

# Achievement & Growth:

## Using Both Measures to Assess Student Performance

As we support students, do we focus on their **achievement**? Or their **growth**? Or is the true power in combining achievement **and** growth?

Achievement and growth are both data sets. On their own, they can tell us just one part of the story – but combined, they have the power to paint a truly useful picture of student learning.

### Achievement

Achievement can be thought of as **a student's current location** – their performance level at a specific point in time. It answers questions like:

*“Where are we now? Did we meet the goal?”*

Achievement also compares that single-point-in-time performance level with set standards or performance expectations. These types of measures are used in many ways in education, from an end-of-unit or end-of-course exam, to our state assessment system, to college and career readiness exams. As adults, we take driver's license exams, licensure exams in many trades, and so on — achievement can and does measure our performance against a variety of set standards, **at a single point in time**.

However, a single-point-in-time measure does not tell the full story of a person's performance, or progress. A student's performance on a given day can be impacted by many factors outside the school day, and are often highly correlated with demographic characteristics, such as socioeconomic status.

### Growth

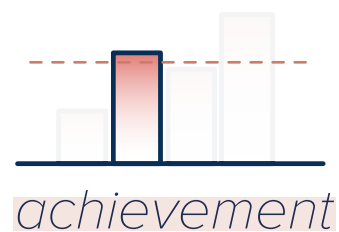
**Growth, as measured by PVAAS, reflects the direction of student progress.** It measures how a group of students' most recent academic performance compares to *their own* past performance. Key questions that growth can help us answer include:

*“Have students gained, maintained, or fallen behind relative to their starting achievement level?”*

The growth of a group of students is measured as they progress through grade levels, over time. Like achievement, growth via PVAAS looks at student performance, but does so with **multiple data points across time**, showing us the impact of our instructional program. This means that no matter the achievement level at the current moment — whether higher achievement, or lower achievement — growth will show us if the group of students is heading in the right direction. And unlike achievement, growth measures account for a student's prior achievement, so they are typically not correlated to student demographic characteristics.

Like achievement, the ability to show positive growth is critical to post-secondary opportunities and success. Growth can tell us about a student's forward momentum — their trajectory — providing much more insight than a single score, from any single assessment, at a single point in time.

Achievement is about **location**; growth is about **direction**.



*Level of performance at a single moment in time, against a set standard*



*Performance over time, revealing the direction of progress*

## An Analogy

Think about the game of baseball. Imagine for a moment that the bases on a baseball diamond represent the possible achievement levels of groups of students:

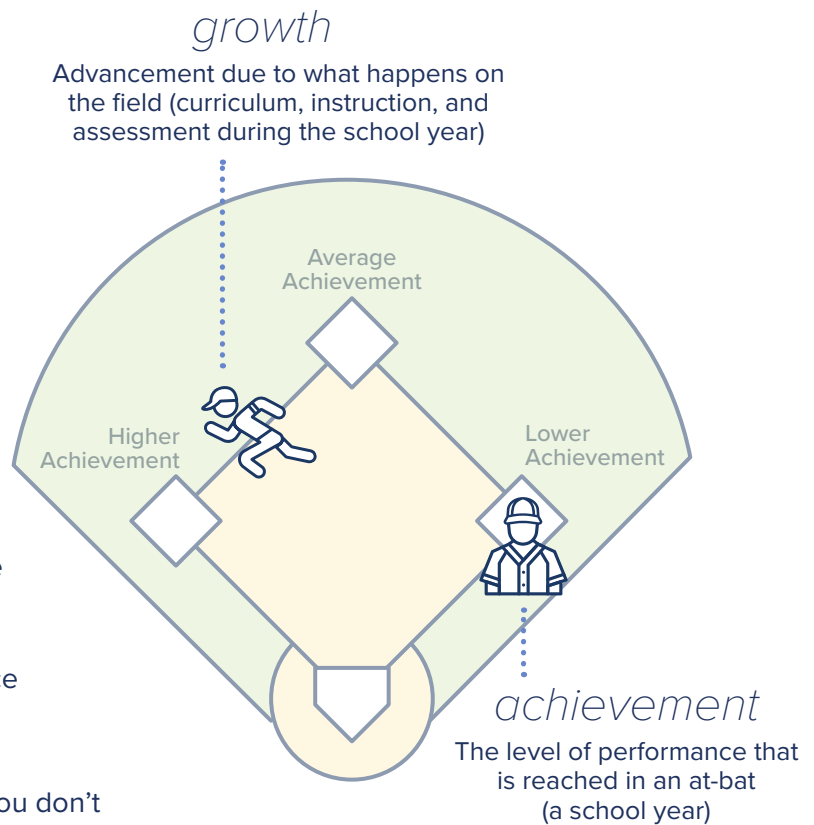
- **First base** represents a history of lower achievement,
- **Second base** is a history of average or middle achievement, and
- **Third base** is a history of higher achievement.

