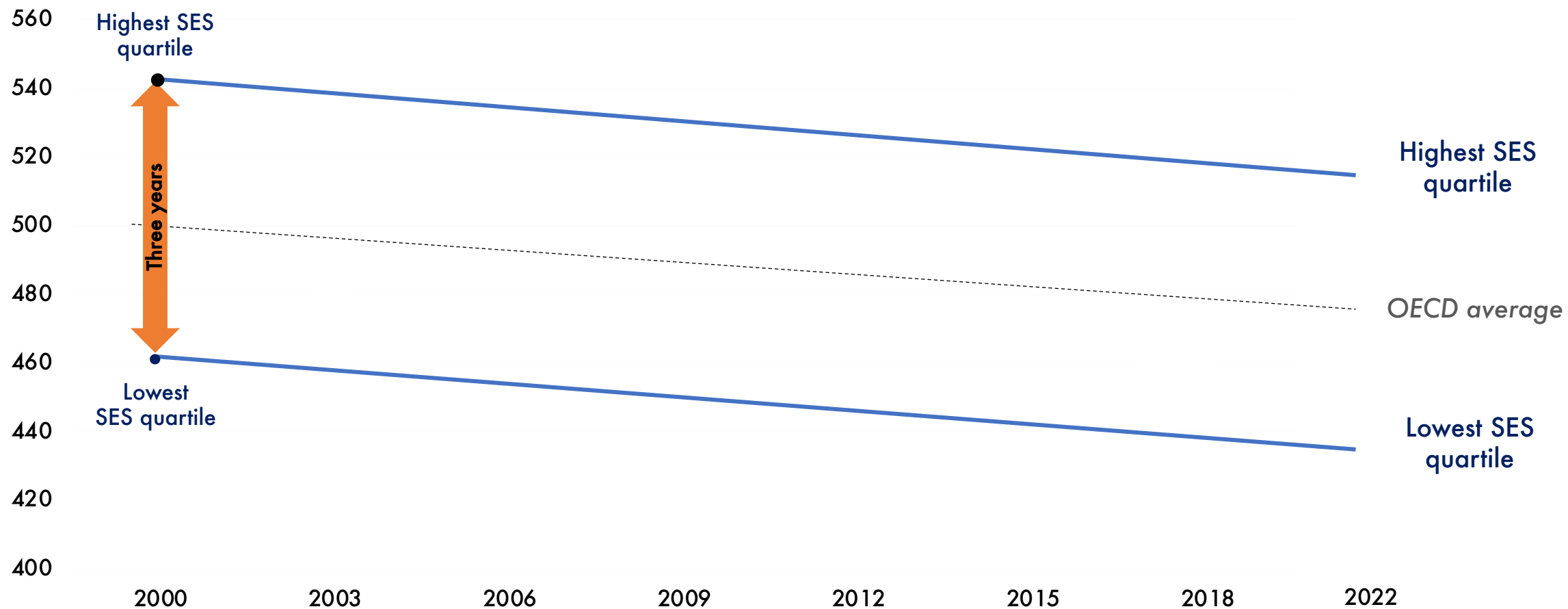
# Change in students' "sense of belonging" in school since 2003



# Academic achievement gaps

*15-year-olds' average academic achievement in OECD countries by socioeconomic (SES) quartile since 2000*

Average OECD region PISA score (Reading/Math/Science)





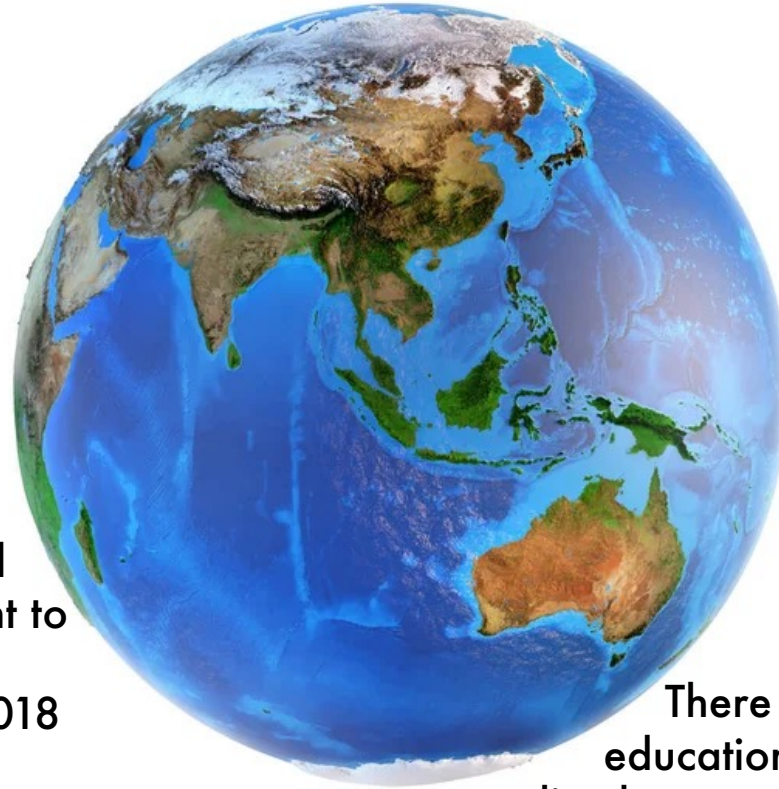
260 million children, adolescents and youth are **not at school** and just half of them achieve the basic level of proficiency required.

