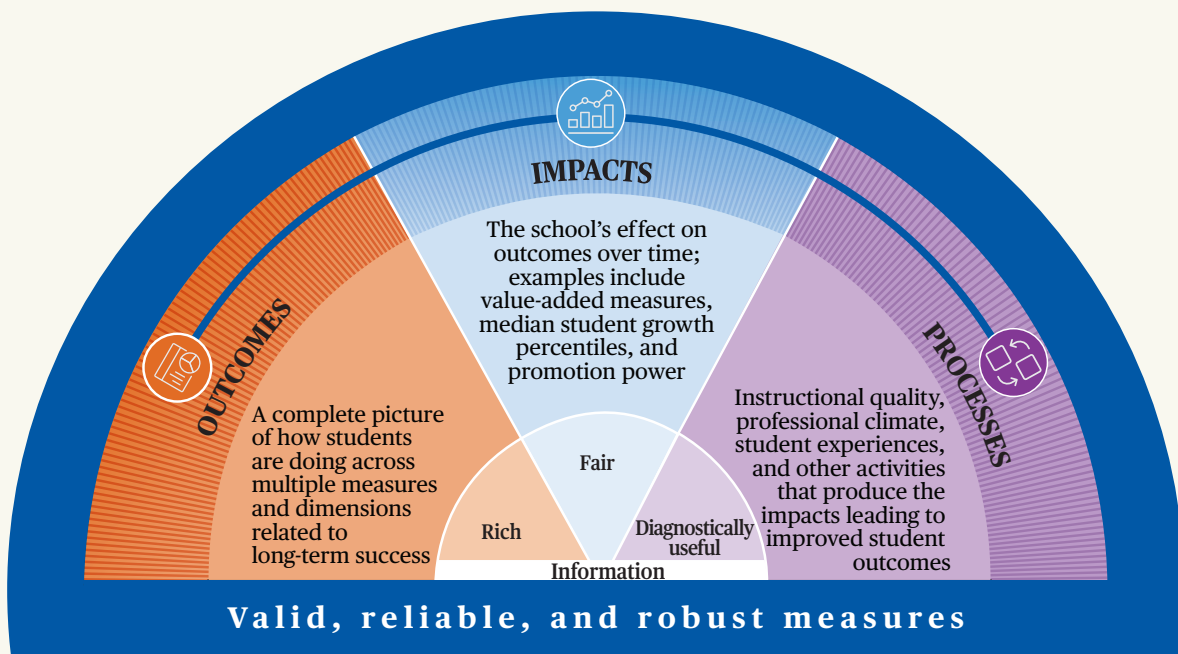


Outcomes, impacts, and processes: A framework for understanding school performance

A resource from the National Center for Education Evaluation and Regional Assistance

State and district education officials need good performance measures to know which schools and student groups need support the most and to diagnose the kind of support they need. In the wake of a pandemic that caused disproportionate harm to the academic achievement and well-being of students from historically underserved groups, good measures of performance may be more important than ever. Yet administrators are often drowning in data that they may not have the time to examine carefully or the analytic support to fully understand. This leaves room for decisions to be based on narrow, misinterpreted, unreliable, or even incorrect information. To promote equitable academic recovery and address these issues, states and districts can implement an improved measurement strategy that provides a more comprehensive, accurate, and understandable view of school performance.

Organizing valid, reliable, and robust performance measure data into complementary groupings of student outcomes, school impacts on outcomes, and processes that drive those impacts provides rich, fair, and diagnostically useful information. This information can be used in a variety of contexts—beyond federal accountability—to better identify and understand student and school needs and make more informed and equitable decisions.



Measuring performance can drive improvement only if the measures themselves are good.

Valid	They must measure what decisionmakers perceive them as measuring, without substantial systematic bias that would lead to mistaken inferences.
Reliable	They must not be susceptible to a large amount of random variation, leading to instability, misdiagnosis, and (over time) a lack of credibility.
Robust	They must be resistant to unintended consequences, including corruption of the measure and neglect of important unmeasured outcomes.

Source: Gill, B. (2022). [What should the future of educational accountability look like?](#)

