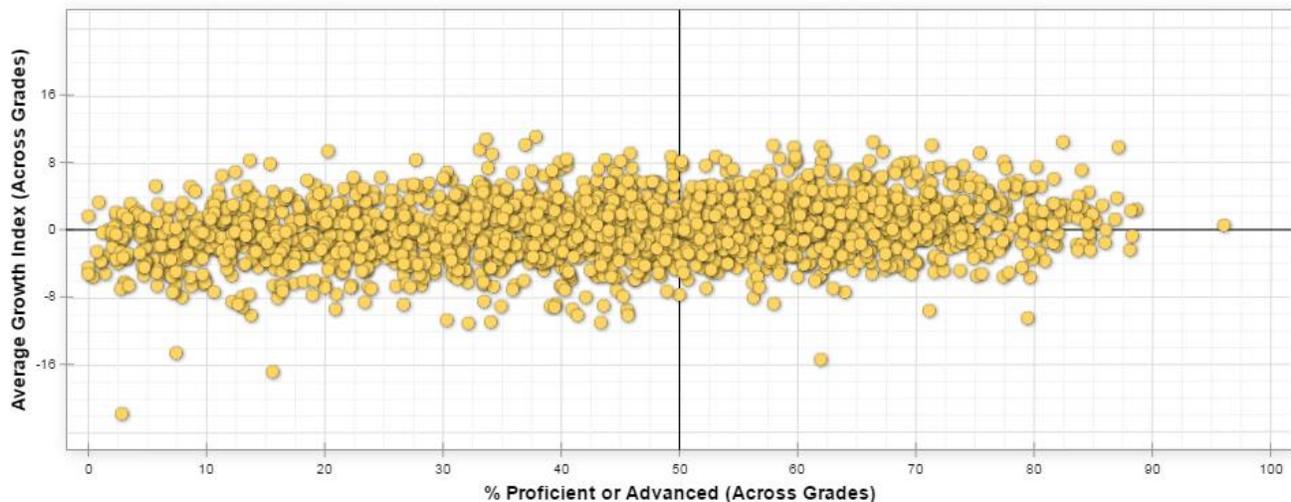


Addressing Common Misconceptions about PVAAS

The PVAAS growth measures are based on a robust and reliable methodology. This approach overcomes many critical statistical issues related to using standardized tests to assess student progress and mitigates concerns about fairness. Some of the common concerns about PVAAS and its model are addressed below.

Are PVAAS growth measures typically related to student achievement?

No! The figure below reports the actual 2015-2016 school PVAAS growth measures with the school's achievement PSSA Math 4-8. Each yellow dot is a school in Pennsylvania. Regardless of student achievement at the school, there is a fairly even distribution of schools that make, exceed or fall short of the expected growth.



Even high-achieving schools can make the expected growth?

Yes! There are high-achieving schools in Pennsylvania with very high growth through PVAAS based on the PSSA or Keystone assessments.

Very few students make perfect scores in the same subject from year to year. Some educators are concerned about their students who make perfect scores and how that may impact their progress measures. In fact, of the 760,000 students assessed on the PSSA in 2016:

- Less than 0.2% (less than 1,000 students) score at the highest point of the Advanced range
- Only 0.002% (less than 15 students) scored at the highest point of the Advanced range in Math two years in a row
- 0 students scored at the highest point of the Advanced range in Reading/ELA two years in a row

For the Keystone tests which were administered in the 2015-2016 school year, between 158,000 and 202,000 test scores were included in the PVAAS model for each subject. Of these test scores:

- less than 0.02% (less than 45 students) scored at the highest point of the Advanced range in Algebra I;
- less than 0.04% (less than 75 students) scored at the highest point of the Advanced range in Biology; and
- less than 0.006% (less than 10 students) scored at the highest point of the Advanced range in Literature.

Even low-achieving schools can make expected growth?