The base that is reached by a batter is their **achievement** while at bat – the location of a student group at the start of a year of learning.

In baseball, once a runner is on base, **something else has to happen** for the runner to move. In education, students experience instruction and learning during the school year – and as a result, they may experience **growth**. They may advance to the next base.

**This analogy is especially useful when you consider**

**our goals as educators.** When a batter hits the ball, you don't just want the runners who are on third base to head for home plate. All runners, on every base, should be advancing! And, you wouldn't want the runners on third base to stand still just because they've already come so far. In the same way, we want all students, whether they have a history of lower, middle, or higher achievement, to gain ground and head toward home, in every inning.



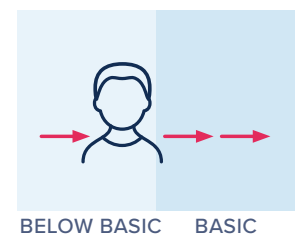
## Growth Measures in PVAAS

We have a robust growth-reporting suite at the state level: **the Pennsylvania Value-Added Assessment System**, commonly known as PVAAS. PVAAS provides value-added growth reporting for LEAs by district, school, subject, grade, teacher, and student group.

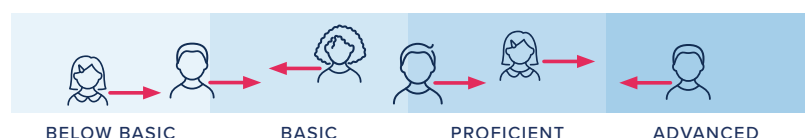
With PVAAS, it is recognized that students don't all start at the same place academically; the expectation, however, is that a student group will maintain their achievement from one grade level to the next, regardless if they have a history of higher achievement, average achievement, or lower achievement. **This is our growth standard in Pennsylvania:** a student group will at least maintain their achievement.

PVAAS measures growth for student groups at ALL achievement levels. To measure growth, it does not compare the percentages of students at various academic performance levels; those performance levels are wide

ranges of achievement. Instead, PVAAS looks at scores *within* those ranges and is a more sensitive measure of student progress than comparing percentages of students reaching or exceeding proficiency.



No matter the achievement level at which students enter, they should not lose ground academically.



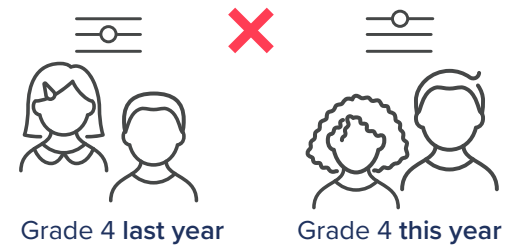
Additionally, **PVAAS growth measures are fair** for all types of learners – those with histories of both higher and lower achievement, and those with various demographic characteristics – as PVAAS is measuring growth by considering the entering achievement of those students.

## Growth Reports in PVAAS

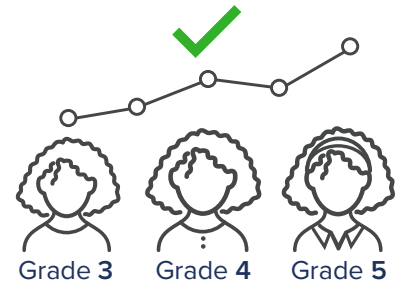
The Pennsylvania Department of Education, in partnership with SAS EVAAS, provides all LEAs with a user-friendly PVAAS report view that compares achievement and growth data, both over time and in one spot. The PVAAS reporting site provides a scatterplot view of this achievement and growth data for all Pennsylvania LEAs and schools. The Scatterplot report is publicly available and visually displays the achievement and growth of groups of students in Pennsylvania's public LEAs, districts and schools.

The scatterplot chart shown below is a real Pennsylvania chart. Notice there are schools with both higher achievement *and* lower achievement that are yielding higher growth (upper right quadrant and lower right quadrant, shaded in blue). There are also schools with both higher achievement *and* lower achievement, that are yielding lower growth (shaded in red).

