Pennsylvania Value-Added Assessment System (PVAAS)

What is PVAAS?

The Pennsylvania Value-Added Assessment System (PVAAS) uses the PSSA and Keystone assessment data to determine growth in student achievement that occurred over a school year. Growth values are calculated for Reading, Mathematics, Writing, and Science.

How is a PVAAS score different than a proficiency level?

In the past, student performance on state assessments was reported only as a percentage of students who scored in the proficiency levels of Below Basic, Basic, Proficient, or Advanced. These proficiency levels indicate the level of mastery of grade level standards in Reading, Mathematics, Writing, and Science. A PVAAS score measures the gain in student achievement during the year. So, it is really a measure of how much more the student knows at the time of the state assessment than the student knew one year earlier when assessed.

To use an analogy, think about attaining a proficient score in terms of students running a race. The students have staggered starts - some start closer to the finish line, while others start further away from the finish line. The students who start toward the back need to be able to cover more ground in the same amount of time to win. The students who start toward the front can run slower because they don’t need to cover as much ground. So, the chances are not good that a student starting at a lower point will ever cover enough ground to cross the finish line at the same time as the students who started closer to the finish line. When we ask all students to be proficient by the same time of year, we are in effect asking students who start at a lower level of proficiency to cover enough ground so that they can reach mastery at the same time as a student who is already very proficient on that standard.

Now, think about using the same analogy for measuring growth in student achievement. The students still have staggered starts, but instead of just measuring whether everyone can cross the finish line at the same time, we measure how far the students were able to run. Every student is expected to run a certain distance, but students are given credit for running further than the required distance. Similarly, all students are expected to make a year’s growth in a year’s time regardless of starting point, but students who are starting further from the finish line (proficiency) need to make more than a year’s growth to close the gap with the students who started closer to the finish line. If students are able to make more than a year’s growth, it puts them closer to the finish line and in a better position to cross the line in the next year.

Which is better, proficiency or growth?

One is not better than the other; we would like all students to be both proficient and to experience a minimum of a year’s growth in a year’s time. Proficiency is very important because a proficient student has mastered the skills and knowledge required for that grade level. Growth in student achievement is important to insure that proficient students remain proficient over time and that students not yet proficient close the achievement gap with their grade level peers.

How much growth is enough growth?

All students should experience a year’s growth in a year’s time regardless of their initial level of proficiency. Students who are not yet proficient should experience more than a year’s growth in a year’s time so that they are able to close the achievement gap with their peers.
What is the Annual Growth Index (AGI)?

The Annual Growth Index (AGI) represents the average growth of the students at a school in a particular grade and subject. It is calculated by first determining the Growth Measure for the tested students in each subject. The Growth Measure is the average of the individual growth values for each student tested. To obtain the AGI, the Growth Measure is divided by the standard error of measurement for the entire pool of data, which in effect places all schools on the same scale.

The AGI scale identifies a score of zero as representing approximately a year’s growth in a year’s time. An AGI that is above zero would represent more than a year’s growth while an AGI below zero would represent less than a year’s growth. Having less than a year’s growth does not mean that the students did not grow at all; it means that the students did not make as much progress as expected. To aid interpretation of the AGI scores, the PVAAS system uses a color coding system to represent the amount of growth made. Green identifies a score that represents an average of a year’s growth. Light blue and dark blue identify scores that represent an average of more than a year’s growth, while yellow and red identify scores that represent an average of less than a year’s growth.

How is the AGI converted to a scaled score in the School Performance Profile (SPP)?

For the SPP calculation, the AGI is converted to a scaled score out of 100 points. A scaled score of 70-79 points represents an average of approximately a year’s growth in a year’s time, or a “green” AGI score. AGI scores in the light blue or dark blue ranges will receive scaled scores closer to 100, while AGI scores in the yellow or red ranges will receive scaled scores less than 70. When calculating the scaled score, all tested grade levels at a school are averaged together within a subject area. For example, there is only one scaled score for Reading that represents an average of all grade levels tested on Reading at that school.

How are proficiency and growth weighted in the SPP?

In the past, the AYP system only considered student proficiency. The SPP system equally weights student proficiency and student growth. The percentage of students scoring the proficient or advanced range for each subject is weighted at 40% of the SPP score. The scaled scores for annual student growth in achievement are weighted at 40% of the SPP score. The remaining 20% of the score represents other factors such as attendance rate and graduation rate.

How can schools use the PVAAS results to increase student growth in achievement?

Schools use the PVAAS results to monitor student growth in achievement and insure that all students progress, regardless of starting proficiency level. Some ways that schools can use PVAAS results to inform instructional practices are:

- Monitor the growth of all groups of students from low-achieving to high achieving, and provide learning opportunities that ensure growth for all students;
- Provide feedback on the effectiveness of various instructional strategies;
- Make informed, data-driven decisions about where to focus resources to help students make greater growth and perform at higher levels;
- Modify and differentiate instruction to better address the needs of all students; and
- Align professional development in areas of greatest needs for students.