

# Education Data in 2025

*Fifteen years hence, we will know exactly how well our schools, teachers, and students are doing*

by CHESTER E. FINN JR.

**P**lease join me on a short, visionary tour circa 2025, and let us glimpse the central role that data have come to play in American K–12 education.

Perhaps the most profound advance since 2010 is that individual achievement and attainment records for every subject are saved (with elaborate safeguards) in cyberspace and secure state databases, where “unique student identifier” numbers make it possible for data to be readily aggregated without revealing individual identity and for analysts to investigate things like learning gains by pupils in various schools and circumstances.

Student assessments (formative, summative, informal) are completed electronically, many through adaptive online programs. Software automatically analyzes the resulting information to create a data dashboard for each pupil, showing what has been mastered and what still needs work. Most assessments are graded by computer, although teachers read essays and occasionally offer separate “hand-graded” scores on other assignments. Instant preliminary feedback is the norm, and the official results, checked over by a data team, are available soon thereafter.

An artificial intelligence program periodically “sifts” each student’s cumulating education record to answer—especially for parents, teachers, and counselors—such key directional questions as whether the student is on track for college when she completes high school. Are there any warning signs of academic (or other) problems that warrant a change of course, maybe even a swift intervention?

Parents can log on and view their child’s cumulative report card, which is continually updated, not just with test results but also with sample work, attendance data, and teacher comments.

Multiple teacher web sites offer resources for planning lessons and obtaining supplementary materials. These include most everything an instructor might need, from student readings, workbooks, assignment ideas, web links and mini-tests to audio and video snippets for classroom use. The online curriculum vault includes thousands of videos of master teachers delivering lessons, and interactive web sites host discussion groups (most enable participants to view as well as hear and read each other). Increasing portions of students’ days are given over to virtual education: watching lectures, participating in

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online discussions, making productive use of software programs, e-mailing or conversing with distant experts, and teaming up with peers as much as half a world away.

Principals keep electronic files of data (as well as eyewitness impressions, pupil and parent and peer ratings) on individual teachers’ pedagogical strengths and weaknesses. Linked teacher and student databases are used to formulate professional development activities for each teacher.

Classroom sessions are periodically recorded and viewed by online mentors who offer quick feedback to new or struggling teachers. Pupil achievement consultants review students’ data files and advise teachers on working with challenging students.

Schools regularly calculate gain scores for each pupil and every state has a Tennessee-style value-added scoring system that spits out data on the effectiveness of its teachers, schools, and districts. Analysts can now control for outside factors affecting achievement. Districts and schools can also use them to evaluate the effects of particular textbooks, teaching units, and professional development activities.

Information about individual performance is aggregated across pupil populations at the classroom (and teacher), school, district, state, and national levels and cumulated over time. Such data enable principals, superintendents, and state officials to determine which institutions, programs, and individuals are on track to attain their targets. The public gets data, too, and can gauge the return on its education investments. Media outlets faithfully publish England-style “league tables” showing raw scores, value-added results, and change over time for every school.

The progress in education data over the past two decades surpasses that made during the entire previous century. Considering the size and decentralized nature of U.S. education, the sluggishness with which it has reacted to many demands for reform, and the modest political oomph behind such mundane activities as crafting data systems, the gains are remarkable. The best explanation seems to be that the millions of people in public education have finally come to realize that the more you know the better off you are.

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