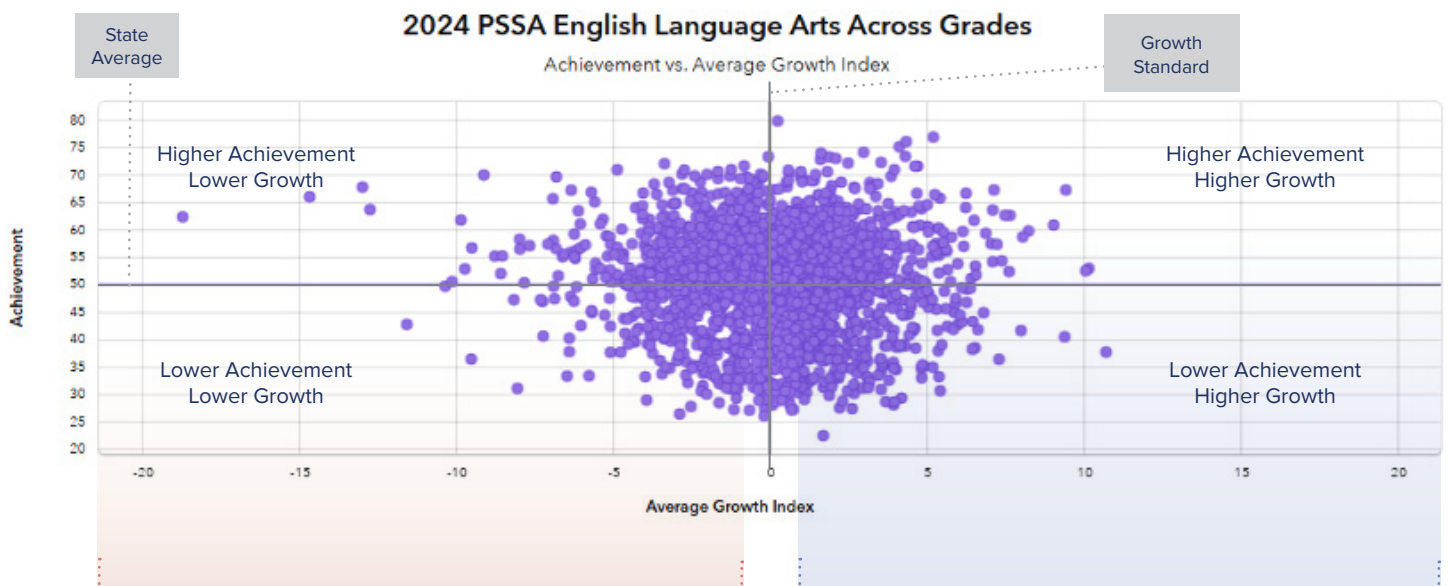
**SAS EVAAS analyses typically show little to no relationship between students' achievement and their growth.** Therefore, LEAs, districts and schools with high, average, or low percentages of students with histories of higher achievement *can also make high growth*. Likewise, LEAs, districts and schools with high, average, or low percentages of students with histories of lower achievement, *can also yield high growth*.



PVAAS does not compare the achievement of one group of students with the previous year's students in that same subject or grade.



PVAAS measures the growth of each distinct group of students as they progress through grade levels over time.



Notice that there are schools with both higher achievement *and* lower achievement, that are yielding lower growth.

Notice that there are schools with both higher achievement *and* lower achievement, that are yielding higher growth.

## Using Achievement and Growth *Together*

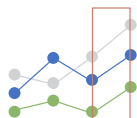
So, what can we learn from the combined use of achievement and growth data?

These data points are most effective when used *together*, to inspire and inform a dialogue on the health of an LEA/district/school's system of curriculum, assessment, and instruction.

Educators can use these data points to:



*Discuss whether the school's **curriculum, instructional strategies, and assessments** are aligned and meeting the needs of students*



*Capitalize on effective instructional practices by identifying **trends in higher achievement and higher growth***



***Set academic goals** for an LEA, district, school, and/or teacher, and monitor effectiveness of action plans*



***Provide opportunities for professional reflection** and dialogue, like professional learning plans and differentiated professional learning opportunities*

## Bringing it all home

Remember, achievement is about **location** – “Where are we now? What is the current level of learning?” – while growth is about **direction**, or where a group of students is heading – “Have we gained, maintained, or fallen behind, compared to our entering achievement?” Both measures, when combined, can help us answer: “What is the effectiveness of our curriculum, assessment, and instruction?”

PVAAS Scatterplots can help educators visualize the connection between achievement and growth based on state assessments.

When used together, achievement and growth can provide a more complete view of student learning, so we can better understand our students' needs, and meet them!

*For more information on this topic:*



View the short video, [Baseball & PVAAS: What's the Connection?](#) for a visual walk-through of these concepts, and the video [Companion Guide \(PDF\)](#) for additional tips.



Engage in the PVAAS [e-Learning Module “Concept of Growth”](#) to learn more and check your understanding.



Contact the PVAAS Statewide Team for PDE at [pdepvaas@iu13.org](mailto:pdepvaas@iu13.org) or call the PVAAS Hotline at 717-606-1911.