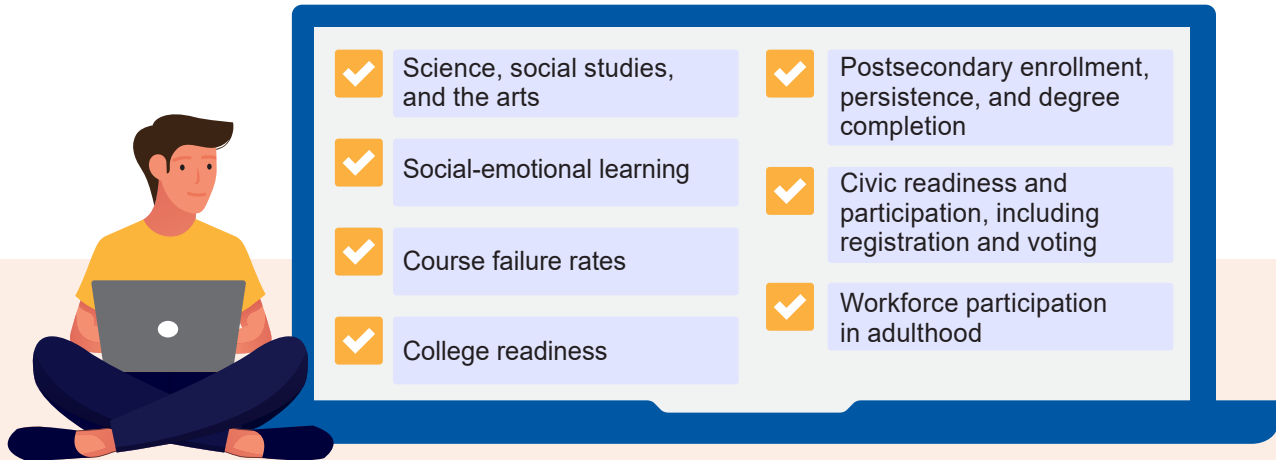


OUTCOMES

How are students doing?

Administrators need **rich information** on a wide range of outcomes to diagnose student needs, identify differences in those needs across schools, and assess which schools are serving the students with the greatest needs.

Standard measures such as proficiency in reading and math, attendance, and graduation are critical. In addition to those, consider outcome measures that include:



Outcome measures should reflect the expectation that schools develop a broad range of knowledge, skills, and attitudes to help students become effective citizens and thrive as adults. Because some of these outcomes are difficult to measure, it is also important to recognize that the measures will never completely encompass all the aims of schooling.

All of these outcomes can be examined with an equity lens that gives particular attention to student groups that have been historically underserved. Attention to historically underserved student groups has long been a focus of federal accountability under the Every Student Succeeds Act, but many states avoid examining small student groups because their data can be unreliable due to random variation. Fortunately, however, [REL Mid-Atlantic has developed statistical techniques to stabilize results for groups as small as 10 students](#)—allowing states and districts to pursue equity in their measures without sacrificing accuracy. A [2023 REL report](#) on stabilizing subgroup proficiency results demonstrates the potential of these methods using data provided by the Pennsylvania Department of Education.



Evidence in Action

When developed and interpreted correctly, surveys can produce useful information at the school level to complement academic proficiency data, producing a richer picture of how a school's students are doing. Like many school districts, District of Columbia Public Schools (DCPS) prioritizes efforts to support students' social-emotional learning. To measure students' competencies in this area and the school experiences that promote them, DCPS partnered with REL Mid-Atlantic to create [“loved, challenged, and prepared” survey-based indicators of progress](#).





IMPACTS

How much does the school contribute to how students are doing?

Administrators need **fair information** on how much each school affects student outcomes to identify which schools might need support and to assess whether a school is improving student outcomes overall and for particular student groups.

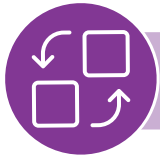
Many factors outside of a school’s control can affect student outcomes. [Mistakenly interpreting raw outcome measures as school impacts will unfairly penalize schools that serve disadvantaged students](#). Getting fair information requires making statistical adjustments to performance measures to better distinguish a school’s true impact on outcomes from these outside influences. The statistical approaches typically used for measuring impacts on test scores (such as student growth percentiles or value-added models) can be adapted and applied to other student outcomes, like social-emotional learning. These approaches are critical not only to ensure fairness to the schools, but also because they can help districts and states identify whether students have equitable access to the schools that best promote positive outcomes.

Growth or value-added measures	Promotion power measures
<p>Measures that examine the trajectory of learning for individual students over time, typically from one year to the next. These measures usually involve test scores but could be applied to any outcome measure for which students are assessed annually.</p>	<p>Measures of what a school contributes to student outcomes that are not measured repeatedly across years, such as graduation. These measures account for prior achievement and other student background characteristics.</p>
<p style="text-align: center;">Example</p>	<p style="text-align: center;">Example</p>
<p>To assess how well a middle school is promoting math skills of students in grade 6, a statistical model would examine how the math scores of the school’s grade 6 students had changed relative to their own scores in grade 5, one student at a time.</p>	<p>High school graduation happens only once, so there is no way to measure “growth” in graduation. But it is possible to assess how much a high school increases the probability that its students will graduate by statistically accounting for everything known about the students at the end of grade 8, before they entered high school.</p>
<div style="text-align: center;"> <p>Grade 5 Math scores Grade 6 Math scores</p>  </div>	<div style="text-align: center;"> <p>Grade 8 Graduation</p>  </div>



Evidence in Action

REL Mid-Atlantic and the District of Columbia’s Office of the State Superintendent of Education partnered to [measure the promotion power of high schools](#) in increasing the likelihood that their students will graduate, the likelihood that students will be college-ready, and the likelihood that students will enroll in college.



