A Technical Overview of the

2025-2026 Nevada Growth Model

Nevada Department of Education

Office of Assessment, Data, and Accountability Management

2026

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About This Document

This document provides details about the Nevada Growth Model (NGM) methodology and presents an analysis of the 2026 calculations.

Purpose of This Document

The purpose of this document is to provide comprehensive guidance to the education stakeholders on the Nevada Growth Model (NGM) and to outline the methodology used to calculate growth in Nevada.

Disclaimer

The Nevada Department of Education (NDE) has made significant efforts to ensure the accuracy of this document through both internal and external (LEA) reviews. However, the NDE reserves the right to make revisions as needed if errors are identified.

Section 1: Introduction

The Nevada Growth Model (NGM) is a high-quality, valid statistical model to measure individual student progress over time. It provides valuable insights into student growth, indicating whether students are on track to maintain proficiency and meet their growth targets.

Unlike other performance indicators, such as achievement percentages, which show where students are, at a particular point, the NGM focuses on how much progress students have made. Growth measures the improvement in academic performance over time, rather than simply passing a test. The NGM compares individual student progress to that of other students with similar past scores. It is not a ranking system but a tool to understand progress toward state standards.

Understanding student academic growth helps districts and schools to plan more effectively, aiming to improve academic performance. The NGM offers a perspective on Nevada's public schools' performance that can promote meaningful conversations about what works and what may need improvement (see subsection 1.1).

In Nevada, student growth calculations use two consecutive years of Criterion Referenced Test (CRT) results (see subsection 1.2) and the results of the English Language Proficiency Assessment (ELPA). For further details on the assessments, see subsection 1.3.

The NGM utilizes the Student Growth Percentile (SGP) methodology, developed by Dr. Damien Betebenner of the Center of Assessment and initially developed in Colorado, to define and calculate student growth. The SGP methodology models the relationship between prior and current achievement by applying statistical procedures to student data. More details on the SGP methodology can be found in subsection 1.4.

Growth data also plays a critical role in Nevada's school accountability system, Nevada School Performance Framework (NSPF). Growth is used as an indicator with four measures in the elementary and middle school framework and as a measure in the English language proficiency indicator in the high school framework. More information on the NSPF can be found in the NSPF manual.

1.1 Background

The NGM was developed in response to Assembly Bill 14, passed by the Nevada Legislature in 2009, which mandated the NDE to adopt a model for measuring annual growth in pupil achievement on statewide criterion-referenced tests. A work group was promptly formed, including district representatives, national growth experts, and the NDE staff, to integrate growth measures into the statewide accountability system. The public-facing Nevada Growth Model website, which provides access to growth data, was launched in late 2018.

The NGM also complies with the Every Student Succeeds Act (ESSA), which requires states to use various indicators to classify schools. In Nevada's system, growth is a key indicator within the NSPF.

The NGM website, launched in late 2018, offers educators and the public detailed growth data. Educators can use the site to view and analyze individual student progress, while the public-facing view provides broader access to overall school growth data. For more details, see subsection 2.2.3.

1.2 Growth Score Data Source

To calculate growth scores, two years of consecutive assessment results are necessary. Growth scores in the NGM are computed from scale scores on the State's CRT assessments in English Language Arts/Literacy (ELA) and Mathematics. The Smarter Balanced Summative Assessments (SBAC) serve as Nevada's CRT for these subjects. For English Learners (ELs), growth is measured using results from the English language proficiency assessment (ELPA). The WIDA Access Assessment serves as Nevada's ELPA.

Scores from the Nevada Alternative Assessment (NAA) and the WIDA Alternative Assessment, are excluded from the Growth Score calculations. These assessments are specifically designed for students with significant cognitive disabilities who meet the strict criteria required for these assessments. Due to the limited number of students taking these specialized tests, their results do not provide sufficient data for accurate growth calculations.

1.3 Student Population in Growth

The students included in the NGM calculations are those that attend public school and took a state assessment during the Spring administration. The NGM includes students in 4th through 8th grades who were administered the Smarter Balanced assessment for two consecutive years. Additionally, English Learners (ELs) in 1st through 12th grades who participated in the WIDA Access Assessment for two consecutive years are also included in the model.

It is important to note that student demographics are not used in the calculation of Growth Scores. The model does not differentiate students based on demographic factors during the growth calculation process. However, once growth scores are calculated, the data can be filtered to analyze specific student populations. Growth is calculated for the following student groups:

- All Students
- Individualized Education Programs (IEPs),
- Free and Reduced Lunch (FRL) status,
- English Learners (EL) (current and former ELs),
- Federally recognized race and ethnic groups
- Gender

The following section will cover the concept of academic peer groups. Insights into how students are compared to their peers are essential for accurately interpreting growth data and ensuring meaningful assessments of student progress.

1.4 Academic Peer Group

A fundamental component of any growth model utilizing SGP is the concept of the Academic Peer Group. An Academic Peer Group consists of students who took the same assessment in the same year and have similar scores. For the NGM, this means that any students who received comparable scores on the Smarter Balanced assessment in the same year are grouped together.

The Academic Peer Group encompasses students across the entire state of Nevada. Utilizing a broader statewide sample rather than limiting the analysis to a single score or district ensures a large enough sample size to accurately determine growth targets and levels of adequate growth.

Each year, the Academic Peer Group is updated to reflect changes in assessment results. This annual adjustment accounts for variability in individual scores and ensures that students are compared with others who scored similarly in that year.

Section 2: Measuring Growth in Nevada

Nevada utilizes a dual approach to measuring student growth, combining the Student Growth Percentile (SGP) measure (subsection 2.1) and the Growth-to-Standard measure (subsection 2.2). This approach provides stakeholders with a comprehensive view of student performance by assessing both progress toward state standards and relative growth compared to academic peers.

2.1 Students Growth Percentiles

SGPs use historical assessment data to model how students performed on earlier assessments, how they performed on current assessments, and the level of growth they demonstrated between the two assessment periods, compared with their academic peers. SGPs describe where a student's current score stands relative to other students with similar prior scores. An SGP is a number between 1 to 99:

- Student growth percentiles in the 1st – 39th percentile are identified as low growth,
- Student growth percentiles ranging from 40th – 60th are identified as typical growth, and
- Student growth percentiles ranging from 61st – 99th are identified as high growth.

For example, if a student has an SGP of 75, we can say that the student showed more growth than 75 percent of his/her academic peers. In the NGM, this is considered high growth. In other words, 25% of similar students statewide experienced less growth than this student in the current year. A student with a low score on a state assessment can show high growth and a student with a high score can demonstrate low growth. Similarly, two students with very different assessment scores can have the same SGP. SGPs are measured by using a statistical method called quantile regression that describes the relationship between student's previous scores and their current year scores. For on SGP calculation, see subsection 6.1

2.2 Prior Scores

Prior scores are historical assessment results used to place students into academic peer groups for SGP calculations. For the NGM, two consecutive years of assessment data, including at least one immediate prior assessment, are required to calculate a growth percentile.

Students without prior scores due to reasons such as being new to Nevada or testing irregularities will not receive a growth percentile. Additionally, third graders, who are taking the Smarter Balanced Assessment for the first time, will not have prior scores for SGP calculations.