- Global Education Monitoring Report 2020



**The achievement gaps** across the OECD countries between the most socio-economically advantaged and disadvantaged students is equivalent to over 3 years of schooling.

- OECD PISA 2018



**THE WORLD BANK**

There is **a global learning crisis** that amplifies educational inequalities that severely hobbles the disadvantaged youth who most need the boost that a good education can offer.

- World Bank Human Development Report 2018



**Conclusion?**

**We can't improve education using  
the same kind of thinking that has led  
us to the current situation!**

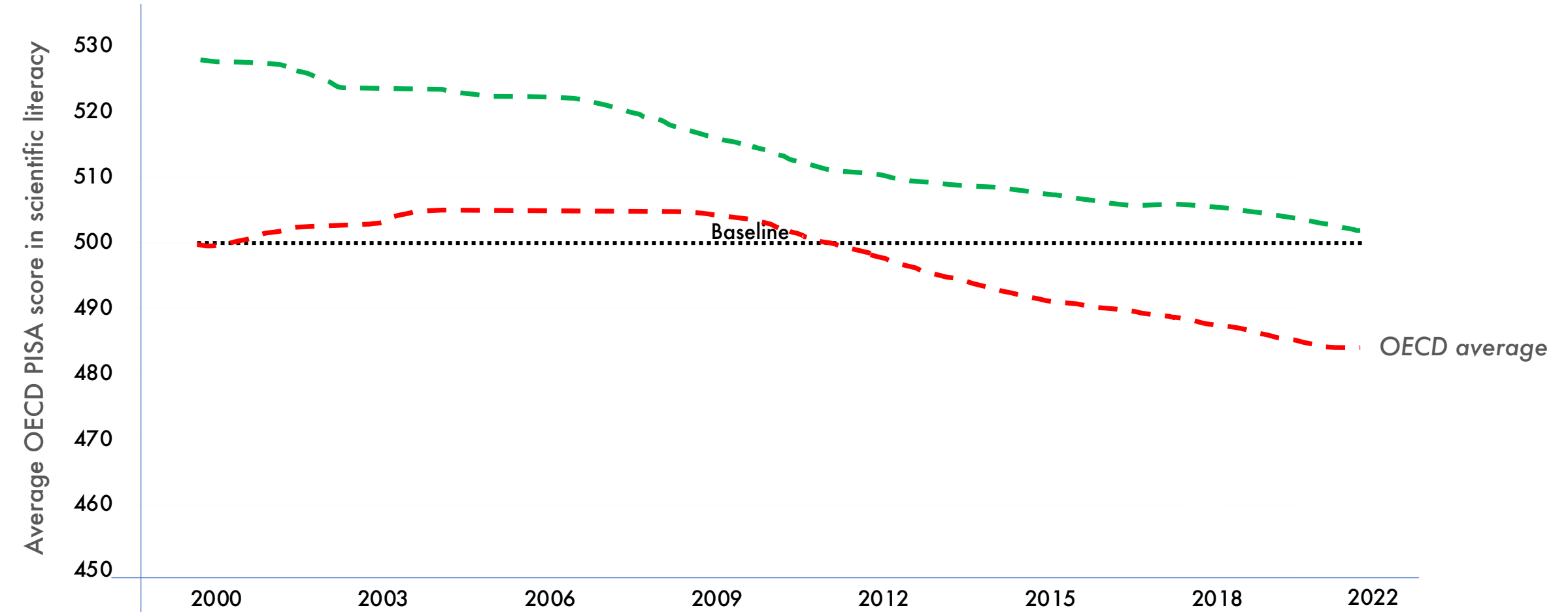
## **Part 2:**

**Australian schools – good different**

We have world-class school education  
– *but not for everyone!*

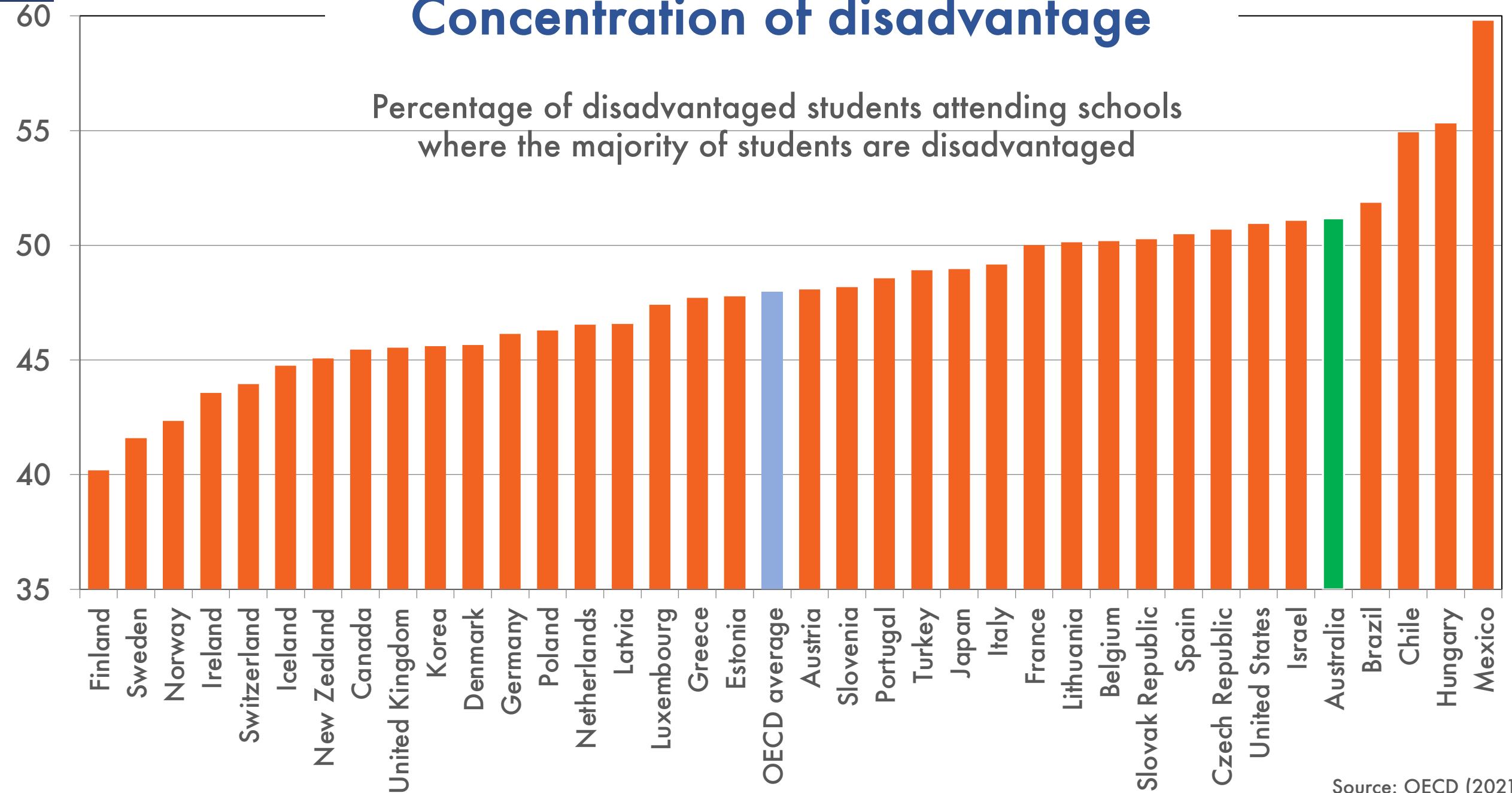
# Performance trend: Scientific literacy

