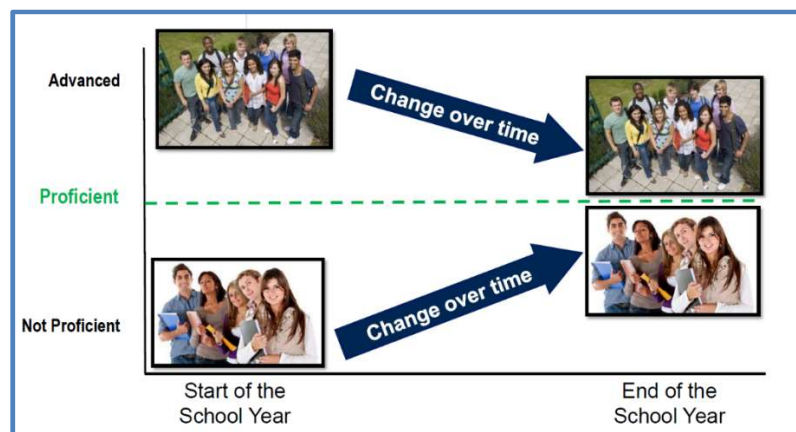# Michigan – Becoming the Top 10 in 10

CALCULATING AND USING STUDENT GROWTH MEASURES

In 2018, the State of Michigan contracted with SAS Institute to provide SAS® EVAAS® for K-12 statewide to educators and schools. The purpose of this implementation is to support educators and schools in assessing and improving student performance through a variety of diagnostic measures centered around student growth.

Why Student Growth?

- Educators see the progress of students of all achievement levels.
- Educators see the strengths and areas for improvement for schools, programs and classrooms.
- Student growth and student achievement are different measures. Student achievement measures one point in time. Student

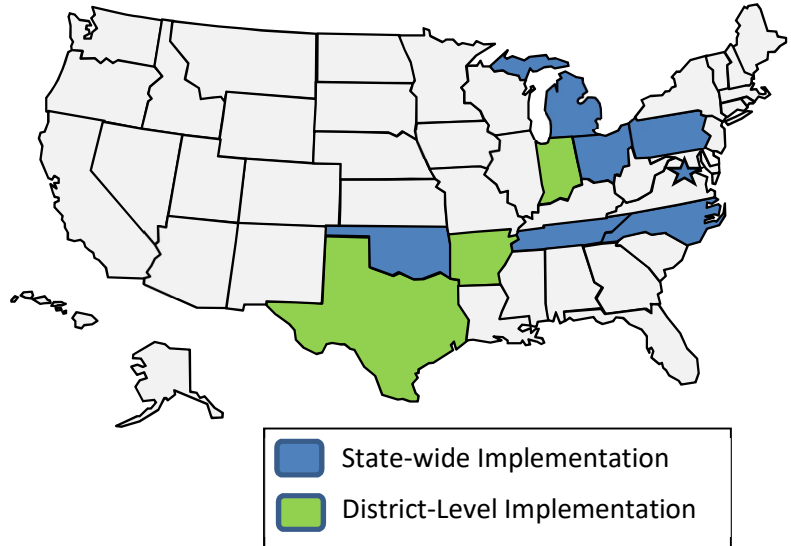growth shows us progress over time across all tested grades and subjects.

Why Value-Added?

