Minnesota

Breaking Away From Tradition
E-Education Expands Opportunities For Raising Achievement

Individual state technology reports can be found on the Web at www.edweek.org/go/tc09/str.

A Special State-Focused Supplement to Education Week's Technology Counts 2009
About This Report

This 2009 State Technology Report is a supplement to the 12th edition of Technology Counts, a joint project of Education Week and the Editorial Projects in Education Research Center. The policy data come from the EPE Research Center’s 2008 summer survey of states about their K-12 educational technology policies in the areas of use and capacity. In past years, Technology Counts has also incorporated external data to report on access to technology across the states. This year, in the absence of updated state-by-state access data, the print edition of the report drops this category from the Technology Leadership framework and reports only on national trends in this area. However, the State Technology Reports continue to display the most recent state data on access to technology as a carryover from last year’s reporting.

The report assigns separate grades to the states for their technology performance in each of the three indicator categories, but does not calculate a summative grade. For all indicators, national results are also provided as a benchmark against which the state can be measured. Technology Counts 2009 explores the increasing demand for online-learning programs as its special theme. Accordingly, this State Technology Report integrates some national-level data on online-learning programs. The full Technology Counts 2009 report can be accessed online at www.edweek.org/go/tc09.

<table>
<thead>
<tr>
<th>STATE TECHNOLOGY REPORT CARD 2009</th>
<th>Minnesota</th>
<th>How did the average state score?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of technology</td>
<td>B-</td>
<td>B</td>
</tr>
<tr>
<td>Capacity to use technology</td>
<td>D</td>
<td>C+</td>
</tr>
<tr>
<td>Access to technology</td>
<td>C+</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>(From Technology Counts 2008)</td>
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<table>
<thead>
<tr>
<th>TECHNOLOGY COUNTS 2009: BREAKING AWAY FROM TRADITION</th>
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<tbody>
<tr>
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<td>Once mostly catering to advanced students who educators believed had the motivation to pursue education online, e-learning is now growing in popularity for struggling students, too. Yet quality concerns remain.</td>
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Click here to order your copy of Technology Counts 2009.

Technology Counts Grading Breakdown

<table>
<thead>
<tr>
<th>From Technology Counts 2009</th>
<th>From Technology Counts 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use of Technology</strong></td>
<td><strong>Access to Technology</strong></td>
</tr>
<tr>
<td>Does state have policy?</td>
<td>State</td>
</tr>
<tr>
<td>Student standards include technology</td>
<td>50</td>
</tr>
<tr>
<td>State tests students on technology</td>
<td>13</td>
</tr>
<tr>
<td>State has established a virtual school</td>
<td>29</td>
</tr>
<tr>
<td>State offers computer-based assessments</td>
<td>26</td>
</tr>
<tr>
<td><strong>Capacity to Use Technology</strong></td>
<td><strong>Number of students per ...</strong></td>
</tr>
<tr>
<td>Does state have policy?</td>
<td>Instructional computer</td>
</tr>
<tr>
<td>Teacher standards</td>
<td>High-speed Internet-connected computer</td>
</tr>
<tr>
<td>Administrator standards</td>
<td>46</td>
</tr>
<tr>
<td>Initial teacher-license requirements</td>
<td>37</td>
</tr>
<tr>
<td>Initial administrator-license requirements</td>
<td>21</td>
</tr>
<tr>
<td>Teacher-recertification requirements</td>
<td>10</td>
</tr>
<tr>
<td>Administrator-recertification requirements</td>
<td>7</td>
</tr>
</tbody>
</table>

Grading Scale  
A (93-100), A- (90-92), B+ (87-89), B (83-86), B- (80-82), C+ (77-79), C (73-76), C- (70-72), D+ (67-69), D (63-66), D- (60-62), F (0-59)
Use of Technology

State Grades

The EPE Research Center examined state policies on the use of technology. As reported in Technology Counts 2009, the policies are: technology standards for students, student tests on technology, virtual schools, and computer-based assessments.

The states with the highest grades on technology use (grades of A or A-minus) each have at least three of these policies in place. However, 11 states have adopted just one of the policies, and the District of Columbia has none of them.

SOURCE: EPE Research Center, 2009

Integrating State Technology Standards

All jurisdictions, but not the District of Columbia, now have technology standards for students. In 24 states, technology standards exist as distinct, stand-alone documents. But in keeping with a trend toward integrating technology throughout the curriculum, 26 states embed technology expectations within the standards for English, math, science, and/or history. Eleven of those states have both stand-alone and embedded technology standards.