2.3 Growth-To-Standard

The Growth-to-Standard measure complements the SGP by demonstrating how students are progressing toward their attainment of Nevada's state educational standards. It is primarily used for growth predictions by evaluating the distance between a student's current performance and a grade level standard, and based on the student's rate of progress, it estimates how soon the student will meet that standard.

Implementing a Growth-to-Standard measure within the NGM enables the calculation of students' growth targets through the use of an Adequate Growth Percentile (AGP) (subsection 2.4). For federal and state accountability, the Median Growth Percentile (MGP) (subsection 2.5) of a school is also determined.

2.4 Growth Targets and Adequate Growth Percentile

In addition to utilizing the student growth from the previous year to the current year, the NGM also calculates growth trajectories to establish and monitor growth targets. Initially, a baseline assessment is administered to set a criterion-referenced projection of potential future test performance. Based on this, a growth target necessary for reaching proficiency is calculated, and an SGP Target is established to indicate the amount of annual growth required for a student to achieve or maintain proficiency within a designated timeframe.

Each year, a student's SGP is compared to their SGP Target to determine if they are on track to meet proficiency goals. If a student's SGP meets or exceeds their SGP Target, it indicates adequate growth toward proficiency. In contrast, if the SGP falls short, it suggests that the student has not achieved sufficient growth, thereby, not meeting adequate growth toward proficiency.

The SGP Target for Smarter Balanced assessments identifies how much a student needs to grow, in Mathematics or ELA, to reach or maintain proficiency in three years or by the end of 8th grade. The SGP Target for the WIDA assessment identifies how much a student needs to grow to achieve proficiency in five years or by the end of 12th grade.

In parallel, Adequate Growth Percentiles (AGPs) are used to assess whether students are making adequate academic growth toward proficiency. On the NGM and in accountability reporting, AGPs are not represented by specific numerical values like the SGP (or MGP, section 2.2.2). Instead, a student is considered to have met their AGP if their most recent SGP meets or exceeds their SGP Target. For schools or districts, the proportion of students meeting their AGP is shown on the NGM, offering a comprehensive view of growth adequacy across the entity.

2.5 Median Growth Percentile

The Median Growth Percentile (MGP) measures growth for groups of students, such as schools, grade levels, or other groups of interest. The median, which is the middle value in a ranked dataset, provides a summary measure of the group. While it's not as commonly known as the average, the median helps us understand how the group is doing by giving us a single number that represents the middle of the group.

To compute the MGP, all students' SGPs within a school are first arranged in ascending order, from lowest to highest. The median value of this ordered list is then identified, and this median becomes the school's MGP. MGPs serve as a key component of the growth indicator for elementary and middle schools under the NSPF.

Section 3: Growth Model Calculation Process

There is a technical overview of the student growth percentile (SGP) methodology including student growth percentiles and percentile growth projections/trajectories (Betebenner 2011). The complexity of the process to calculate student growth percentiles and percentile growth projections/trajectories is minimized by the use of the R software environment in conjunction with an open-source software library SGP developed by the state Department of Education (Damien W. Betebenner and Iwaarden 2011). Every year, following the loading of the

data into the state Department of Education data warehouse, student growth percentiles and percentile growth trajectories are calculated for each student. Once calculated, these values are used to make determinations about the adequacy of each student's growth relative to his/her fixed achievement targets. These determinations are then used in aggregate to determine the school star ratings. See Appendix for further information on growth model calculation process links.

3.1 Growth Results

The NGM results are typically released in early fall, shortly after the Nevada Accountability Portal. In addition to public access, the student and school-level result files are shared directly with the school districts. These results provide educational stakeholders, students, and parents/guardians in Nevada with valuable insights into academic progress, aiding in the development of tailored support for enrichment strategies for the upcoming year. The results also play a crucial role in the elementary and middle school framework under NSPF.

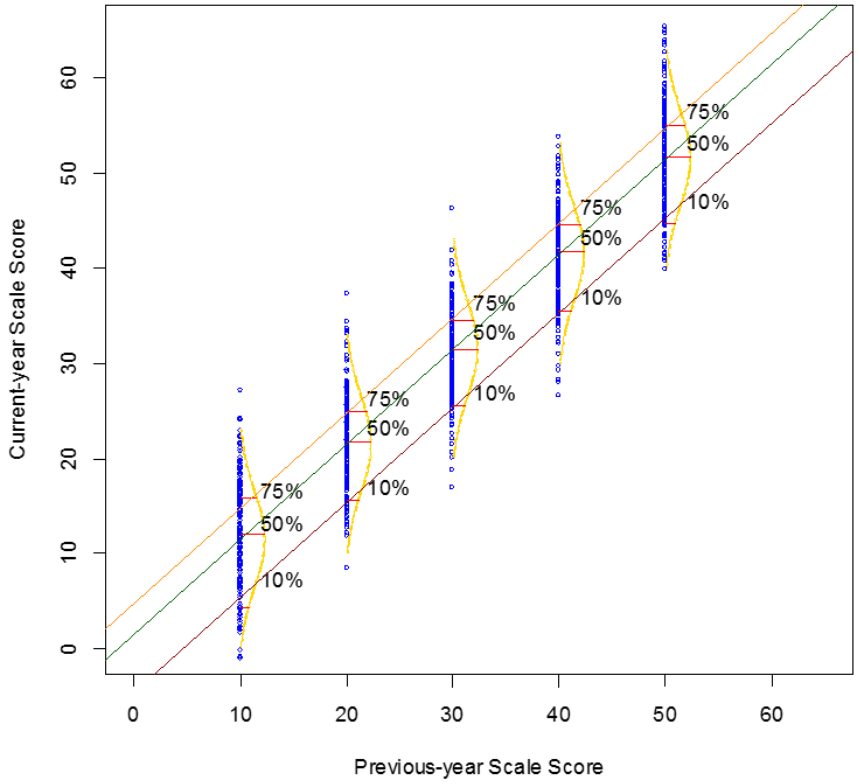
The NGM website provides growth data at the state, district, and school levels to all stakeholders. However, student-level results are restricted to authorized educational personnel to keep students' Personally Identifiable Information (PII) confidential in accordance with the Family Educational Rights and Privacy Act (FERPA). Access to the student level data on the NGM website is granted based on the user roles within each school district. Approved school district personnel can view individual student growth scores by logging on the website through the Identity Management Tool link at the top of the NGM website.

Section 4: Technical Growth Explanations

The description of student growth percentiles in section 2.1 provides an intuitive means to understand how growth percentiles are computed. In practice, however, a modeling procedure is employed to create the relationship between the prior score(s) and current score of a cohort. The particular methodology is a quantile regression that allows for a curvi-linear model to describe the relationship between the prior scores and the current score. (Betebenner, Growth, Standards and Accountability 2009) The program creates one hundred regression lines, one for each of the percentiles in the range of 1-99, based upon the prior and current test scores.

