

National Association of State Boards of Education



States Set Sights on Growth of Low-Performing Students

By Joseph Hedger

The 2017 National Assessment of Educational Progress (NAEP) scores in grades 4 and 8 reading and mathematics, released in April 2018, revealed that most states' average scores had remained relatively flat since 2015.¹ Results that analysts called disappointing,² the averages masked worse news: Scores of students across the country in the lowest 10th and 25th percentiles had declined over the same period.

Like the NAEP, state assessments also measure proficiency—whether students meet the bar for what a state's standards say students in their grade level ought to know. But many experts say that giving significant weight to measures of individual students' academic growth can provide a fuller picture of student learning as well as encourage low-growth

schools to ensure that every student advances, regardless of their proficiency levels at the beginning of a school year.³

The Every Student Succeeds Act (ESSA) opened the door for states to include a student growth indicator as a measure of school quality in their accountability systems. While almost all states include a student growth indicator in their accountability plans under ESSA, only nine include separate growth measures of the lowest-performing students within their basket of indicators (see table).⁴

Since schools with the greatest concentration of students living in poverty tend to fare poorly on grade-level proficiency measures,⁵ this additional measurement encourages schools and districts to provide more resources and focus on these students' needs. State boards of education in Mississippi and Wyoming, for example, include accountability measures of stu-

dents' growth but also include a measure of academic growth of schools' and districts' bottom quartile.

In the most recent NAEP, also known as the Nation's Report Card, fourth graders on average scored 240 in mathematics in 2015 and 2017, which represents a rise of 27 points since 1990. However, the lowest tenth of students show a four-point decrease (202 to 198) and the lowest quartile a two-point decrease (221 to 219) since 2015. There was little change in grade 4 math among higher-performing groups.⁶

Fourth-grade reading scores for the top quartile and top tenth rose a single point in each of three NAEP tests since 2011 (the 75th percentile from 246 to 249, and 90th from 264 to 267). The lowest quartile and tenth moved in the opposite direction. Since 2015, the 25th percentile dropped from 201 to 199, and the 10th percentile dropped from 174 to 171. On average, fourth grade reading scores were flat.⁷

In eighth grade, average NAEP scores for mathematics have dropped slightly over the past few years—285 to 283, from 2013 to 2017. Over the same period, math scores for the lowest tenth dropped from 237 to 233, and for the lowest quartile, from 261 to 256. Scores of the 90th percentile have risen from 329 to 333 since 2015.⁸ Eighth grade reading scores remained largely static. The average score rose two points since 2015 (265 to 267). The 10th percentile dropped one point since 2015. But it has fallen four points since 2013.⁹

MEASURING GROWTH IN MISSISSIPPI AND WYOMING

State leaders are working to lessen the growing gap between the highest and lowest performing students—as evidenced by the 2017 NAEP scores—by holding schools accountable for student academic growth. Student academic growth can be measured in different ways. A measure may assess a student's progress against that of other students with similar past perfor-

Table 1. Nine States with Growth Measures for Lowest Performing Quartile/Quintile

States Measuring Growth of Lowest Performers	Measure of Growth
New Mexico (lowest 25%)	Value-added growth model
Ohio (lowest 20%)	Value-added growth model
South Carolina (lowest 20%)	Value-added growth model
New Hampshire (lowest 25%)	Student growth percentile
Wyoming (lowest 20%)	Student growth percentile
Florida (lowest 25%)	Percentage of students meeting growth criteria
Mississippi (lowest 25%)	Weighted average growth measure
South Dakota (lowest 20%)	Proficiency based on performance trajectory, student growth percentile, or past 3 years
Utah (lowest 20%)	Index value that combines measure of on-track to proficiency and student growth percentile

Source: David English, "Proposed State Accountability Systems under the Every Student Succeeds Act: A Summary of Fall 2017 Submissions" (Washington, DC: American Institutes for Research, 2017); author's scan of ESSA state plans.

mance on state assessments, as student growth percentiles (SGPs) or value-added measures do. These can help states identify schools whose students are not doing as well as their peers in other schools though it may not help determine how far off track students are.

Alternatively, criterion-referenced growth measures compare each student's progress against a set standard, such as value tables, where schools receive credit for moving a student from one achievement level to another. By using such measures, state officials can tell how much progress students are making and whether they are on track to reach grade-level standards.¹⁰ Mississippi incorporates a criterion-referenced measure.