- Student growth can be measured in many ways, ranging from very simple gains to more sophisticated value-added models. But not all growth measures are the same.
- Value-added models compare the change in achievement of a group of students from one year to the next to an expected amount of change based on the students' prior achievement history.
- Value-added models measure student progress over time. All students do not start or end the school year at the same place academically.
- Regardless of entering achievement levels and socio-economic background, all students can show growth.
- SAS EVAAS models can account for *test transitions*, *student mobility*, *missing data*, and *measurement error* in test scores.
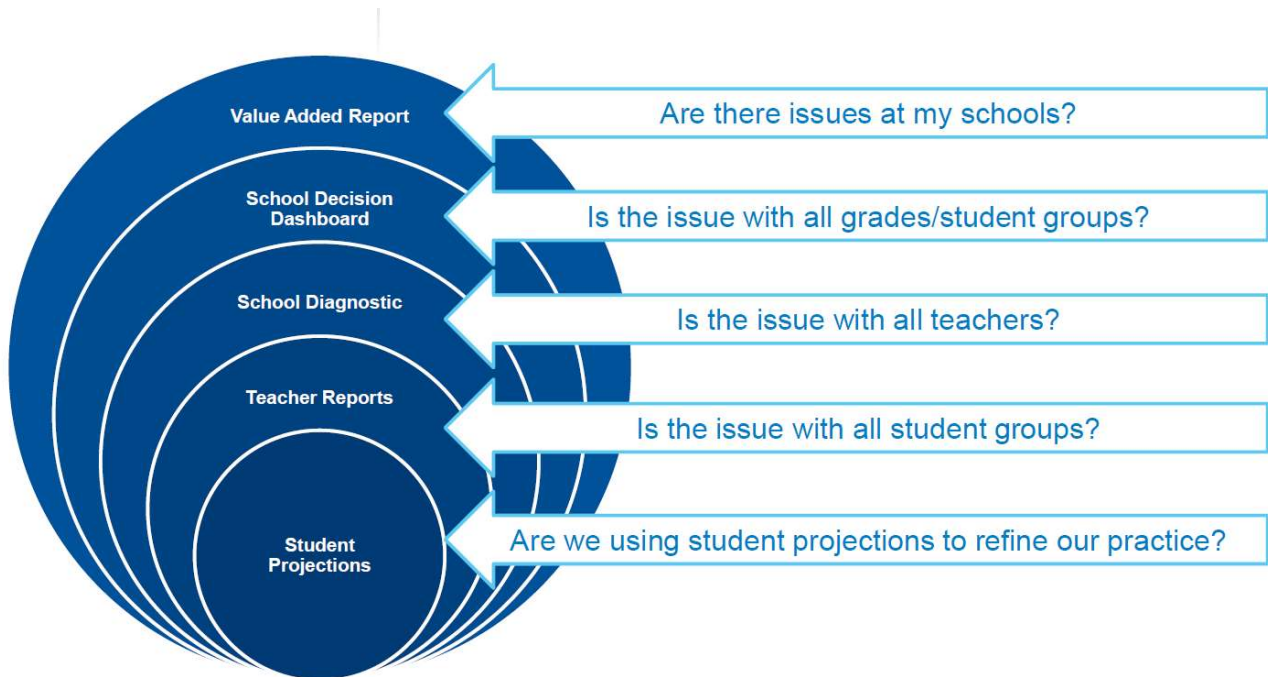
Why SAS® EVAAS®?

- SAS EVAAS provides more than a single estimate of effectiveness.
- EVAAS is a comprehensive value-added modeling, student projections, analytics, and web reporting system.
- With over 25 years of experience, EVAAS has a national footprint and has decades of implementing statewide systems.

- State-wide Implementation
- District-Level Implementation

How does EVAAS help Districts, Schools, and Teachers?

- In addition to providing a value-added estimate for teachers, schools, and districts, the EVAAS system provides diagnostic information, student projections, customizable reports, and in-depth user information.
- The EVAAS team is continually updating the reports available and developing new reports as states' needs evolve.

Value Added Report — Are there issues at my schools?

School Decision Dashboard — Is the issue with all grades/student groups?

School Diagnostic — Is the issue with all teachers?

Teacher Reports — Is the issue with all student groups?

Student Projections — Are we using student projections to refine our practice?

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What reporting is available in Michigan for educators?

EVAAS has been deployed statewide and all Michigan school districts and schools have access to the web reporting.

- The web reporting includes district and school value-added and student projections. These reports were first released to educators in July 2018 and were refreshed again in December 2018.
- Districts and schools that opted-in to teacher-level reporting by sharing student-teacher linkages have access to teacher-level value-added reports. These reports were first released to educators in March 2019.
- Over 100 districts opted-in for teacher-level reports and over 80 districts were able to provide usable data to create reports.
- Districts are currently able to opt-in for teacher-level reporting during the next EVAAS release.