In the figure below, three of the regression lines are illustrated, the 75th, 50th, and 10th percentile. The distribution of current scores, conditioned on a prior score (i.e., the group of students who received the same score last year and referred to earlier as their academic peer group), is plotted and the 10, 50th, and 75th percentile is identified within that conditional distribution. Students with a current year score closest to the score associated with the 10th percentile are assigned an SGP of 10 and so forth. The example is for just one prior score but the quantile regression methodology is designed to use more than one prior score.

Figure 1 The distribution of current scores, conditioned on a prior score (academic peer group)



An additional feature of using this methodology is that the student's current year score can be used to project how that student might do next year, based upon how other students with a similar score history have achieved. This projection helps to identify students who are at risk of either becoming or remaining non-proficient. During the estimation of the quantile regression lines, coefficient matrices are generated. These coefficient matrices represent the relationships between scale scores from lower grades to higher grades and can be updated each year when the new year's SGP is calculated. Projections for the next year/grade are simply the predicted scale scores given the regression coefficient matrices and current years' scale scores.

Similarly, given an academic target that students should become proficient in a few years (usually, 3 years or by grade 8), the required SGP values in the current year can be identified based on coefficient matrices derived in the quantile regression. More details on how the SGP targets are calculated can be found in the SGP technical report (Betebenner, Growth, Standards and Accountability 2009). SGP targets are used to calculate the Growth-to-Standard measure in section 2.2. If the actual SGP of a student meets the SGP targets, it is suggested that the student is on track to become proficient, also known as Adequate Growth Percentiles. Otherwise, the student might need additional help to become proficient, as expected. The interpretation has been described in section 2.2.1. For more technical information regarding the calculation of student growth percentiles, see the Appendix in Section 11.

Section 5: Data

For the CRT (Smarter Balanced) and WIDA Access Assessment, student assessment data is used to calculate SGPs for the growth model. Each year, the assessment data is processed, cleaned, and verified for use in Nevada's reporting activities. During this process, a growth input file is created that will be added to the existing assessment data, creating a longitudinal data set of the CRT (Smarter Balanced) or WIDA Access Assessment. The data file includes student level information such as unique state identification number, last name, first name, content area, assessment year, and grade. Score information includes the assessment scale score and achievement level.

The CRT assesses students in both mathematics and ELA in grades three through eight. Below is the number of students in each grade.

Table 1 Frequency table of valid N count of students by content area/grade in CRT

Content Area	Year	G3	G4	G5	G6	G7	G8
ELA	2021	27734	27820	28134	23270	23329	22875
ELA	2022	34573	34786	34997	34976	35497	36976
ELA	2023	34691	35218	35466	35210	35330	35928
ELA	2024	34040	35011	35508	35186	35281	35507
ELA	2025	35483	34279	35238	35298	35446	35608
ELA	2026	32678	35127	34139	34680	35008	35231
MATHEMATICS	2021	27546	27653	27954	23081	23097	22627
MATHEMATICS	2022	34484	34689	34868	34806	35415	36874
MATHEMATICS	2023	34652	35128	35409	35134	35086	35760
MATHEMATICS	2024	34018	34978	35444	35131	35249	35436
MATHEMATICS	2025	35419	34233	35167	35285	35450	35609
MATHEMATICS	2026	32645	35101	34144	34659	34997	35227

The WIDA Access Assessment (ELPA) includes assessment data from Kindergarten to Grade 12.

Table 2 Frequency table of valid N count of students by grade in WIDA

Year	K	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
2016	7509	9183	9921	9981	8652	5806	4821	4878	4864	4399	3004	1946	1357
2017	7214	7880	8813	9172	6604	5592	4838	4819	4930	4526	3242	2444	1559
2018	6419	7697	8020	8540	8536	5691	4617	4961	4748	4560	4401	3389	2428
2019	6251	6751	7472	7634	7651	5871	4422	4680	4818	4483	4206	3936	2751
2020	6436	6374	6614	7144	6839	5231	4318	4569	4545	4490	4078	3659	3227
2021	4903	5515	5363	5372	5697	4065	3318	3585	3235	3001	3116	2484	1356
2022	5518	5591	6321	6073	6046	5303	4066	3898	4180	4008	3806	3573	2936
2023	5389	6074	5924	6480	5894	4943	4504	4293	4119	4232	4136	3753	3200
2024	5041	5833	6389	6185	6270	4780	4422	4840	4591	4221	4268	4109	3416
2025	5704	5495	6180	6593	5962	5110	4283	4848	5125	4721	4474	4303	3794
2026	5090	5625	5416	5921	5684	4522	3980	4209	4652	4591	4340	3977	3654

5.1 Longitudinal Data

Growth scores are calculated to indicate the change of students' ability across years. Students must have at least two years of test scores but preferably three as that adds stability to the analysis. Three years of assessment scores provides the current year score and then two prior years. NDE reviews and approves all business rules prior to the analysis.

5.1.1 CRT Longitudinal Data

Grade 3 students take the CRT for the first time and have no prior scores, as shown in the following table. Most grade 4 students have a prior score in 2025 from when they were assessed in grade 3. Students in grades 5 through 8 will have priors in both 2025 and 2024, if they were present for an assessment in each of those years.

Table 3 Frequency table of number of students in prior years by content area/grade

Content Area	Current Year	Current Grade	2025 Prior Score	2024 Prior Score
ELA	2026	3	0	0
ELA	2026	4	33,105	0
ELA	2026	5	32,224	31,785
ELA	2026	6	32,574	32,867
ELA	2026	7	32,704	32,808
ELA	2026	8	32,844	32,517
MATHEMATICS	2026	3	0	0
MATHEMATICS	2026	4	33,060	0
MATHEMATICS	2026	5	32,213	31,748
MATHEMATICS	2026	6	32,496	32,783
MATHEMATICS	2026	7	32,690	32,751
MATHEMATICS	2026	8	32,862	32,487

5.1.1 WIDA Longitudinal Data

As the WIDA assessment is administered in kindergarten, those students will not have a prior score. While most grade 1 students will have a prior from kindergarten, there are some who do not. Grade 2 through grade 12 students could have prior scores from both 2025 and 2024.

Table 4 Frequency table of number of students in prior years by grade

Current Year	Current Grade	2025 Prior Score	2024 Prior Score
2026	K	0	0
2026	1	4,959	0
2026	2	4,915	4,505
2026	3	5,440	5,237
2026	4	5,241	5,723
2026	5	4,081	5,141
2026	6	3,573	4,372
2026	7	3,772	3,421
2026	8	4,195	3,983
2026	9	4,107	4,314
2026	10	3,875	3,874
2026	11	3,521	3,554
2026	12	3,251	3,505

5.2 Assessment Processing Business Rules

The assessment data team works to ensure the records in the growth input file are clean and accurate. NDE suggests and approves the business rules that are required to provide a clean input file.

For the CRT (Smarter Balanced) the following rules are applied. Students must have an inactive record flag set to 0. At times students have duplicate records and only one of them is considered active. Students must have a blank did not participate flag on the CAT or performance task section of the assessment and their achievement level must have a valid value of 1, 2, 3, or 4. Finally, students must have a blank modification and invalidation flag on both the CAT and performance task section. These filtering rules are determined by NDE and evaluated each year prior to the assessment reporting window.

For WIDA, the data cleaning is a bit simpler as it comes cleaned by the testing vendor. Only active records are included in the growth input file and students must have a populated score field.

