



NEWS RELEASE

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Nation's Eighth-Grade Students Post Gains on 2018 Report Card For Technology and Engineering Literacy

*Students show 2-point score increase from 2014 on innovative NAEP assessment;
More 8th graders taking courses related to technology and engineering*

WASHINGTON — Eighth-grade students increased their overall average score by 2 points on the 2018 National Assessment of Educational Progress (NAEP) in Technology and Engineering Literacy (TEL), providing the first-ever trend for the assessment which made its debut in 2014.

The digitally based assessment includes multimedia tasks and scenario-based tasks that ask students to solve problems or achieve goals such as building a bike path or creating a museum exhibit. These tasks require students to solve problems applying their general understanding of the use and effects of technology and engineering in daily life. The assessment provides the nation with a unique picture of students' literacy in three content areas: Technology and Society, Design and Systems, and Information and Communication Technology.

In 2018, almost half of students were at or above *NAEP Proficient* on TEL (46 percent), compared to 43 percent in 2014. When asked about the courses they take in school, a higher percentage of students reported taking at least one class related to technology and engineering (57 percent) in 2018 than in 2014 (52 percent).

Progress was seen among many subgroups. A higher percentage of Black students was at or above *NAEP Proficient* (by 5 percentage points) in 2018 compared with 2014. Since the first TEL assessment in 2014, higher percentages of White students (by 2 percentage points) and Asian students (by 6 percentage points) were at *NAEP Advanced*.

Additionally, the average score for students eligible for the National School Lunch Program increased by 3 points; the score for students whose parents did not finish high school increased by 6 points; and the score for the children of college-educated parents increased by 3 points. Higher-performing students, in the 75th and 90th percentiles, made stronger score gains than those in the 10th and 25th percentiles.

"We're extremely encouraged by these positive results," said Gov. Beverly Perdue, the chair of the National Assessment Governing Board. "This assessment is important because it asks students to demonstrate skills that are crucial for success in our rapidly changing world. Along with NAEP Science and Mathematics assessments, TEL provides educators and policymakers a comprehensive picture of achievement in science, technology, engineering, and mathematics (STEM), which is so vital to our nation's future."

The three TEL content areas require students to apply particular ways of thinking and reasoning, also known as practices. The three practice areas are: Understanding Technological Principles; Developing Solutions and Achieving Goals; and Communicating and Collaborating. In 2018, scores increased for all content areas and in all practice areas by at least 2 points.

As in 2014, females scored higher than males in 2018, from a difference of 3 points in 2014 to 5 points in 2018. Females outperformed males across two of the three content areas and all three practice areas in 2018. The largest gender differences were on the “Information and Communication Technology” content area and the “Communicating and Collaborating” practice area (7 points each) in 2018. On the “Design and Systems” content area, there was no gender difference in scores.

The TEL assessment is important not only to determine what students know and can do, but to examine their opportunities to learn content and practices associated with technology and engineering. Students were asked where and how they developed skills through questions about their school coursework and their experiences outside of school. Students who reported taking at least one class related to technology and engineering scored higher, on average, than those who took none.

More than two thirds (68 percent) of students said they had learned about or discussed designing or creating something to solve a problem “at least sometimes” in school. More than a quarter (29 percent) said they had taken something apart to fix it or see how it works “more than five times” outside of school. In both cases, students who reported doing these activities more often scored higher than those who did not or did so less frequently.

Of the students eligible for free or reduced-price school lunch, 52 percent reported taking at least one course related to technology and engineering, up from 46 percent in 2014. White, Hispanic, and Asian students—as well as students of two or more races—who took at least one engineering course performed better on TEL than those who do not. However, Black students scored similarly on TEL, regardless of engineering coursework.

“As a woman and an engineer, I am excited to see that girls are doing so well on TEL, and it’s really encouraging to see an upward trend for Black students and economically disadvantaged students,” said Tonya Matthews, the vice chair of the National Assessment Governing Board. “But I know that there are real differences in students’ access to experiences and the way that we assess students that can build these skills. I hope that the TEL results spur more action to create equitable opportunities for all learners.”

A nationally representative sample of approximately 15,400 eighth graders from about 600 public and private schools across the nation took the TEL assessment in 2018. Student performance results are presented as average scale scores and NAEP achievement levels. Achievement levels are reported as the percentages of students performing at or above three performance levels. *NAEP Basic* denotes partial mastery of prerequisite knowledge and skills that are fundamental for performance at the *NAEP Proficient* level, which represents solid academic performance. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real world situations, and analytical skills appropriate to the subject matter. *NAEP Advanced* signifies superior performance beyond *NAEP Proficient*. Scale scores range from 0 to 300.

Explore the interactive [TEL Report Card](#) for more information student groups, performance and learning experiences, with explanatory videos to learn more about the assessment.

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The National Assessment Governing Board is an independent, nonpartisan board whose members include governors, state legislators, local and state school officials, educators, business representatives, and members of the general public. Congress created the 26-member Governing Board in 1988 to set policy for the National Assessment of Educational Progress. For more information about the Governing Board, visit www.nagb.gov