

InFOCUS

Hanley Chiang, Moira McCullough, Stephen Lipscomb, and Brian Gill

Performance Measures Based on Test Scores— How Well Do They Predict Principals’ Impacts?

Measures that accurately reflect principals’ future contributions can help inform states’ and districts’ decisions about which principals to keep, assist, or remove.



Through effective school leadership, principals play a key role in providing learning opportunities and building a sound foundation for students’ lifelong achievement.

States and districts measure the performance of principals to identify those who are most successful in helping students succeed academically and make decisions about who will lead schools in future years. But states have developed these performance measures without clear evidence that they are accurate, because research has been scant on which measures provide valid information about principals’ contributions to student achievement.

To help fill this knowledge gap, this study for the U.S. Department of Education’s Institute of Education Sciences examined the accuracy of test-based measures of principal performance—specifically, the extent to which these measures accurately reflect principals’ contributions to student achievement in future years. Measures that accurately reflect principals’ future contributions can help inform states’ and districts’ decisions about which principals to keep, assist, or remove.

This research team examined four measures that states or districts currently use or could widely implement:

- Average achievement uses only information about students’ end-of-year achievement without taking into account their past achievement.
- School value-added accounts for students’ past achievement by measuring their growth.
- Two other measures account for schools’ prior performance to avoid rewarding or penalizing principals simply for being assigned to schools that have better or worse characteristics.

Adjusted average achievement and adjusted school value-added credit principals if their schools’ average achievement and value-added, respectively, exceed predictions based on the schools’ past performance on these measures.

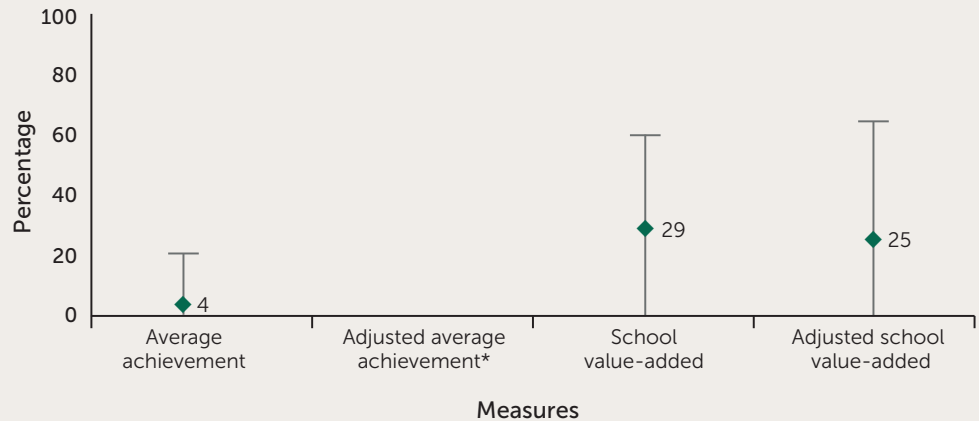
FINDINGS IN BRIEF

- Average achievement and adjusted average achievement—the measures that do not account for students’ past achievement—provide no information for predicting principals’ contributions to student achievement in the following year.
- School value-added and adjusted school value-added—the measures that account for students’ past achievement—provide, at most, a small amount of information for predicting principals’ contributions in the following year.
- Averaging measures across multiple recent years does not improve their accuracy for predicting principals’ contributions in the following year.

How Accurate Are Test-Based Performance Measures in Predicting Principals' Impacts?

Percentage of Any Difference in Ratings that Reflects Principals' Impacts in the Next Year

Researchers examined four measures that states or districts currently use or could widely implement.



Note: Error bars represent a 95 percent confidence interval.
(*Adjusted average achievement has no stability across years and therefore cannot predict principals' future impacts.)

LOOKING AHEAD

Research has not identified measures of principal performance that accurately identify principals who will contribute to student outcomes in future years. This study found little evidence that any widely feasible test-based measures do so. At the same time, research has not examined whether nontest measures, such as measures of principals' leadership practices, predict future contributions.

States and districts still need to assess principals' performance, and their evaluation systems should emphasize measures that provide some information about principals' future contributions to student outcomes. Based on the evidence from this study, these systems should not use average achievement or adjusted average achievement. Instead, system designers may want to incorporate test-based measures that emphasize ratings based on school value-added or adjusted school value-added. These are the only two measures shown to have any degree of accuracy.

Nevertheless, even these value-added measures may misidentify many effective and ineffective principals. States and districts should exercise caution when using these measures to make major decisions, given their inaccuracy. Going forward, identifying nontest measures that can predict principals' future contributions to student outcomes accurately should be a priority for states, districts, and the research community.

The full report, "Can Student Test Scores Provide Useful Measures of School Principals' Performance?" is available at <http://ies.ed.gov/ncee/pubs/>.

About the Study

We conducted two sets of analyses using student and principal data from 2007/08–2013/14 for the state of Pennsylvania. **First, we assessed the extent to which ratings from each measure are stable—that is, remain consistent over time—by examining the association between principals' ratings from earlier and later years.**

Then we examined the relationship between the stable part of a principal's rating and his or her contributions to student achievement. We calculated each principal's rating early in the study period and then identified schools in which one principal replaced another in a later year. We measured the change in student achievement at each of these schools and assessed the extent to which the principal with the higher rating actually produced higher achievement.

Using the results of both analyses, we simulated each measure's accuracy for predicting principals' contributions to student achievement in the following year. A measure could be accurate only if it was highly stable (from the first analysis) and its stable part was strongly related to principals' contributions (from the second analysis). The study assessed single-year ratings and ratings averaged across three years.

Follow us on:   

Mathematica® is a registered trademark of Mathematica Policy Research, Inc.



Scan this QR code to visit our website.