Section 6: Analysis Procedures

6.1 Data Preparation

Data was extracted from the Nevada longitudinal database, as described in Section 5.2, to create the growth input file.

Prior to calculating the SGPs, an additional data processing step was applied to the growth input file. In this step, some business rules are applied to the input data for filtering, re-coding and re-formatting. After that, the function of “prepareSGP” in the SGP R package is used to format the new year’s data into an SGP class object.

In addition, an R object from the previous year was loaded to provide the historical data from the prior years. By appending the new data file to the previous year’s R object, a combined data file is generated as an R object with all years’ data.

6.2 Business Rules

6.2.1 CRT assessment

1. All students have data for the following fields, “GRADE”, “SCALE_SCORE”, and “ACHIEVEMENT LEVEL”.
2. Students with duplicated records are deleted from growth calculations.
3. According to the values in the raw data, some recording was carried out.
    - The fields of “ID”, “GRADE”, “ACHIEVEMENT_LEVEL” are set as characters, while “SCALE_SCORE” is set as numeric.
    - “LAST_NAME” and “FIRST_NAME” are factor variables with all capitalized letters.
    - “YEAR” should be in the format of “2024”, instead of “2023_2024”.
    - “CONTENT_AREA” should contain two values: “ELA” or “MATHEMATICS”.
    - “ACHIEVEMENT_LEVEL” should contain four values: “Minimal Understanding”, “Partial Understanding”, “Proficient”, “Advanced”.
    - “SCHOOL_ENROLLMENT_STATUS”, “DISTRICT_ENROLLMENT_STATUS”, “STATE_ENROLLMENT_STATUS” are all factor variables.
    - “SCHOOL_ENROLLMENT_STATUS” contains two levels: "Enrolled School: No", "Enrolled School: Yes".
    - “DISTRICT_ENROLLMENT_STATUS” contains two levels: "Enrolled District: No", "Enrolled District: Yes".
    - “STATE_ENROLLMENT_STATUS” contains one level: "Enrolled State: Yes".
    - "VALID_CASE" is also a factor variable with two levels: "VALID_CASE", "INVALID_CASE".

After the filtering and re-coding, the new data file is formatted as a data table.

6.2.1.1 Update Nevada Meta-Data

In the output data files, we have the SGP and SGP targets using cohort growth matrices.

```
SGPstateData[[“NV"]][["Growth"]][["System_Type"]] <- "Cohort Referenced"
```

We kept this line to change the meta data, because the default value is still "Cohort and Baseline Referenced" in the state meta data. "Cohort and Baseline Referenced" was applied for skip-year analysis in 2021 due to the missing 2020 data but is not needed any longer.

6.2.1.2 Conduct SGP Analysis

In 2026, two prior years' scale scores are used for SBAC SGP calculation. The following image displays the settings applied to run the analysis. Both SGP percentiles and projections are requested, as those are needed to create the SGP and the projected values to determine how a student may perform in later years. Lagged projections are requested, as those are used in the procedure to determine adequate growth. Since cohort referenced growth was specified, baseline growth is turned off. Finally, SGP targets in terms of the scale are also requested.

```
Nevada_SGP <- abcSGP(
                Nevada_SGP_Data,
                state='NV',
                steps=c("prepareSGP", "analyzeSGP", "combineSGP", "outputSGP"),
                sgp.percentiles=TRUE,
                sgp.projections=TRUE,
                sgp.projections.lagged=TRUE,
                sgp.percentiles.baseline=FALSE,
                sgp.projections.baseline=FALSE,
                sgp.projections.lagged.baseline=FALSE,
                sgp.target.scale.scores=TRUE,
                save.intermediate.results=FALSE,
                goodness.of.fit.print=TRUE)
```

6.2.1.3 Merge, Output, and Visualize Results

Following the analysis, the SGP package comes with some default utilities to combine and output a growth file that can be uploaded back into the longitudinal database. This is done in with the "combineSGP" and "outputSGP" commands in the above figures. Finally, student growth plots can be generated using the "visualizeSGP" function. This step is typically done in a subsequent run once the growth results have been reviewed and approved.

6.2.2 WIDA assessment

1. All students have data for the following fields, "GRADE", "SCALE_SCORE" or "ACHIEVEMENT LEVEL".
2. Students with duplicated records are deleted from growth calculations.
3. According to the values in the raw data, some recording was carried out.
    - In "GRADE", "UG" is re-coded to "12", "K" is re-coded to "00", "PK" is re-coded to "00".
    - The field of "GRADE" is set as characters.
    - The field of "SCALE_SCORE" is set as numeric.
    - The second and third columns in the input data should be "STATE_UNIQUE_ID" and "LOCAL_UNIQUE_ID".
    - "LAST_NAME" and "FIRST_NAME" are factor variables with all capitalized letters.
    - "ACHIEVEMENT_LEVEL" is re-coded to "L4.5" if "COMPO_ACC_AL" equals to one of the following values: 4.5, 4.6, 4.7, 4.8, 4.9. "ACHIEVEMENT_LEVEL" is a factor with levels: "L1", "L2", "L3", "L4", "L4.5", "L5", "L6".
    - In the field of "VALID_CASE", re-code blank into "INVALID_CASE".

After the filtering and re-coding, the new data file is formatted as a data table.

6.2.2.1 Update Nevada Meta-Data

A "singular design matrix" error occurred in the 2026 WIDA SGP calculation. To solve this problem, we re-calculated the knots and boundaries based on all data from 2016 to 2026.

Additionally, the last numbers of grade 4 knots and grade 5 knots were slightly modified to a lower value. The following image is the code snippet of that change.

```
SGPstateData$WIDA_NV$Achievement$Knots_Boundaries <- NULL

prepareSGP(WIDA_NV_SGP@Data)

SGPstateData$WIDA_NV$Achievement$Knots_Boundaries$READING$knots_4 <- c(325, 345, 358, 362)

SGPstateData$WIDA_NV$Achievement$Knots_Boundaries$READING$knots_5 <- c(329, 351, 364, 372)
```

6.2.2.2 Conduct SGP Analysis

In 2026, two prior years' scale scores are used for WIDA SGP calculation. Compared to the CRT assessments, WIDA assessments have a smaller sample size.

6.2.2.4 Merge, Output, Summarize and Visualize Results

```
WIDA_NV_SGP <- abcSGP(
                    WIDA_NV_SGP@Data,
                    years="2026",
                    steps=c("prepareSGP", "analyzeSGP", "combineSGP", "outputSGP"),
                    sgp.percentiles=TRUE,
                    sgp.projections=TRUE,
                    sgp.projections.lagged=TRUE,
                    sgp.percentiles.baseline=FALSE,
                    sgp.projections.baseline=FALSE,
                    sgp.projections.lagged.baseline=FALSE,
                    sgp.target.scale.scores=TRUE,
                    save.intermediate.results=TRUE)
```

Following the analysis, the SGP package comes with some default utilities to combine and output a growth file that can be uploaded back into the longitudinal database. This is done in the with "combineSGP" and "outputSGP" commands in the above figures. Finally, student growth plots can be generated using the "visualizeSGP" function. This step is typically done in a subsequent run once the growth results have been reviewed and approved.