Examples of the reports available to districts, schools, and educators can be found at the end of this document.

What training is available in Michigan for educators?

SAS has provided training through many different avenues and across different types of groups within Michigan.

- Engagement and Outreach: The SAS EVAAS team has conducted outreach sessions with over 10 ISDs that included information about implementation, overview of the EVAAS solution, and a demonstration of the web reporting.
- Informational Webinars: The EVAAS training team, in collaboration with the Michigan Department of Education, has hosted multiple webinars to engage ISD staff, district superintendents, curriculum directors, and other educators on the EVAAS solution. A webinar was also held with the MI DataHub to inform districts about the opt-in process and timeline for teacher-level reporting.
- On-site Training for MDE Staff: One full day training session was held for MDE staff to understand the EVAAS application. Materials were also provided for staff to conduct outreach and answer any questions from the field.
- ISD Training: The EVAAS training team provided on-site training to the Kent ISD. Additional training to other ISDs and/or districts is available upon request.
- Conference Presentations: The EVAAS training team and MDE presented at the MASA conference in February 2019. Presentations are being secured at other Michigan conferences.
- Online Learning: E-Learning Modules will be available through the web reporting system this year. These modules will allow educators to access targeted information in their own time and when questions arise.

SAS® EVAAS® Sample Reports

Value-Added Report for a District

The District Value-Added report provides reliable measures of the impact a district has had on students' academic growth. Up to three years of growth measures are displayed for each grade and subject. A three-year average is also displayed when sufficient data are available. The growth measures are color coded to indicate how strong the evidence is that the district met, exceeded, or fell short of the growth standard. This report enables district leadership to see trends in effectiveness across years, grades, and subjects.

Estimated District Growth Measure							
Grade	3	4	5	6	7	8	Growth Measure over Grades Relative to Growth Standard
Growth Standard		0.0	0.0	0.0	0.0	0.0	
2110 Growth Measure		1.4 DB	1.3 DB	-0.3 LR	-0.8 DR	0.1 G	0.3 DB
Standard Error		0.3	0.3	0.3	0.3	0.3	0.1
2111 Growth Measure		-1.2 DR	2.0 DB	-0.2 G	0.7 DB	0.1 G	0.3 DB
Standard Error		0.3	0.3	0.3	0.3	0.3	0.1
2112 Growth Measure		0.2 G	1.8 DB	0.4 LB	0.4 LB	1.0 DB	0.8 DB
Standard Error		0.3	0.3	0.3	0.3	0.3	0.1
3-Year-Average Growth Measure		0.1 G	1.7 DB	-0.0 G	0.1 G	0.4 DB	0.5 DB
Standard Error		0.2	0.2	0.2	0.2	0.2	0.1

