Using PVAAS Custom Student Reports with Diagnostic and Benchmark Data
for Improved Student Outcomes

How can PVAAS reports support a teacher's instructional adjustments and improvement?

Combining PVAAS reports with other student-level assessment data guides a teacher in making decisions throughout the school year. Projections highlight a student's likelihood of meeting or exceeding a benchmark on an upcoming assessment. With this data, teachers can monitor student progress, provide additional supports, or determine a need for instructional changes. Educators can leverage these PVAAS reports for students on a variety of assessments – let's find out how!

*Analyzing PVAAS student-level reporting **in combination with administering assessments** can provide key insights for student groups to watch, and instructional adjustments to make.*

Differentiating Instruction and Supports in the Classroom, with Data

A key task of all teachers as they begin the school year is to understand the various needs of students, as well as their entering skill level, so that the teacher can best provide the instruction and support needed — as a group and individually. Knowing students' progress towards proficiency and their skill levels when they "walk in the door" *and* as the year progresses can better prepare teachers in their planning and delivery of instruction. This continued practice throughout the school year is of great importance. The following steps illustrate a process that teachers can follow in doing this work.

Step 1: *Analyze teacher diagnostic data in PVAAS*

Using **PVAAS Diagnostic Reporting at the Teacher Level**, identify patterns of growth with students of varying achievement levels in the most recently completed school year, as well as in the prior school year.

- What type of growth did the lowest, middle, and highest achievers demonstrate?
- When analyzing two years of diagnostic data, is there a pattern of growth that emerges?

Do different students have different growth patterns? Consider choosing a student group as a group of focus for instructional change. This student group may also be considered a target group for goal setting.

CREATING A
group of focus

If data suggests a growth pattern specific to a group of students, such as those with a history of lower, higher, or middle achievement, you might choose a goal specific to the needs of those learners.

Step 2: Create a PVAAS Custom Student Report of current students in the three achievement groups

Next, create a **PVAAS Custom Student Report** to identify teachers' current students in the three achievement groups of low, middle, and high — as defined in the PVAAS teacher diagnostic report (from step 1).

If a teacher is providing instruction to multiple sections or classes, consider creating a PVAAS Custom Student Report for each of those sections or classes, which will allow the teacher to bring an identified focus to each class/period of students they teach.

Step 3: Administer a diagnostic or benchmark assessment to current students

Using a diagnostic assessment such as Classroom Diagnostic Tool (CDT), or a benchmark assessment such as Firefly, determine the specific instructional needs of the current students in each of the achievement groups defined in previous steps.

WHICH TYPE OF
assessment?

Diagnostic assessments help identify students' existing knowledge and skills, uncover learning gaps, and inform targeted interventions.

Benchmark assessments that are administered periodically throughout the school year can monitor student progress toward long-term goals and standards.

Step 4: Provide differentiated and personalized instruction, as needed

Based on student needs demonstrated in the assessment results from step 3, provide differentiated and personalized instruction for appropriate skill development.

Step 5: Administer the diagnostic or benchmark assessment again to current students

Re-administer the diagnostic or benchmark assessment. Afterward, review the results for skill areas in which instruction was provided since the last administration of the assessment, and the skill areas where upcoming instruction will be provided.

Step 6: Analyze changes in performance

Analyze your assessment data results to view changes in performance from the current administration to the previous administration(s).

- Is there an increase in skill acquisition for students?
- Are students making appropriate progress to meet their goals? If not, what skill areas need to be re-addressed, and how will instruction be adjusted?

Step 7: Determine additional instructional needs

Analyze the assessment results to assess students' future skill needs.

- How are students performing in skill areas where upcoming instruction will be provided?
- What are students' specific instructional needs in those skill areas?

The Steps in Action

In the following example, Sarah is a 6th grade Math teacher. Sarah primarily teaches multiple sections of grade 6 Math each year.

Step 1: *Analyze teacher diagnostic data in PVAAS*

When released, Sarah views her teacher-specific reporting in PVAAS. Specifically, she wants to look in detail at the growth students are making in her 6th grade Math courses.

From the most recent reporting, Sarah sees that her students in 2019 had varied growth across achievement levels. Over half of her students (53%) were middle—or average—achievers and lost ground or fell behind (growth color is yellow). However, both her students with higher achievement (23%) and her students with lower achievement (another 23%) gained ground or exceeded the growth standard (growth color is blue).