PROCESSES

What is happening in the school?

Administrators need **diagnostic information** about internal processes to better understand how staff and students view the school's environment and assess what intervention is needed in each school.

Consider

	Routine staff and student surveys	To assess school climate and shed light on school leadership, professional culture, student and staff relationships, and safety.
	School inspections, observations, and interviews	To assess the quality of instruction, school culture, and leadership.
	Data from existing electronic systems	To assess the experience, qualifications, and diversity of educators within a school and assess classroom data and ways that students access materials.




Evidence in Action

Maryland requires [climate surveys](#) in all schools statewide and includes the results in its accountability measures. District of Columbia Public Schools includes school climate questions in the same [survey used to assess social-emotional learning](#).

Expert inspections have long been a feature of educational monitoring systems in the United Kingdom and are conducted as two-day quality reviews [in New York](#). In the Mid-Atlantic region, **Maryland is creating [expert review teams](#) to conduct school visits** that aim to provide actionable information to support school improvement.

Similarly, in the Northeast & Islands region, **Massachusetts has developed a quality review system that provides actionable feedback** and that has demonstrated [improved ratings are correlated with improved student outcomes](#).

Pittsburgh Public Schools' learning management system tracks whether students are [logging in, opening their course materials, and completing their assignments](#)—measures that are strongly predictive of chronic absenteeism and course failure, but that can be measured daily.

Working with Texas, REL Southwest [found that teacher turnover was predictive of a school's outcome-based accountability rating](#), suggesting that turnover could be a useful indicator of what is happening in a school.

Resources

Outcomes, impacts, and processes: How a three-pronged measurement strategy can improve schools' performance <https://www.aasa.org/resources/resource/outcomes-impacts-processes>

Using a survey of social and emotional learning and school climate to inform decisionmaking <https://ies.ed.gov/ncee/rel/Products/Region/midatlantic/Publication/30205>

Using promotion power to identify the effectiveness of public high schools in the District of Columbia <https://ies.ed.gov/ncee/rel/Products/Region/midatlantic/Publication/30249>

Maryland school survey <https://www.marylandpublicschools.org/about/Pages/DCAA/DataCollections/MarylandSchoolSurvey.aspx>
NYCDOE quality review <https://www.schools.nyc.gov/about-us/reports/school-quality/quality-review>

Transforming education across Maryland: Expert review team <https://blueprint.marylandpublicschools.org/expert-review-team/#:~:text=The%20Expert%20Review%20Team%20program,recommendations%20to%20enhance%20student%20success>

Measurement for school improvement: The peril and the promise <https://ies.ed.gov/ncee/rel/Products/Region/midatlantic/Blog/107013>

What should the future of educational accountability look like? <https://onlinelibrary.wiley.com/doi/10.1002/pam.22428>

Changes in academic achievement in Pittsburgh Public Schools during remote instruction in the COVID-19 pandemic https://ies.ed.gov/ncee/edlabs/regions/midatlantic/app/Docs/Technicalassistance/PPS_pandemic_student_outcomes_for_school_board_508.pdf

Interpreting and using school performance data: Dos and don'ts for 2022 and beyond https://ies.ed.gov/ncee/rel/regions/midatlantic/app/Docs/Infographics/Interpreting_and_using_school_performance_data-dos_and_donts_for_2022_and_beyond.pdf

The next frontier in school accountability measures: Improving reliability and subgroup inclusion at the same time <https://ies.ed.gov/ncee/rel/Products/Region/midatlantic/Blog/106951>

Stabilizing subgroup proficiency results to improve the identification of low-performing schools <https://ies.ed.gov/ncee/rel/Products/Region/midatlantic/Publication/106926>

Webinar on changes in academic achievement and the use of online learning applications during remote instruction <https://ies.ed.gov/ncee/rel/Products/Region/midatlantic/Event/100520>

Multiple measure accountability under ESSA: Early findings from three states https://www.air.org/sites/default/files/2023-04/23-20801-CSI-NCER-ESSA-measures-brief-FMT-ed_rev.pdf

Indicators of school performance in Texas <https://ies.ed.gov/ncee/rel/Products/Region/southwest/Publication/100919>

Relationship between state annual school monitoring indicators and outcomes in Massachusetts low-performing schools <https://ies.ed.gov/ncee/rel/Products/Region/northeast/Publication/5178>

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