Value-Added Summary for All Schools in a District

The Value-Added Summary report displays the color-coded growth measures for each grade and subject for all schools in the district. The report includes the growth measures for the most recent year, along with three-year averages, when available. Using this report, district leaders can compare schools district- wide. Uncovering patterns in the effectiveness of schools can help district leaders determine whether issues are school-specific or related to district programs, yielding better targeted improvement efforts.
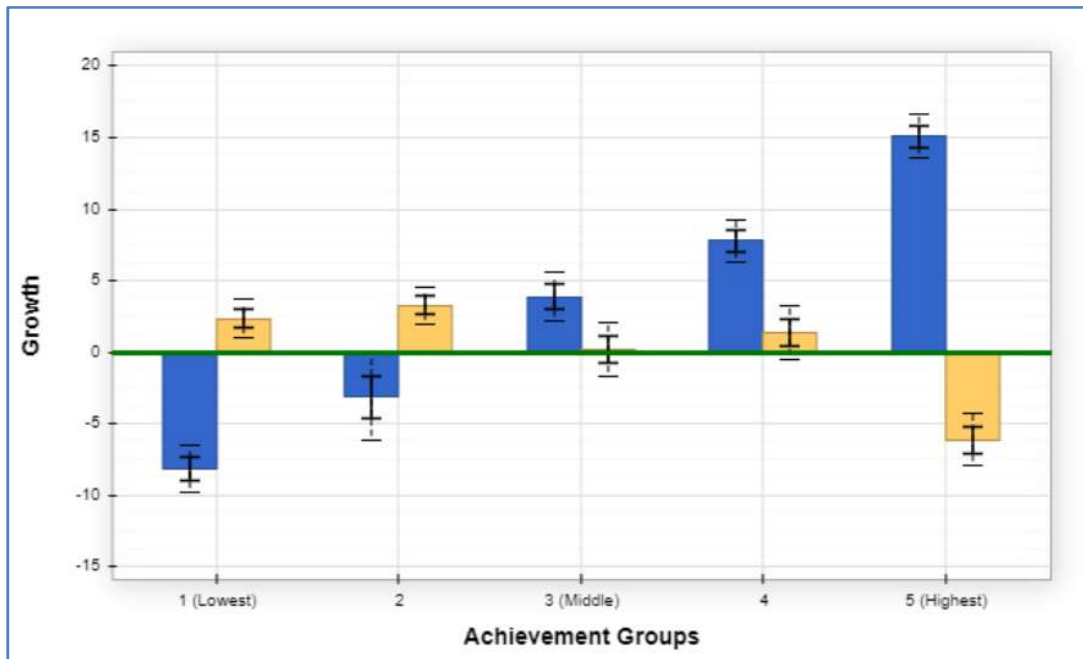
Report:	School Value-Added Summary	Test:	End of Grade
District:	Big City School District	Subject:	Math
Year:	2112		

Estimated School Growth Measure by Grade						
School Name		4	5	6	7	8
Akita Middle School	2112	--	--	-3.4	0.4	0.3
	3-Yr-Avg	--	--	1.3	-0.2	0.6
Albacore Elementary School	2112	5.8	-6.4	2.2	--	--
	3-Yr-Avg	1.0	2.0	-0.1	--	--
Baboon Junior High School	2112	--	--	--	-7.1	4.5
	3-Yr-Avg	--	--	--	-0.4	0.2
Barracuda Elementary/Middle School	2112	-5.4	-2.8	6.7	5.3	5.2
	3-Yr-Avg	-4.7	-1.7	0.6	1.3	0.7
Bronco Elementary School	2112	-2.0	2.7	-3.2	-2.3	-4.4
	3-Yr-Avg	-2.2	3.1	-2.5	-0.2	-0.3
Buck Elementary/Middle School	2112	-2.9	-5.8	7.3	-1.0	-5.7
	3-Yr-Avg	-3.5	-0.8	0.8	-1.0	1.7
Cardinal Elementary School	2112	6.1	9.1	7.7	--	--
	3-Yr-Avg	5.4	4.3	2.7	--	--