Comparing this with what occurred in the prior school year, Sarah notices that the average- or middle-achieving students in her classroom consistently fall behind (yellow in both 2018 and 2019). This is an area that concerns Sarah, and **she considers different instructional, assessment, and organizational strategies she could use to meet the needs of students with a history of average (middle) achievement in a better way.**
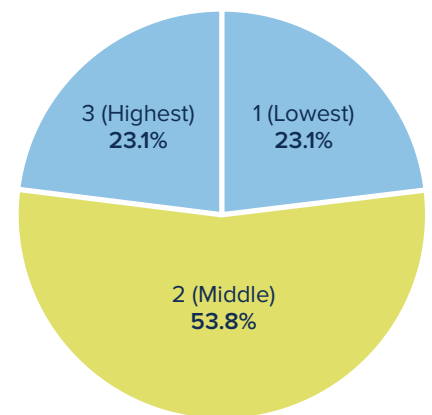
Sarah also sees that her lowest-achieving students gained ground this year as compared to similar lower-achieving students falling behind or losing ground in the prior year. This is certainly an area of success – one on which Sarah wants to reflect to identify the instructional, assessment, and organizational practices that may be leading to this outcome. She wants to replicate those practices with similar students in future years.

(See the Digging Deeper Guides for questions to ask in determining the root cause — the "why" — in order to plan for improvement and enhancements for the current students this year. Visit the PDE PVAAS "Digging Deeper" webpage to download The Digging Deeper Guides.)
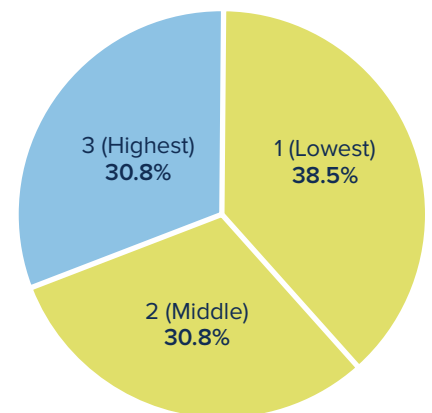
Given what Sarah sees in her PVAAS teacher diagnostic data, she identifies the students with a history of average achievement as a **group of focus** during the coming school year — an area that could possibly be reflected as a targeted priority for the year.

Step 2: *Create a PVAAS Custom Student Report of current students*

One piece of data that Sarah has available for her incoming 6th grade students is their PVAAS student projections. In August, the new PVAAS reporting is typically not yet available, but Sarah is able to use the current projection data – from when the students were in 5th grade – to project to their 6th grade year. This information helps Sarah to know which students are in her group of focus identified in step 1 (the middle-achievement group).

3 (Highest)
23.1%   1 (Lowest)
          23.1%

2 (Middle)
53.8%

2019 Achievement Groups

3 (Highest)
30.8%   1 (Lowest)
          38.5%

2 (Middle)
30.8%

2018 Achievement Groups

Fell behind

Gained or Exceeded Standard

Below is a sample of the **PVAAS Custom Student Report** that Sarah creates for one section of her grade 6 Math students. She creates this for each section she teaches.

#	Student	PAsecureID	District	Enrolled School	Probability	Projected State Percentile
1.	DIEHL, ARTHUR	1002686329	All-Star School District	Acrobat Elementary/Middle School	0.1	2
2.	GOFF, JAMESON	1002686569	All-Star School District	Acrobat Elementary/Middle School	0.6	7
3.	RICE, ASHLEY	1002686577	All-Star School District	Acrobat Elementary/Middle School	0.8	8
4.	BRADFORD, GRACE	1002686655	All-Star School District	Acrobat Elementary/Middle School	9.1	18
5.	MARTIN, TRISTAN	1002686838	All-Star School District	Acrobat Elementary/Middle School	13.1	21
6.	BOWERS, COLIN	1002687120	All-Star School District	Acrobat Elementary/Middle School	14.9	22
7.	WARREN, ALICIA	1002687153	All-Star School District	Acrobat Elementary/Middle School	57.7	43
8.	KPOR, MUHAMMAD	1002687239	All-Star School District	Acrobat Elementary/Middle School	59.9	44
9.	ROUSE, BAILEY	1002688001	All-Star School District	Acrobat Elementary/Middle School	65.2	46
10.	CHEEMA, ABEERA	1002688531	All-Star School District	Acrobat Elementary/Middle School	76.7	53
11.	MONTGOMERY, CINDY	1002690436	All-Star School District	Acrobat Elementary/Middle School	85.5	59
12.	SCHULTZ, DAKOTA	1002691945	All-Star School District	Acrobat Elementary/Middle School	88.2	61
13.	KRAMER, DEVLIN	1002692773	All-Star School District	Acrobat Elementary/Middle School	90.2	63
14.	SRINIVASAN, KARTHIK	1002694123	All-Star School District	Acrobat Elementary/Middle School	91.8	65
15.	SIV, KARAN	1002694236	All-Star School District	Acrobat Elementary/Middle School	96.7	72
16.	DICKSON, MIRIAM	1002696045	All-Star School District	Acrobat Elementary/Middle School	97.5	74
17.	STEVENSON, WILLIAM	1002696145	All-Star School District	Acrobat Elementary/Middle School	97.3	74
18.	HILL, IVAN	1002697000	All-Star School District	Acrobat Elementary/Middle School	98.4	77
19.	BLACKWELL, HAROLD	1002698015	All-Star School District	Acrobat Elementary/Middle School	99.9	87
20.	ARNOLD, GILBERT	1002698284	All-Star School District	Acrobat Elementary/Middle School	99.9	91
21.	OGLE, ADELINE	1002699376	All-Star School District	Acrobat Elementary/Middle School	99.9	92
22.	WALLER, KHALID	1002699969	All-Star School District	Acrobat Elementary/Middle School	99.9	94
23.	SHARIF, HARSH	1002700227	All-Star School District	Acrobat Elementary/Middle School	99.9	96
24.	FISCHER, ZACHARY	1002700790	All-Star School District	Acrobat Elementary/Middle School	99.9	99

