

Synthesizing NAEP and International Large-Scale Assessment Score Trends

October 2022



Advancing Evidence.
Improving Lives.

A recent study brought together pre-pandemic results from the National Assessment of Educational Progress (NAEP) and three large-scale international student assessments to examine score trends in reading, mathematics, and science for U.S. students in 4th grade, in 8th grade, and at 15 years old. Together, these studies show where the results are most consistent and provide a comprehensive baseline picture for the post-pandemic results that are soon to come.



11 of 14 assessments showed the same pattern: High- and low-performing U.S. students' scores are diverging.

This divergence became prevalent **over the last decade**, occurring in almost every subject and grade combination. **By 2019...**

Assessment	High-performing students' scores rose	High- and low-performing students' scores moved in opposite directions	Low-performing students' scores dropped
Reading			
Mathematics	PIRLS Grade 4 PISA 15-year-olds	NAEP Grade 4 NAEP Grade 8	TIMSS Grade 4
Science	NAEP Grade 4	TIMSS Grade 8	TIMSS Grade 4

When the scores of high- and low-performing students diverge, it raises an **equity concern** because it suggests that achievement gaps may be widening. Evidence from multiple assessments makes clear how prevalent this pattern of divergence has become in the United States.

PIRLS is the Progress in International Reading Literacy Study; TIMSS is the Trends in International Mathematics and Science Study; and PISA is the Program for International Student Assessment. The 3 of 14 assessments with no score divergence over this period were NAEP science at grade 8 and PISA mathematics and science for 15-year-olds. High-performing students are those at the 90th percentile of performance and low-performing students are those at the 10th percentile.

The research, data, figures, and findings contained within this summary publication are based on the full-length report. Any citations, data, or extended content for claims made in this publication can be found at: <https://www.air.org/large-scale-assessment-score-trends>