School Value-Added and Diagnostic Reports for End-of-Grade Tests

The School Value-Added report provides reliable measures of the impact a school has had on students' academic growth. Up to three years of growth measures are displayed for each grade and subject. A three-year average is also displayed when sufficient data are available. The growth measures are color coded to indicate how strong the evidence is that the school met, exceeded, or fell short of the growth standard. This report enables school leadership to see trends in effectiveness across years, grades, and subjects.
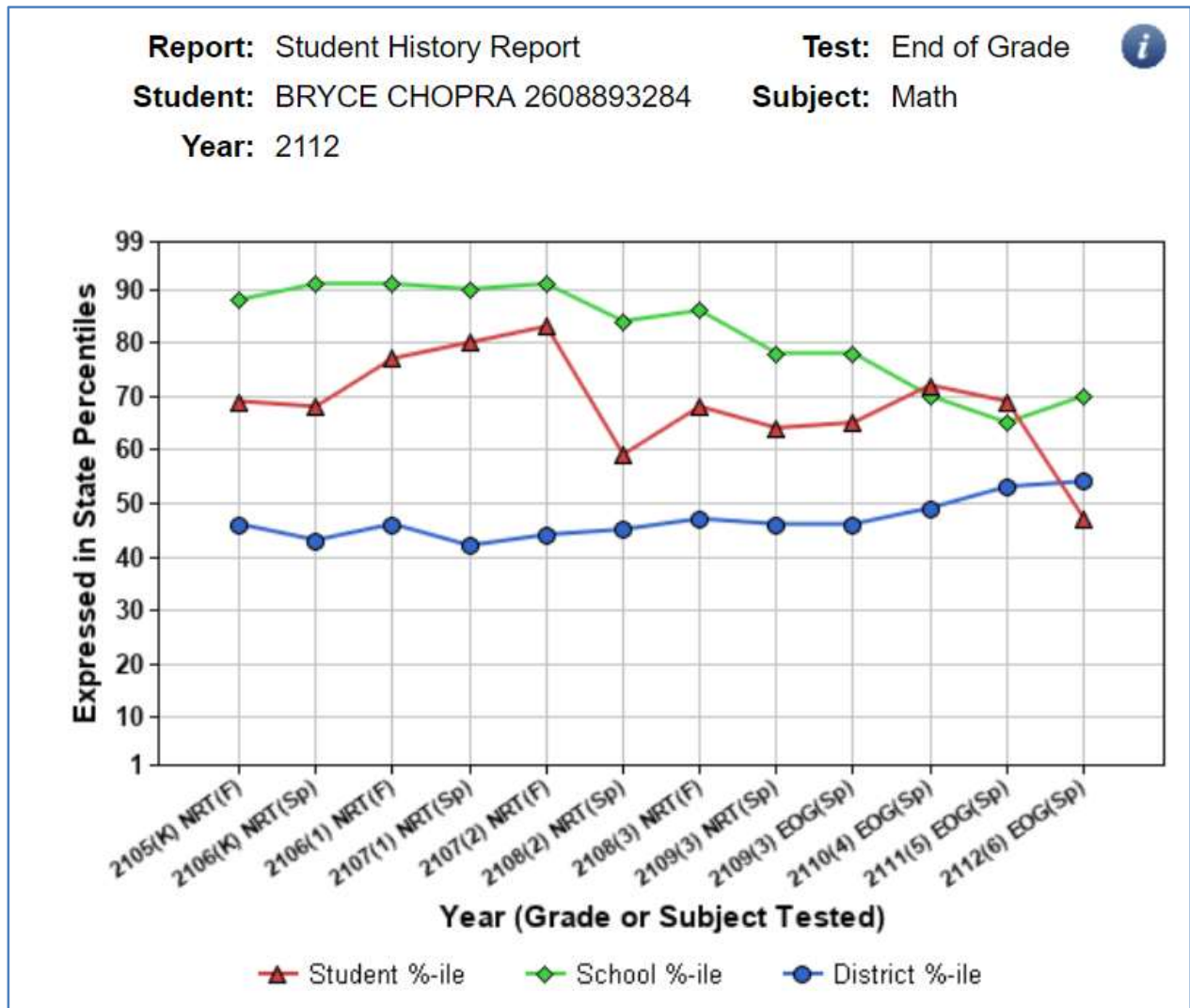
							Estimated School Growth Measure
Grade	3	4	5	6	7	8	Growth Measure over Grades Relative to Growth Standard
Growth Standard		0.0	0.0	0.0	0.0	0.0	
2110 Growth Measure		-5.2 DR	5.2 DB	-7.2 DR	-7.7 DR	2.8 DB	-2.4 DR
Standard Error		1.4	0.9	0.9	1.1	1.2	0.4
2111 Growth Measure		-6.0 DR	-3.2 DR	8.4 DB	7.7 DB	-5.3 DR	0.3 G
Standard Error		1.1	1.0	1.1	0.9	1.3	0.4
2112 Growth Measure		-7.2 DR	0.0 G	3.3 DB	3.6 DB	1.5 LB	0.2 G
Standard Error		1.4	1.7	1.3	1.8	0.8	0.6
3-Year-Average Growth Measure		-6.1 DR	0.7 G	1.5 DB	1.2 LB	-0.4 G	-0.6 DR
Standard Error		0.8	0.7	0.6	0.7	0.6	0.3