Technology Standards for Students

No technology standards: DC

Stand-alone: AL, AK, AZ, ID, IA, KY, LA, MD, MI, MS, NE, NV, NH, NJ, NY, NC, ND, OH, OK, OR, UT, VT, WA, WI

Embedded only: CA, CO, FL, GA, HI, IL, IN, ME, MN, MO, NM, PA, RI, SC, WY

Both embedded and stand-alone: AR, CT, DE, KS, MA, MT, SD, TN, TX, VA, WV

SOURCE: EPE Research Center, 2009
Capacity to Use Technology

State Grades

The EPE Research Center tracked state policies designed to improve educators’ capacity to use technology. As reported in Technology Counts 2009, these state policies for teachers and administrators cover technology standards for educators, and requirements for initial licensure and recertification.

Three states—Georgia, Kentucky, and West Virginia—have adopted all or all but one of these policies and earned grades of A. Five states have not put any of these policies into place.

SOURCE: EPE Research Center, 2009

Requirements for Educators

States may adopt a variety of policies in an effort to ensure that educators have the capacity to use technology. These policies include teacher and administrator requirements for initial licensure and/or recertification.

Twenty-six states require teachers to demonstrate technology competence either for initial licensure or recertification. Technology requirements for initial teacher licensure are twice as common as policies concerning recertification. Five states require demonstration of technology competence for both initial licensure and recertification.

In contrast, only 15 states have established comparable technology requirements for administrators. Eight states require prospective administrators to establish competence in the use of technology for an initial license only, and five have such a technology requirement solely for recertification. Two states require administrators to demonstrate technology competence both for initial licensure and recertification.

SOURCE: EPE Research Center, 2009
Technology Access

Student Access to the Internet

Internet access in classrooms across the country has increased dramatically since 1994. In that year, only 3 percent of classrooms in public schools had Internet access. However, by 2005, the percentage had increased to 94 percent.

High-income schools, or those in which fewer than 35 percent of students are eligible for federally subsidized meals, got off to a faster start than low-income schools, in which three-quarters or more of the students are eligible. But the gap has narrowed greatly in recent years.

SOURCE: National Center for Education Statistics, 2006

Projected Growth in Technology

The 2008 America’s Digital Schools report conducted by the Greaves Group and the Hayes Connection asked school districts about their adoption of various forms of technology.

In the 2006-07 school year, most school districts reported having interactive whiteboards and online assessments, but only half reported having learning-management systems. Slightly more than a quarter had 1-to-1 computing in 2006-07, which means that “each student and each teacher has one Internet-connected wireless computing device for use in the classroom and at home ... [and] students are allowed to take the machines home at night.” Districts projected almost universal access to whiteboard technology, and a near doubling of 1-to-1 computing by 2010.

Differing Levels of Computer Access

For the 2005-06 school year, on average, 3.8 students shared each instructional computer in U.S. public schools. Beneath that national figure, computer access varied widely across the states. South Dakota provided the greatest access, with a student-to-computer ratio of 2-to-1. By contrast, the ratio was at least double that figure in 19 states. In five of those states, five or more students shared every computer.

SOURCE: Market Data Retrieval, 2005-06
Online Learning

Virtual Schools on the Rise

Virtual schools, where instruction is delivered over the Internet, are on the rise.

The number of states that have established or financed statewide virtual schools has gradually increased over time. In the 2002-03 school year, only 16 states had established virtual schools. Six years later, that number had increased to 29 states.

Virtual schools are far more likely to serve middle or high school students than elementary youngsters. Just eight states have virtual schools serving elementary, middle, and high schools.

SOURCE: EPE Research Center, 2009

Online Course Offering

In recent years, a significant number of school districts have begun to make use of fully online courses and/or courses that blend traditional and online elements. According to a 2009 report from the Sloan Consortium, 70 percent of school districts surveyed reported having one or more students enrolled in a fully online course, while 41 percent reported having one or more students enrolled in a course with a substantial online component.

Most districts reported multiple providers of these courses. The most frequently cited providers of fully online courses were postsecondary institutions, state virtual schools, independent vendors, and education service agencies within the state. The most frequently cited providers of courses blending online and traditional methods were the school district, postsecondary institutions, another school district, and independent vendors.