*Trend of students' scientific literacy in Australia*

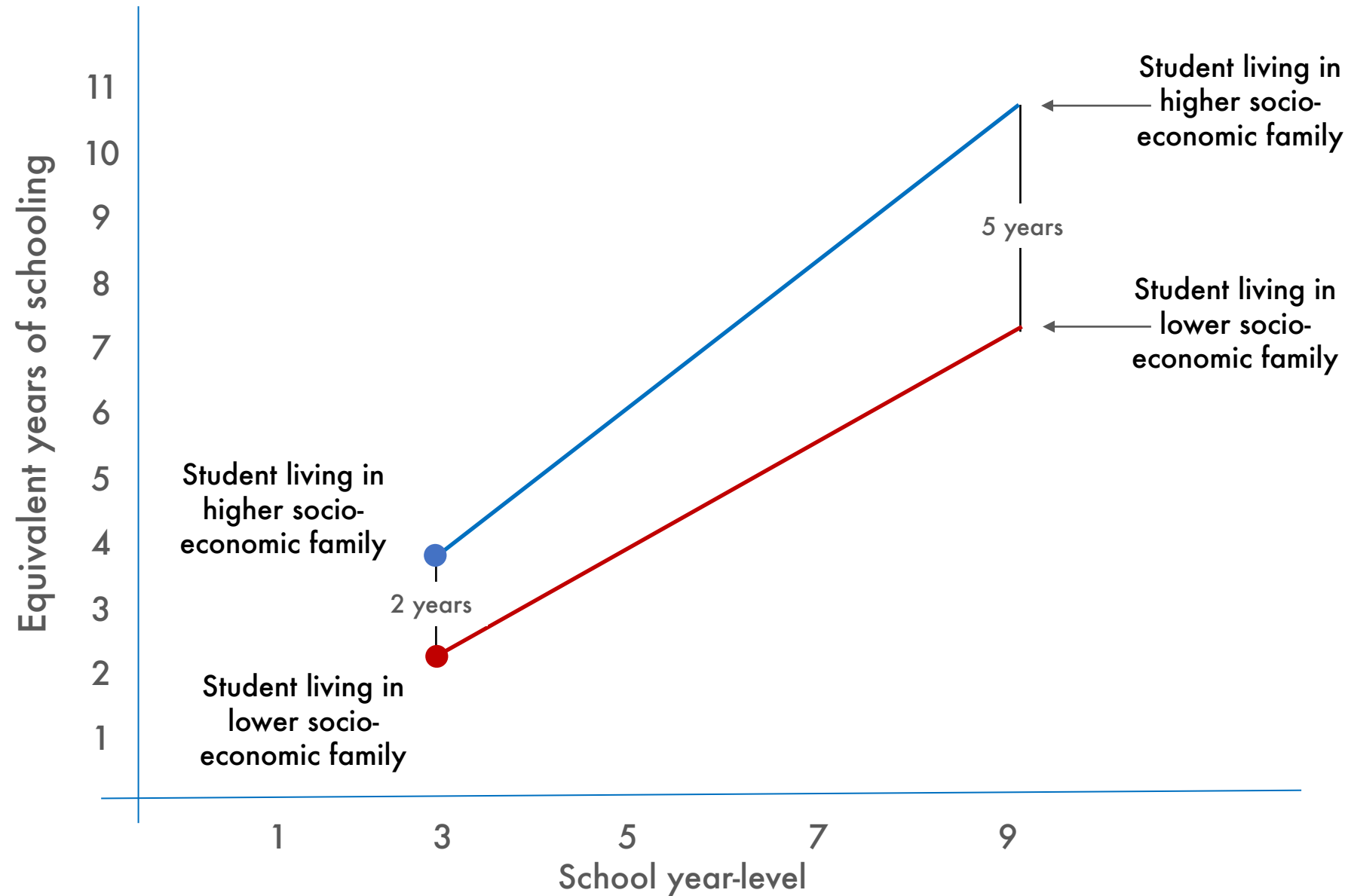


# Concentration of disadvantage

Percentage of disadvantaged students attending schools where the majority of students are disadvantaged