While the School Value-Added report provides measures of a school's overall effectiveness, the School Diagnostic report helps educators identify patterns or trends of progress among students at different achievement levels. Using this report, schools can adjust programs and instructional strategies to help ensure that instruction is differentiated effectively to meet the needs of all students. Educators have the option to view this report for demographic subgroups or for all students in a grade and subject.
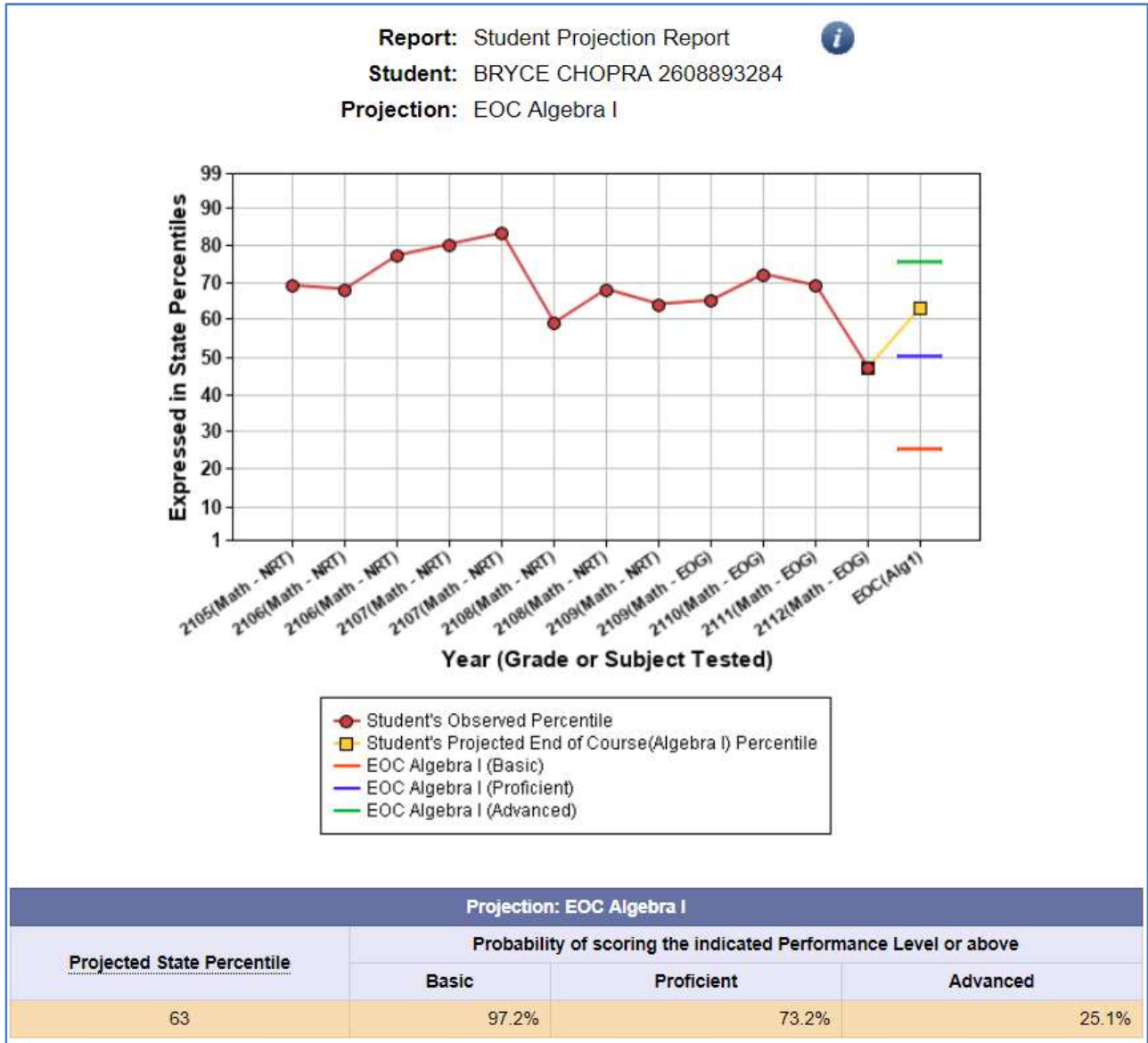
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Individual Student Testing History