Section 7: Goodness of Fit

Given the calculation of SGPs is the result of a modeling procedure, a check on the model's fit to the data is undertaken. This is done through an evaluation of the fit plots produced from the SGP package and a review of the correlations between current and prior scores.

7.1 Model Fit Plots

7.1.1 CRT assessment

The SGP package generates a set of goodness of fit plots that provide information about how well the model fits the data. There are four panels for each grade area. For the CRT, that is grades 4 through 8 in ELA and math. The first panel labeled 'SGP Deciles by Prior Achievement Level' displays SGP decile for each achievement level in the prior year. In the ELA plots for grades 7 and 8 the SGP deciles for each achievement level exhibit a slight shift. Contrast this with those from grades 4, 5, and 6 where they are the same for the achievement levels.

The second panel labeled 'Ceiling / Floor Effects Test' examines the relationship of the lowest observable scale score (LOSS) and highest observable scale score (HOSS) with the computed SGP associated with that scale score. This analysis provides evidence as to whether there is misfit due to range restriction. If there are not enough students in the low and high ends of the scale, the model has a difficult time differentiating students into adjacent SGPs. Boxes in green indicate things are good while boxes in red indicate some degree of misfit. It should be noted that model misfit is nearly always present, but it is important to ascertain the degree of misfit present. For the CRT plots, the model misfit displays more of a ceiling effect where students with the highest score are not in the top percentile group.

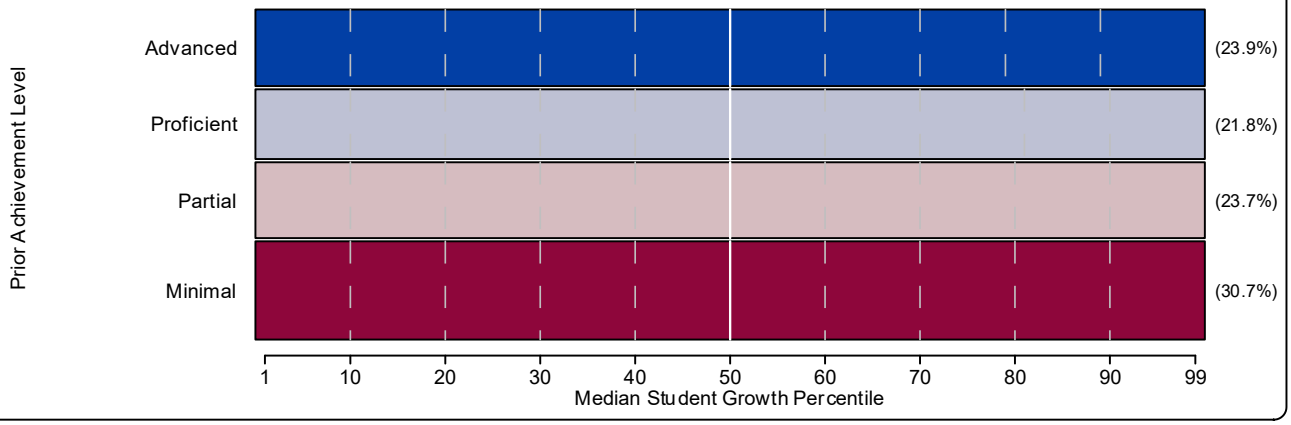
The third panel, bottom left, displays the distribution of the prior scores across the distribution of percentiles. With perfect model fit, there would be 10% of students at a given prior score range in each percentile category. The SGP package will shade cells either red or blue, depending on how far they vary from 10%. Red indicates the percentage is enough above 10% while blue is below 10%.

The fourth panel, bottom right, is a QQ Plot that displays the empirical SGP distribution against the theoretical distribution. A model that fits would be observed when the black line does not stray too far from the red, ideal line.

Student Growth Percentile Goodness-of-Fit Descriptives

2026 ELA SGP, Grade 4 (N = 33,105)

SGP Deciles by Prior Achievement Level (ELA)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

Student Growth Percentile Range

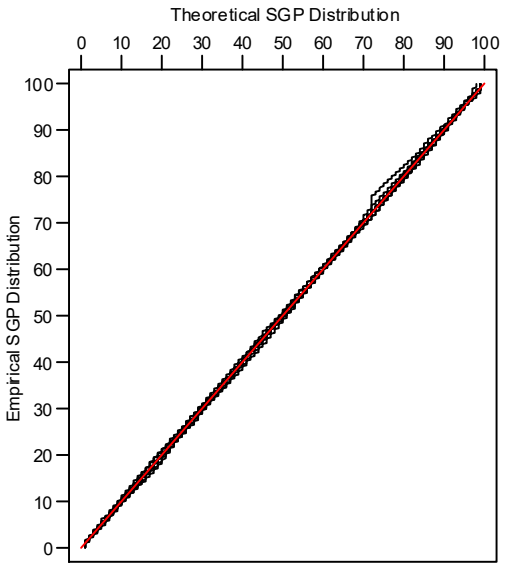
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[2131]	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 88
Highest OSS:	[2663]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	10.6	16.4	48.9	N = 499

Student Growth Percentile Range

Prior Scale Score Decile/Range *	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[2114,2293)	9.21	10.05	9.92	10.54	9.86	9.98	10.23	9.89	9.89	10.42	(9.8%)
2nd/[2293,2333)	10.12	10.27	9.85	9.34	10.09	9.76	9.82	10.36	10.24	10.15	(10.1%)
3rd/[2333,2364)	9.16	8.91	10.72	10.02	10.05	10.51	9.74	9.98	9.92	11.00	(9.8%)
4th/[2364,2393)	9.49	11.04	9.01	10.30	9.64	9.88	10.12	9.76	10.00	10.75	(10.1%)
5th/[2393,2420)	9.67	9.98	10.46	9.85	10.28	10.01	10.10	9.98	9.79	9.88	(10%)
6th/[2420,2446)	9.42	9.72	10.32	10.17	10.29	9.69	10.32	10.14	9.72	10.23	(10%)
7th/[2446,2472)	9.12	10.23	9.46	9.46	10.07	10.72	9.58	9.92	10.32	11.12	(9.8%)
8th/[2472,2501)	10.25	10.17	10.02	10.11	9.41	9.35	10.20	9.70	10.46	10.34	(10.3%)
9th/[2501,2538)	9.08	9.39	10.37	10.40	10.73	10.34	9.42	10.21	9.85	10.21	(9.9%)
10th/[2538,2623]	9.60	10.26	9.90	9.75	9.63	9.84	10.47	12.31	8.94	9.30	(10.1%)