Yes! There are low-achieving schools in Pennsylvania with very high growth through PVAAS based on the PSSA or Keystone assessments. To view low-achieving schools' growth in Pennsylvania, click on the "Public Access" button on the PVAAS login page (<https://pvaas.sas.com>). The Scatterplots and School Search features will allow you to find and view the achievement and growth of LEAs/public schools across Pennsylvania.

What if a student has a bad testing day?

PVAAS measures of growth are not about *one* student on *one* day. It's about looking at the growth of an entire group of students over time. In fact, PVAAS does not provide growth measures for *individual* students. It only provides a growth measure for *groups* of students.

PVAAS protects educators by excluding outlier test scores, providing a growth measure based on groups of students rather than individual students and using a multiple-year trend for accountability and evaluation. In other words, PVAAS looks for a pattern across multiple years of growth measures and multiple years of student test scores to see whether there is *evidence* that students, on average, made expected growth.

Are PVAAS growth measures reliable from year to year?

Independent researchers have noted that the reliability of value-added modeling is similar to what is used elsewhere for high-stakes decision-making (Source: [Evaluating Teachers: The Important Role of Value-Added](#)). Multiyear measures from the PVAAS approach are among the most reliable, in part because the model uses so much testing history for each student and because the model requires sufficient evidence or certainty (standard errors) to report that students made more than or less than the expected growth.

How can PVAAS measure growth during test transitions?

The EVAAS approach used to generate PVAAS reporting has been in use for over twenty years, during which it has accommodated a number of test transitions. It is not required for test scores to be on the same scales in order to measure growth during a test transition. The most important factor is that the new test has a relationship to the old test, meaning the old 6th grade math test scores are highly correlated with scores on the new 7th grade math test, and this requirement has not been a problem with PVAAS reporting in the past.

Why does the PVAAS model need to be so complex?

The concept of growth is simple, but measuring growth reliably requires sufficient statistical rigor to overcome challenges when analyzing longitudinal student data. The PVAAS approach has the following advantages:

- Includes students with missing test scores (many models exclude students with missing test scores).
- Uses all available testing history for each student (many models restrict prior testing history to 1-2 subjects in 1-2 years).
- Uses all available testing history for each student, even when the historical data are not on the same scale or when tests have changed over time.
- Dampens the effects of measurement error, which is inherent in all student assessments because the tests themselves are estimates of student knowledge, not an exact measurement.

Value-added experts have validated the PVAAS approach. For example, researchers at RAND and WestEd recommended a modeling approach such as PVAAS as one of the least biased and most reliable (For example: <http://www.ncpublicschools.org/effectiveness-model/evaas/selection/>).

Although the statistical approach is robust and complex, PVAAS reports in the web application are easy to understand. The reports are color-coded for easy interpretation so that educators and administrators can identify their strengths and opportunities for improvement at a glance. The reporting is interactive, so that authorized users can drill down to access diagnostic reports for students by subgroup or achievement level, individual student-level projections, and other reports. Educators have a comprehensive view of past practices as well as tools for current and future students. Thus, educators benefit from the rigor of the PVAAS models by gaining insight in an accessible and non-technical format.

PVAAS is more than a number.

PVAAS allows for teachers, schools, and districts to use the real data to make real changes. As the Commonwealth of Pennsylvania works to improve teacher effectiveness and student outcomes, PVAAS data

provides numerous ways to help. PVAAS is a *flashlight* into improved student outcomes. Pennsylvania educators have said it best:

- Alicia Gismondi, Coordinator of Federal Programs and Student Achievement for Fox Chapel Schools states that *“We want to grow all our students whether they are high achieving or special needs. PVAAS helps us do that.”*
- Assistant Principal Corey Mosher of the Athens Area School District notes that *“Using the projections data [helps] to ensure students are enrolled in the best courses. Projection data ensures that teachers have the best data available to hone in individual instruction offering early, targeted interventions.”*