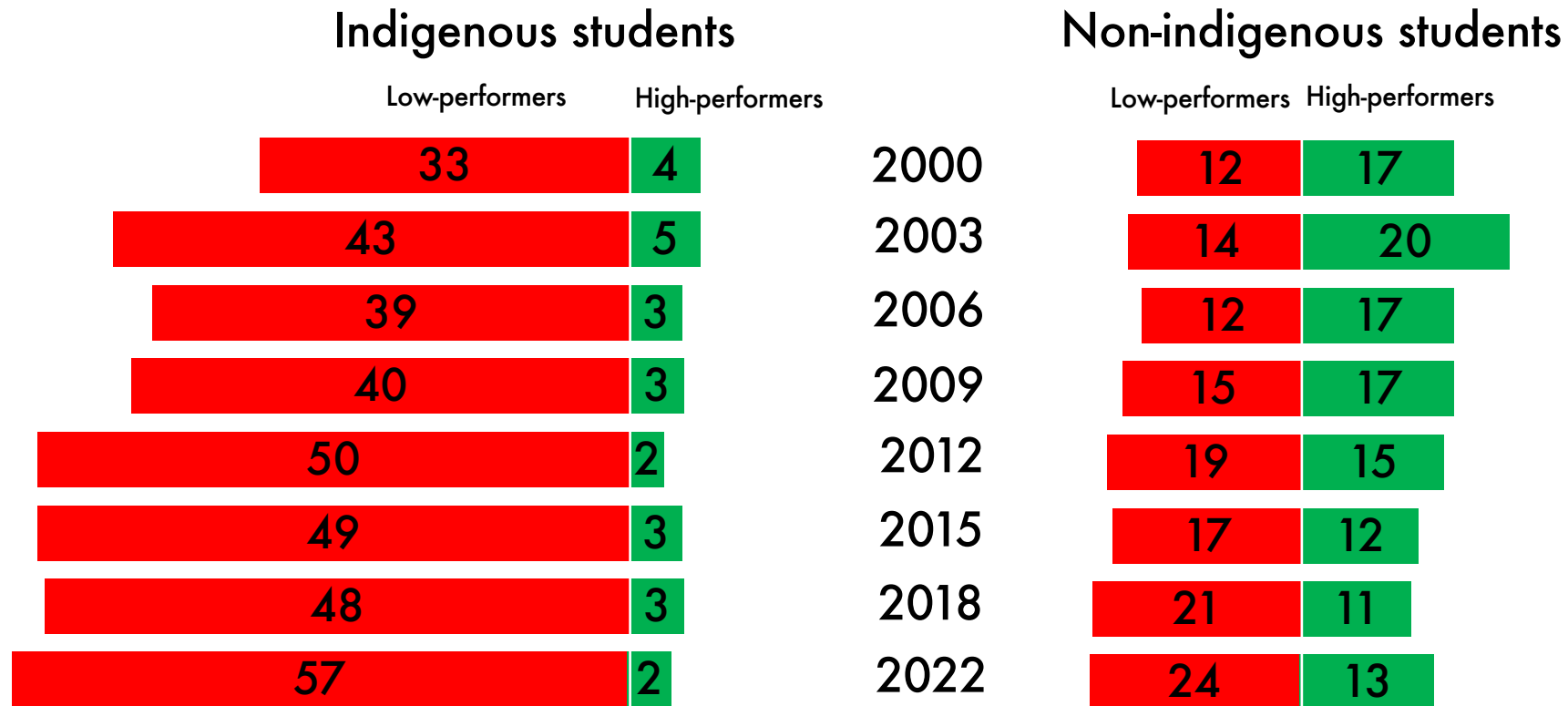


# Widening achievement gaps



# Systemic inequities

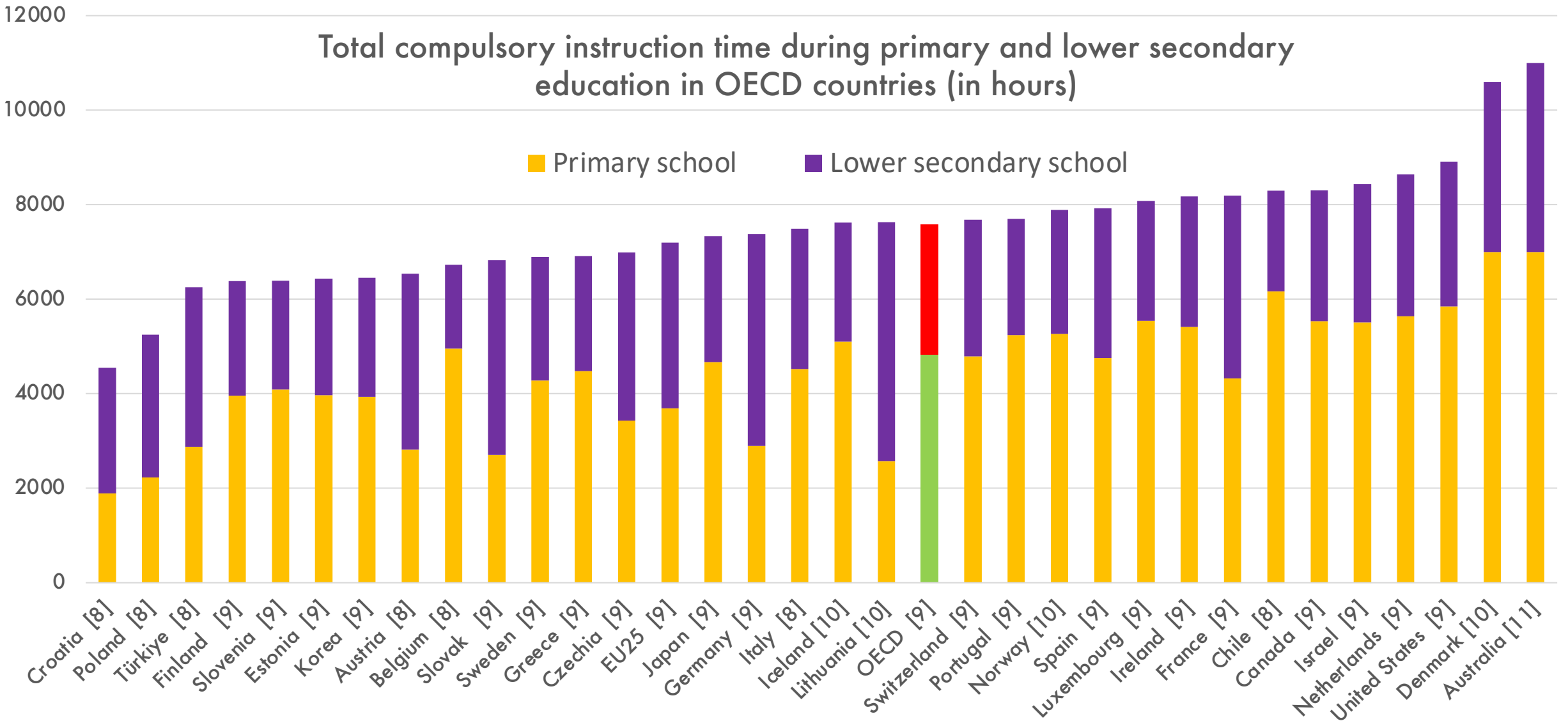
Proportion of low and high performers in Australia on the PISA reading literacy proficiency scale by Indigenous background since 2000