*Prior score deciles can be uneven depending upon the prior score distribution

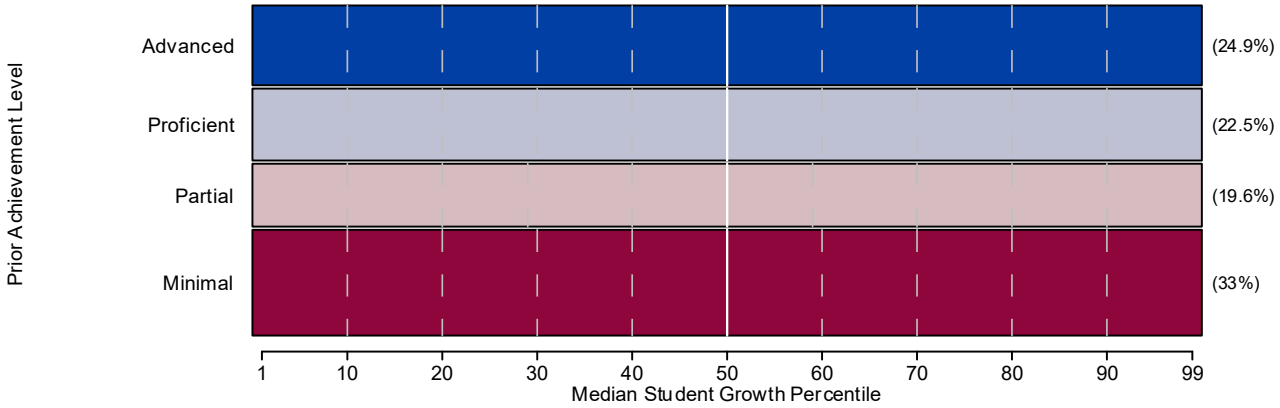
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 ELA SGP, Grade 5 (N = 32,224)

SGP Deciles by Prior Achievement Level (ELA)



Ceiling / Floor Effects Test

Student Growth Percentile Range

Current Observed Score Extremes (Range)

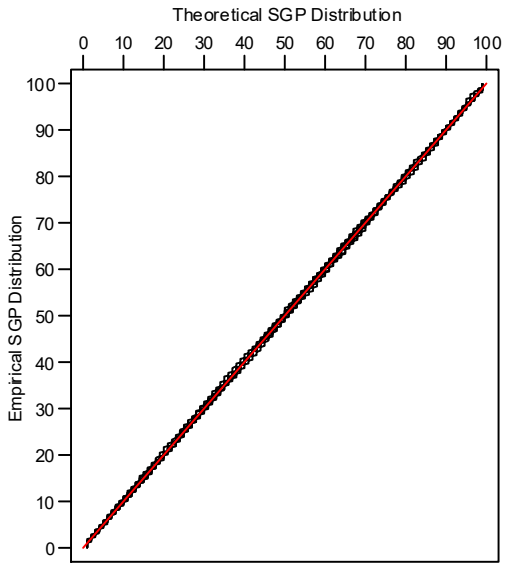
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[2201]	99.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 112
Highest OSS:	[2701]	0.0	0.0	0.0	0.0	0.0	0.0	6.1	4.0	8.1	20.4	16.9	44.4	N = 675

Student Growth Percentile Range

Prior Scale Score Decile/Range*	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[2131,2326)	10.03	10.59	9.99	10.18	9.40	9.99	10.18	9.62	9.68	10.34	(9.9%)
2nd/[2326,2371)	9.81	10.00	9.87	9.81	10.68	10.12	9.72	10.34	9.56	10.09	(10%)
3rd/[2371,2406)	9.32	9.54	10.25	10.31	9.29	9.60	10.53	9.63	10.50	11.03	(10%)
4th/[2406,2437)	9.36	10.42	10.60	9.40	9.92	10.08	9.89	9.71	9.83	10.79	(10%)
5th/[2437,2465)	9.29	10.05	9.48	10.61	10.17	9.64	10.17	10.39	10.11	10.08	(9.9%)
6th/[2465,2492)	10.15	9.66	10.12	9.54	9.94	10.42	9.20	11.10	9.32	10.55	(10.2%)
7th/[2492,2519)	9.33	9.97	9.69	10.43	9.88	9.94	10.58	9.23	10.12	10.83	(10.1%)
8th/[2519,2547)	9.03	10.33	10.48	10.07	10.17	10.29	10.17	8.90	10.64	9.91	(9.8%)
9th/[2547,2586)	10.16	9.43	9.61	9.46	9.91	10.16	9.55	11.31	9.91	10.49	(10.2%)
10th/[2586,2663]	9.11	10.32	10.32	10.04	9.92	10.29	10.07	9.33	10.54	10.04	(10%)

*Prior score deciles can be uneven depending upon the prior score distribution

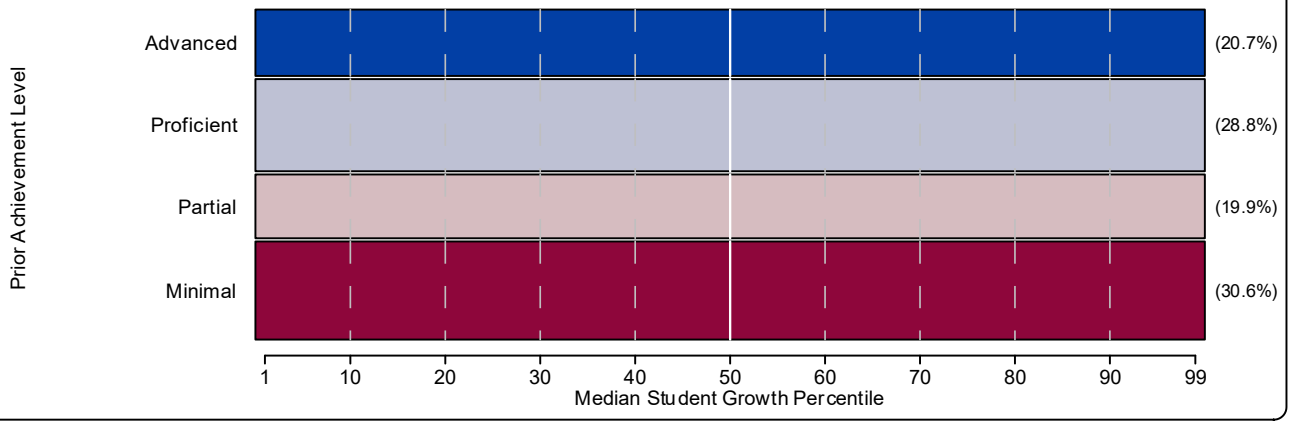
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 ELA SGP, Grade 6 (N = 32,574)

SGP Deciles by Prior Achievement Level (ELA)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

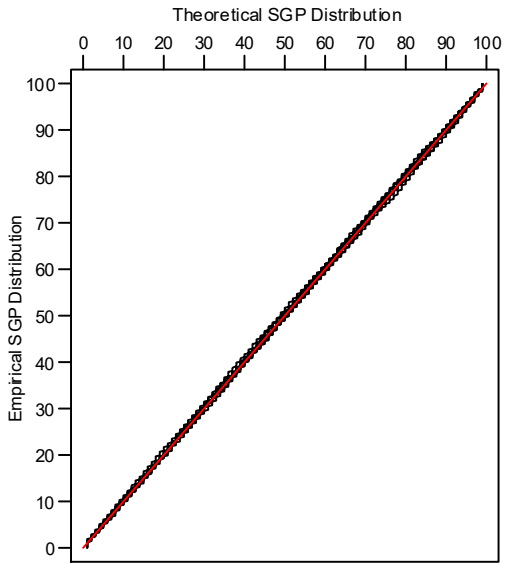
		Student Growth Percentile Range											
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[2210]	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 108
Highest OSS:	[2724]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	6.5	22.6	16.7	44.3	N = 460