The Mississippi Academic Assessment Program assesses increases or decreases in performance against five levels of proficiency (minimal, basic, pass, proficient, and advanced). **Mississippi** grades its elementary and middle schools on a 700-point scale and its high schools on a 1,000-point scale. Within both, growth of all students counts for 95 points in reading and 95 points in math. School grades are assigned based on points earned when a student changes proficiency levels from one year to the next; stays at or above level 4; and/or increases over the midpoint of the lowest three proficiency levels. Any student increase of two or more performance levels from one year to the next counts as 1.2 points toward the school's overall score, and any student increase to the highest level counts as 1.25 points.

Mississippi also measures and assigns weight to growth among the lowest-performing quartile. Like the growth for all students, the lowest-performing quartile growth also counts for 95 points in reading and 95 points in math. Mississippi officials hope that inclusion of this measure will encourage schools to focus on at-risk students regardless of their subgroups. According to its ESSA plan, the state has set a goal of having 70 percent of all students reach proficiency in reading/language arts and math by 2024–25. Between 2007 and 2017, Mississippi ranked fourth in the nation for gains in fourth grade math, seventh for eighth grade math, second for fourth grade reading, and twelfth for eighth grade reading.

Wyoming uses SGPs to measure the academic growth of its students. According to Damian Betebenner of the Center for Assessment, these tools describe how “(ab) normal a student's growth is by examining their current achievement relative to their academic peers.”¹¹

In Wyoming's case, “academic peers” means all students from the same state, same year, same grade, and sharing similar test score histories. An SGP functions independently of achievement level, so that high-achieving students may show low growth and vice versa. To calculate a school's overall growth score, Wyoming combines all students' SGPs in reading and math for a full academic year to calculate a median growth percentile. For grade 3–8, growth counts as 25 percent of the school quality grade. For high school, growth counts as 20 percent of the school quality grade.

Wyoming's ESSA accountability model also includes an equity indicator that identifies students in grades 3–8 who score in the bottom quartile in reading or math or both. The equity indicator accounts for 25 percent of the weight for the accountability score of a school's grades 3–8, with the other 75 percent split among achievement, growth, and English language proficiency. Wyoming set the following 15-year goals (from a baseline year of 2015–16): 59 percent of students proficient or better in grade 3–8 math, 65 percent in grade 3–8 reading, 46 percent in high school math, and 39 percent in high school reading.

CONCLUSION

The 2017 NAEP scores revealed a clear and growing gap between top and bottom scorers across the states. When states are content to let schools focus only on improving average performance, the lowest-performing groups may get overlooked. But states that assign meaningful weight to student growth toward achievable, growth-based goals are purposefully seeking to advance equity in their education systems. States like Mississippi and Wyoming provide useful examples of how officials can incorporate growth measures, as well as measures focused on the growth of low performers, in their accountability systems. These states are able

to set goals for these students' achievement and track progress toward them.

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NOTES

- 1 Linda Jacobson, “2017 NAEP Sees Almost No Growth in US Students' Math, Reading Scores” (Washington, DC: Education Dive, 2018).
- 2 Martin R. West, “A Disappointing National Report Card,” *Education Next* 18, No. 3 (2018).
- 3 Kimberly J. O'Malley et al., “Overview of Student Growth Models,” white paper (Pearson Assessments, 2011); Damian Betebenner and Robert Linn, “Growth in Student Achievement: Issues of Measurement, Longitudinal Data Analysis, and Accountability,” paper presented at Exploratory Seminar (Washington, DC: Center for K-12 Assessment & Performance Management, 2009).
- 4 Education Commission of the States, “50-State Comparison: Accountability and Reporting: ESSA Plans” (Washington, DC, 2018); David English, “Proposed State Accountability Systems under the Every Student Succeeds Act: A Summary of Fall 2017 Submissions” (Washington, DC: American Institutes for Research, 2017); author's scan of ESSA state plans.
- 5 Sean F. Reardon, “School Segregation and Racial Academic Achievement Gaps,” *The Russell Sage Foundation Journal of the Social Sciences* 2, no. 5 (2016): 34–57; Misty Lacour and Laura Tissington, “The Effects of Poverty on Academic Achievement,” *Educational Research and Reviews* 6, no. 7 (2011): 522–27.
- 6 National Assessment of Educational Progress, “2017 NAEP Mathematics Report Card” (Washington, DC: U.S. Department of Education, 2018).
- 7 National Assessment of Educational Progress, “2017 NAEP Reading Report Card” (Washington, DC: U.S. Department of Education, 2018).
- 8 National Assessment of Educational Progress, “2017 NAEP Mathematics Report Card.”
- 9 National Assessment of Educational Progress, “2017 NAEP Reading Report Card.”
- 10 Students Can't Wait, “Individual Student Growth: An Overview” (2014), <https://studentscantwait.org/resource/individual-student-growth/>.
- 11 Damian W. Betebenner, “Growth, Standards, and Accountability” (Dover, NH: Center for Assessment, 2009).