From the school-level reports, educators can drill down to reports for individual students. The Student History report provides a record of a student's prior test scores. In addition to the student's scores (red line), the report also provides the average score for the school (green line) and the district (blue line) for comparison.
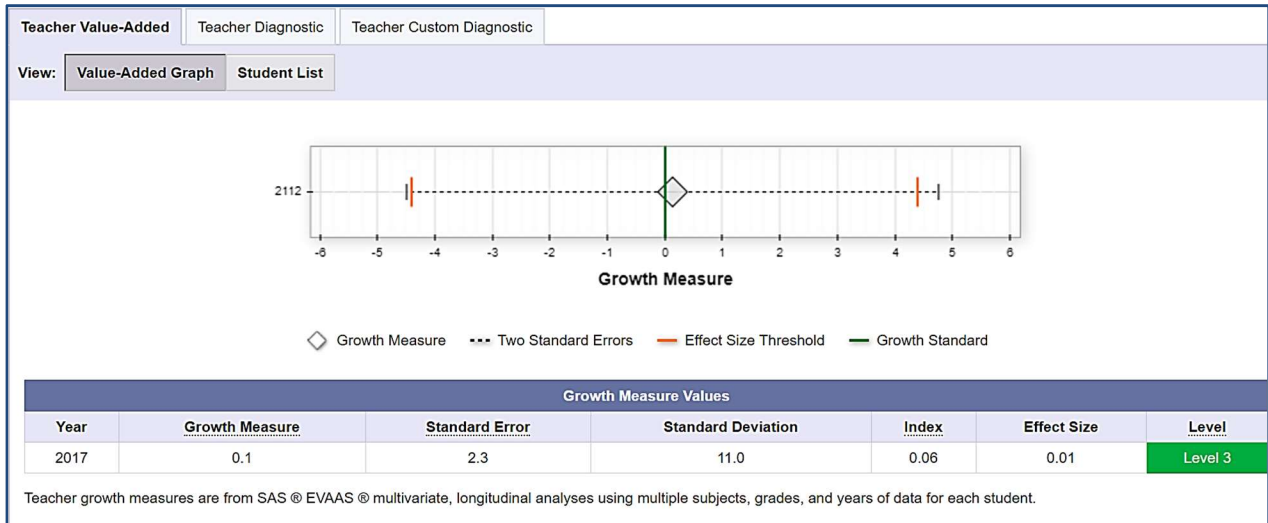
Individual Student Projection

For students who have at least three prior test scores across grades and subjects, EVAAS can provide projections to future assessments. The projections indicate how a student is likely to score on an upcoming test if the student makes average progress. The prior scores (red dots) and projection (yellow line) are reported as a percentile rank, which is shown in the graph below.

Report: Student Projection Report
Student: BRYCE CHOPRA 2608893284
Projection: EOC Algebra I

Legend:
- Student's Observed Percentile
- Student's Projected End of Course(Algebra I) Percentile
- EOC Algebra I (Basic)
- EOC Algebra I (Proficient)
- EOC Algebra I (Advanced)

Projection: EOC Algebra I			
Projected State Percentile	Probability of scoring the indicated Performance Level or above		
	Basic	Proficient	Advanced
63	97.2%	73.2%	25.1%

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Teacher Value-Added Report

The Teacher Value-Added report provides reliable measures of student growth for an individual teacher's classes. Teacher reports can be provided for end-of-grade and end-of-course assessments. This report shows the reporting options selected by the Michigan Department of Education for teacher-level reports.

The Teacher Diagnostic report provides growth measures for groups of students at different achievement levels. By examining patterns of progress in these reports, teachers can gain insight into how effectively they have differentiated instruction to meet all students' needs. As the report below indicates, this teacher was effective with students who are average and high in achievement.