Student Growth Percentile Range

Prior Scale Score Decile/Range*	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[2201,2359)	10.41	10.32	9.89	10.29	9.83	9.64	9.27	9.92	10.07	10.35	(10%)
2nd/[2359,2405)	9.65	9.98	10.57	9.89	10.20	10.02	10.05	9.98	9.46	10.20	(10%)
3rd/[2405,2439)	9.15	9.96	9.65	10.25	9.81	9.96	9.74	9.62	10.25	11.63	(9.8%)
4th/[2439,2470)	9.71	10.07	9.47	9.80	10.28	10.82	9.92	9.77	10.16	10.01	(10.2%)
5th/[2470,2500)	9.72	9.56	10.78	10.34	9.97	9.44	10.12	10.31	9.44	10.34	(9.9%)
6th/[2500,2528)	9.19	10.53	9.56	10.00	9.84	9.72	10.31	9.69	10.19	10.97	(9.9%)
7th/[2528,2555)	9.82	9.76	9.98	9.86	10.29	10.59	9.02	10.22	9.61	10.84	(10%)
8th/[2555,2584)	9.21	10.26	9.99	9.87	9.63	10.02	10.82	9.72	10.49	9.99	(10.3%)
9th/[2584,2621)	10.02	9.73	9.70	10.27	10.24	9.98	9.29	9.76	10.20	10.80	(9.8%)
10th/[2621,2701]	9.56	10.19	10.28	9.89	9.74	9.68	11.15	10.13	9.53	9.86	(10.2%)

*Prior score deciles can be uneven depending upon the prior score distribution

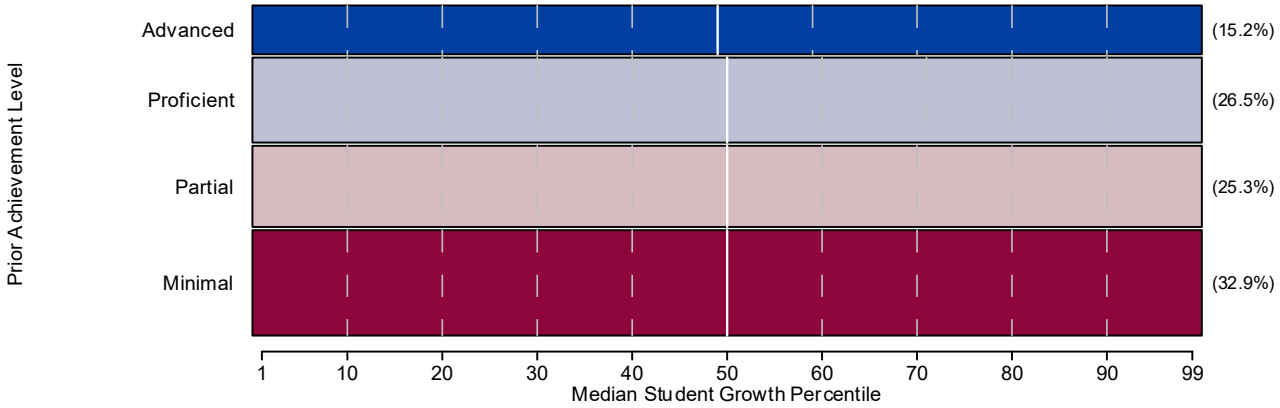
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 ELA SGP, Grade 7 (N = 32,704)

SGP Deciles by Prior Achievement Level (ELA)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

Student Growth Percentile Range

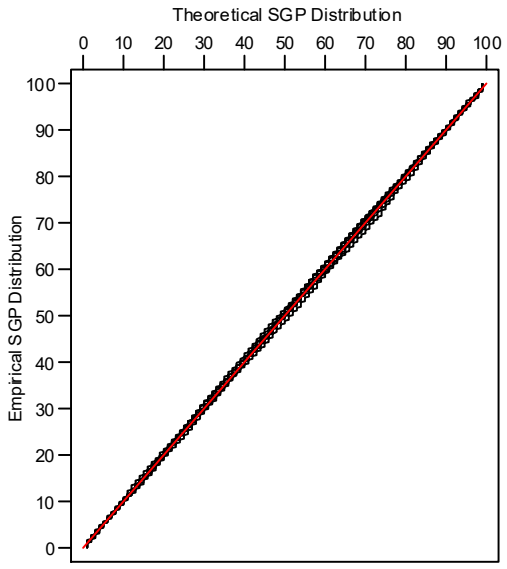
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[2258]	94.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 166
Highest OSS:	[2745]	0.0	0.0	0.0	0.0	0.0	10.5	0.0	5.0	10.1	20.1	13.7	40.6	N = 562

Student Growth Percentile Range

Prior Scale Score Decile/Range*	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[2210,2371)	10.07	10.47	10.29	10.07	10.10	9.82	9.70	9.79	9.73	9.95	(9.9%)
2nd/[2371,2413)	9.51	10.57	9.98	10.19	9.92	10.32	10.29	9.36	9.27	10.60	(9.9%)
3rd/[2413,2447)	9.58	10.34	9.89	9.80	9.55	9.58	10.28	10.34	9.95	10.68	(10%)
4th/[2447,2478)	9.91	9.42	10.37	9.45	10.37	10.16	8.94	10.70	10.52	10.16	(10%)
5th/[2478,2507)	9.45	9.85	10.04	10.20	9.76	10.51	10.35	9.08	9.64	11.12	(9.9%)
6th/[2507,2536)	9.14	10.66	9.32	10.33	10.42	9.59	10.33	10.15	9.65	10.39	(10.3%)
7th/[2536,2566)	9.40	9.36	10.13	9.92	9.43	9.98	9.43	10.78	10.75	10.84	(10%)
8th/[2566,2599)	9.75	10.02	10.85	9.78	9.96	10.30	10.11	9.07	10.08	10.08	(10%)
9th/[2599,2642)	9.39	10.54	9.33	10.09	10.33	9.30	10.06	10.45	10.09	10.42	(10.1%)
10th/[2642,2724]	9.27	9.76	10.28	9.98	11.13	9.52	9.91	9.85	9.85	10.43	(10%)