![Bar chart showing the percentage of districts offering fully online courses and blended courses by type of provider.]

Note: “Other” category excluded.
Sources and Notes

State Technology Indicators

All the state policy indicators reported in Technology Counts are obtained through an original policy survey conducted annually by the Editorial Projects in Education Research Center. In June 2008, the Research Center sent surveys to the chief state technology officers in all 50 states and to the superintendent of the District of Columbia public schools. Respondents provided information on policy indicators related to educational technology and competencies of students and educators. Every state response was carefully verified using additional evidence provided by the state, such as documentation describing a state statute or administrative rule.

Indicators on access to technology presented in the State Technology Reports were obtained from three sources: the National Assessment of Educational Progress, conducted by the National Center for Education Statistics; the 2008 America’s Digital Schools report written by the Gravies Group and the Hayes Connection; and Market Data Retrieval, a Shelton, Conn.-based research organization.

Grading the States

For Technology Counts 2009, the EPE Research Center collected new data on 10 indicators spanning two major areas of state technology policy and practice: use and capacity.

The 2009 edition of Technology Counts grades states separately on each of the monitored categories but does not calculate a summative grade. In each graded category, states receive credit for the respective policies they have enacted. Each indicator receives equal weight in the grading, so that scores are proportional to the number of implemented policies. Points were tallied and averaged within each of the technology categories, producing scores on a 100-point scale. A state with all monitored policies in a category is awarded 100 points. One with no policies in place would receive 59 points (an F grade). A detailed explanation of the grading methodology can be found in the full edition of Technology Counts 2009. Results for the Access to Technology category are from Technology Counts 2008.

Technology Use & Capacity

Editorial Projects in Education Research Center annual state policy survey, 2008. Survey respondents were asked about state policies that promote technology use and capacity.

Technology Access

Percent of 4th grade students with access to computers: The percent of 4th grade students in public schools whose math teachers report that computers are available for use by their students.


Percent of 8th grade students with access to computers: Ibid.

Students per instructional computer: The average number of students who share each computer available for student instruction. Market Data Retrieval, “2005-06 Public School Technology Survey.”

Students per high-speed Internet-connected computer: Ibid.


Differing levels of computer access: Market Data Retrieval, “2005-06 Public School Technology Survey.”

Online Programs


About Editorial Projects in Education

Editorial Projects in Education (EPE) is a nonprofit, tax-exempt organization based in Bethesda, Md. Its primary mission is to help raise the level of awareness and understanding among professionals and the public of important issues in American education. EPE covers local, state, national, and international news and issues from preschool through the 12th grade. Editorial Projects in Education Inc. publishes Education Week, America’s newspaper of record for precollegiate education, Teacher Magazine online, edweek.org, and the Top School Jobs employment resource. It also produces periodic special reports on issues ranging from technology to textbooks, as well as books of special interest to educators.

The EPE Research Center conducts annual policy surveys, collects data, and performs analyses that appear in the Quality Counts, Technology Counts, and Diplomas Count annual reports. The center also produces independent research reports and contributes original data and analysis to special coverage in Education Week, Teacher Magazine online, and edweek.org.
The 12th edition of Technology Counts takes a critical look at the many ways in which e-learning is filling voids to help raise student achievement. As the world of online education continues to evolve, brick-and-mortar schools are incorporating digital curricula and virtual teachers into their classrooms in ways that have surprised even the advocates of the online education movement. Once mostly catering to advanced students who educators believed had the motivation to pursue education online, e-learning is now growing in popularity for struggling students, too. Yet concerns remain about the quality of online teaching and learning even as it grows.

Highlights from this year’s report

In-depth look at how online learning is disrupting traditional ways of delivering education and what this means for educators as they rethink the best ways to improve their schools and raise achievement.

Lessons that K-12 educators can learn from higher education and the business world as they look to expand e-learning for students and teachers alike.

Tracking U.S. Trends — our comprehensive annual review of state technology policy.

Online Extras

State Technology Reports—download individualized reports featuring state-specific findings from Technology Counts.

Live online chats and a Webinar—join leading national authorities and experts from Education Week to discuss how e-learning is expanding opportunities for raising achievement in schools.

Education Counts—access hundreds of state-level education indicators collected over the past decade for Education Week’s annual Technology Counts, Diplomas Count, and Quality Counts reports.