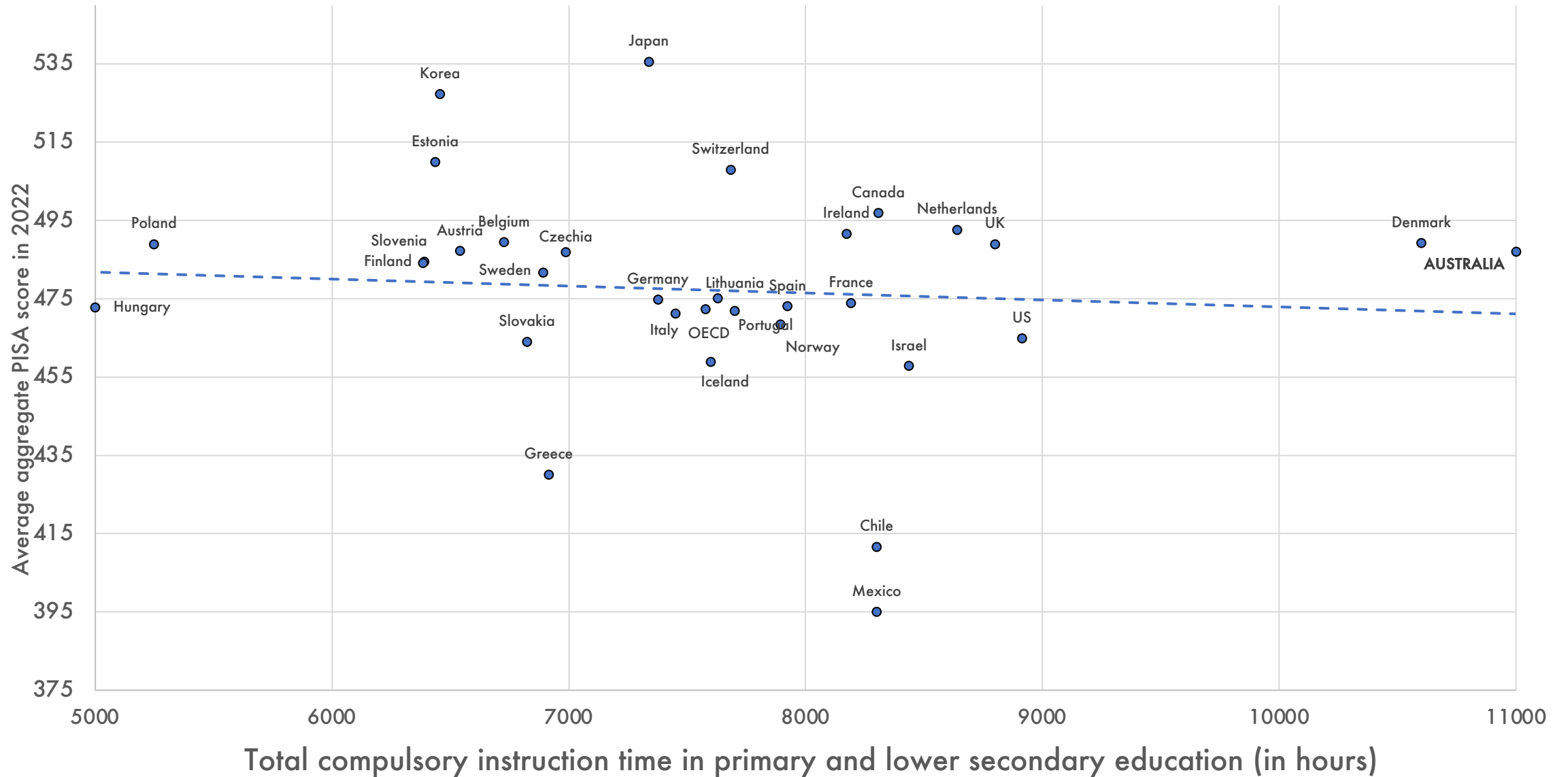


# Instruction time

Total compulsory instruction time during primary and lower secondary education in OECD countries (in hours)