Sarah uses this report to sort students based on their projected percentile on the PSSA Grade 6 Math assessment. Then, Sarah groups them into three achievement groups:

1. The lowest achievement group with projected state percentiles 1-33: **6 students this year**

2. Average (middle) achievement group with projected state percentiles 34-66: **8 students this year**
   (this is her group of focus identified above)

3. Highest achievement group with projected state percentiles 67-99: **10 students this year**

This process allows her to get a better sense of the level of differentiation that may be needed as she begins the school year. Sarah also keeps these groups in mind to monitor their progress throughout the year on other benchmark and diagnostic assessments.

Step 3: Administer a diagnostic or benchmark assessment to current students

After several initial weeks of instruction, Sarah administers an assessment to her students to get a baseline view of the skill levels of her students. Upon completion of the assessment, Sarah analyzes the results of the three achievement groups of students she identified in step 2. In particular, she looks closely at her students' skills in the categories of *Numbers and Operations* and *Algebraic Concepts* as these are the instructional areas she has defined for the upcoming weeks.

Knowing students' skill areas individually, as well as by smaller group of focus (defined in step 2), helps Sarah in planning and delivering her instruction. Additionally, Sarah carefully considers the most effective instructional strategies needed for the content, plans for improvement and enhancements in her existing strategies, and creates a schedule to monitor students' progress frequently.

SARAH's
data-informed action steps:

✓ *Consider the most effective instructional strategies needed for the content*

✓ *Plan for improvement and enhancements in her existing strategies.*

✓ *Create a schedule to monitor students' progress frequently.*

✓ *Deliver differentiated and personalized instruction that responds to results of frequent formative assessments*

Step 4: Provide differentiated and personalized instruction, as needed

Using the information from the assessment in step 3, Sarah can plan both whole-group and small-group instruction that meets the skill areas of her students. Over the upcoming weeks, Sarah delivers this instruction and adjusts as needed based on formative assessments used on a daily and weekly basis.

Step 5: Administer the diagnostic or benchmark assessment again to current students

Several months into the school year, Sarah re-administers the assessment. Once again, after getting the reports, she analyzes the results by the three achievement groups of students she identified in step 2. Additionally, Sarah looks individually at each student.

Step 6: Analyze changes in performance

Sarah first uses the assessment results to monitor the progress being made by her students, especially those in the middle-achieving group that was identified in the beginning of the year using PVAAS projections as a focus area. Sarah looks at *Numbers and Operations* and *Algebraic Concepts* as that was the focus of her instruction since the last assessment.

She can use this information as another piece of evidence in determining if the middle-achieving group of students are making the appropriate progress to accelerate their learning and increase their progress. (This is in addition to the progress monitoring Sarah planned for in step 3.) Remember, these were the types of students who were falling behind in prior years as well. Sarah chose this as a focus area for change this year and wants to closely monitor the progress of these students.

Additionally, Sarah wants to ensure that her lower- and higher-achieving students are making progress as well, so she views their results to ensure they are continuing to make the progress needed to keep them on a path to proficient, or perhaps advanced, levels of performance. For any students who are not making appropriate progress, Sarah adjusts her instructional strategies, and again creates a schedule to further monitor students' progress frequently.

Step 7: Determine additional instructional needs

For each unit she is planning throughout the year, Sarah uses the most recent assessment results for the appropriate reporting category, and determines the small groups and skills needed in the upcoming weeks. For example, if the next unit focuses on *Data Analysis and Probability*, Sarah can make that selection to look only at the assessment results for that category. She does this for each individual student, as well as by the three achievement groups identified in step 2.

Just as she did in step 3, Sarah carefully considers the most effective instructional strategies needed for the content, plans for improvement and enhancements in her existing strategies, and creates a schedule to monitor students' progress.

Note: While changes in diagnostic and benchmark assessment scores may not equate to growth as measured in PVAAS, measuring student progress in skill acquisition over the course of the year is one way to document increased understanding of standards. PVAAS growth data includes multiple years of data for groups of students and is not calculated for individual students. Within the process described in this document, change is measured only from one assessment administration to the next. Overall, using PVAAS to understand the trends in your teacher data can help you identify specific groups of students to track closely over the course of the year.