# Instruction time vs. achievement

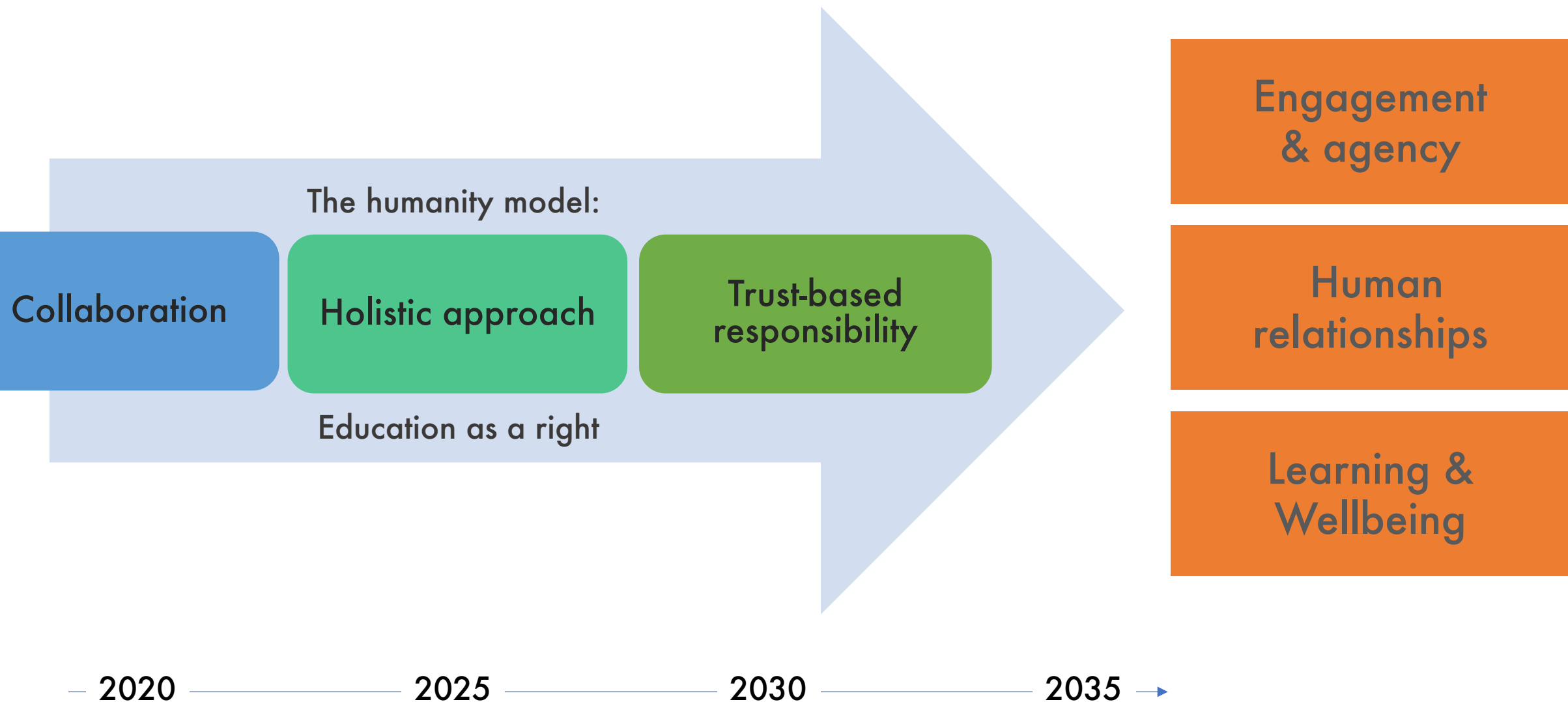


# Thoughts?

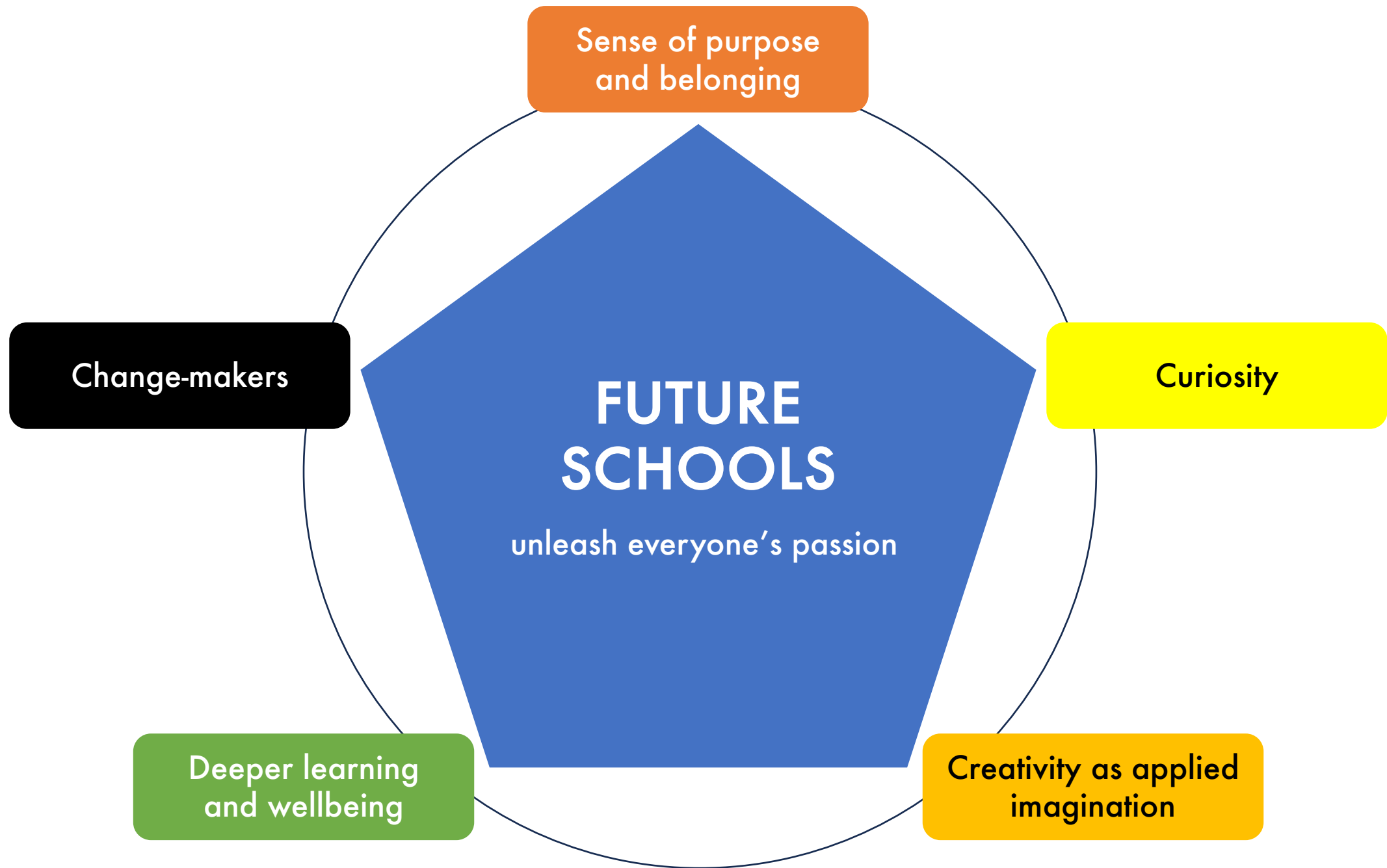
## **Part 3:**

# **The role of science teachers**

# A New Paradigm of Schooling



**Science educators can play an important role in transforming schools for the future.**



Thank you!