*Prior score deciles can be uneven depending upon the prior score distribution

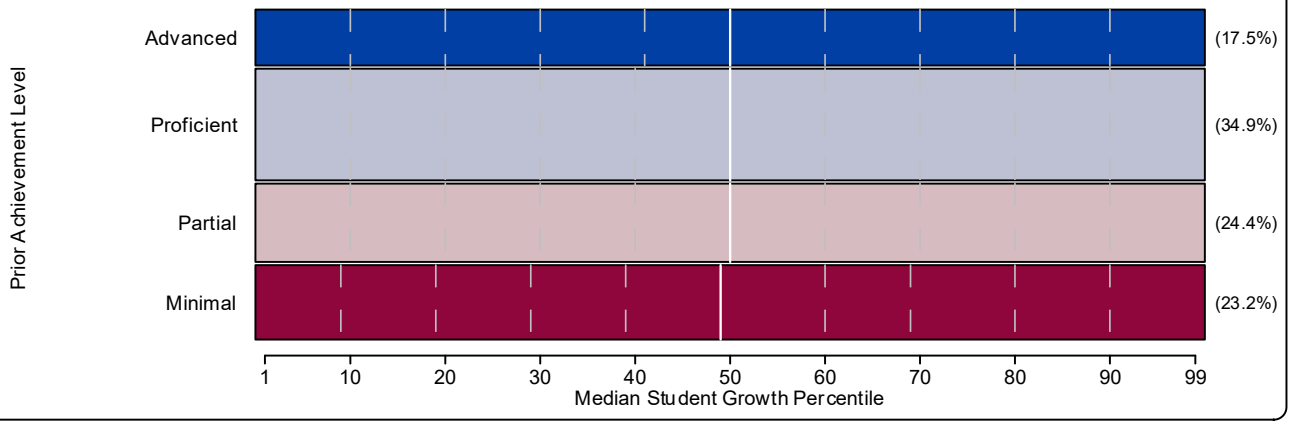
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 ELA SGP, Grade 8 (N = 32,844)

SGP Deciles by Prior Achievement Level (ELA)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

Student Growth Percentile Range

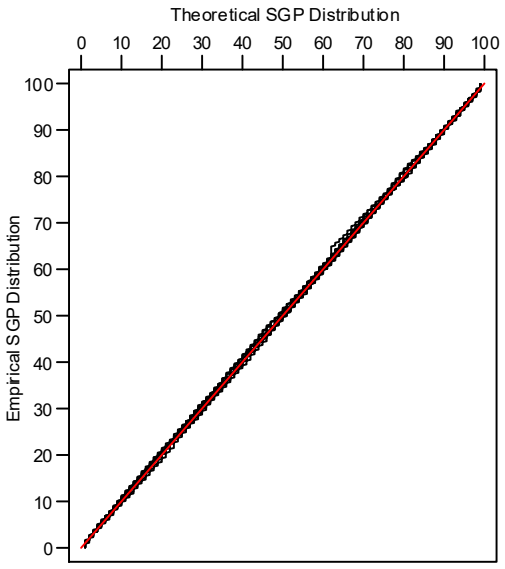
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[2288]	89.3	9.3	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 281
Highest OSS:	[2769]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.6	7.8	15.4	18.3	42.0	N = 410

Student Growth Percentile Range

Prior Scale Score Decile/Range*	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[2258,2413)	10.22	10.44	9.70	10.25	10.10	9.70	10.22	9.88	9.39	10.10	(9.9%)
2nd/[2413,2465)	9.98	10.14	10.02	9.95	9.49	10.35	9.22	10.14	10.05	10.66	(9.9%)
3rd/[2465,2502)	9.84	9.75	10.32	9.17	10.96	9.32	10.87	9.36	10.35	10.05	(10.1%)
4th/[2502,2531)	9.64	10.13	9.42	10.37	9.55	10.25	10.13	9.30	10.25	10.98	(10%)
5th/[2531,2558)	10.23	10.11	10.14	10.02	10.11	9.96	9.39	10.75	8.81	10.47	(10.1%)
6th/[2558,2584)	9.17	9.90	9.87	10.33	10.08	9.72	9.93	9.96	10.88	10.17	(10%)
7th/[2584,2610)	10.14	10.07	10.57	9.77	9.83	9.61	10.32	9.24	9.52	10.93	(9.9%)
8th/[2610,2640)	9.49	10.33	9.34	9.94	9.61	10.18	10.15	10.39	10.27	10.30	(10.1%)
9th/[2640,2680)	9.06	9.42	10.15	10.00	10.58	9.82	9.88	10.30	10.39	10.39	(10%)
10th/[2680,2745]	9.86	10.01	9.98	10.04	9.83	10.04	11.38	9.52	9.37	9.98	(10%)

*Prior score deciles can be uneven depending upon the prior score distribution

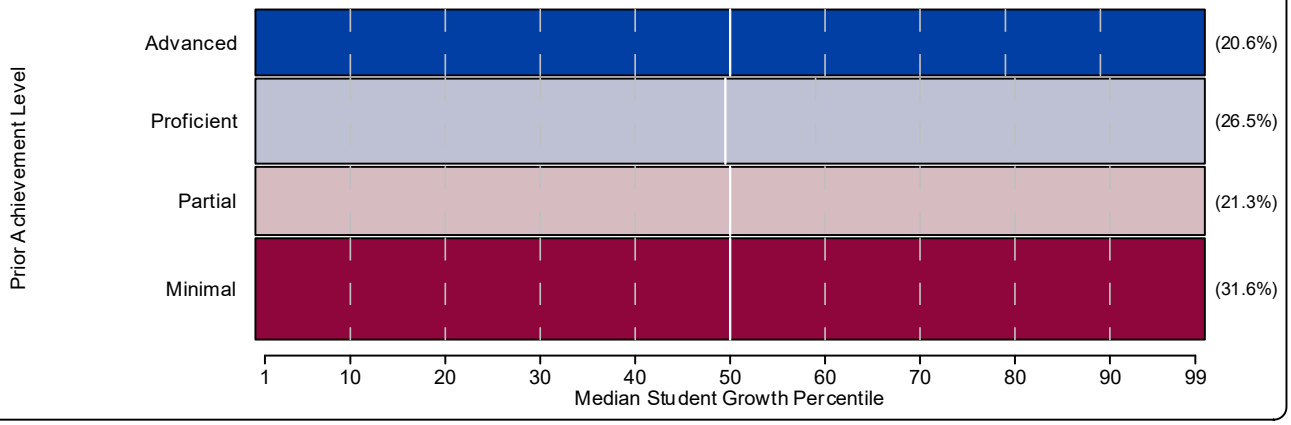
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Math SGP, Grade 4 (N = 33,060)

SGP Deciles by Prior Achievement Level (Mathematics)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

		Student Growth Percentile Range											
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99
Lowest OSS:	[2204]	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Highest OSS:	[2659]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	16.7	15.3	34.7

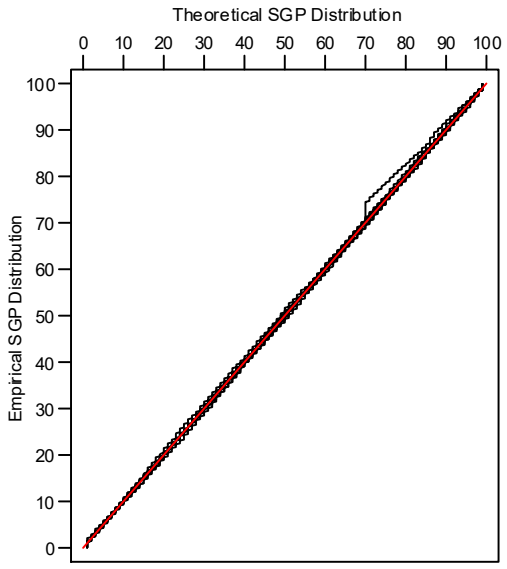
N = 143 (Lowest OSS:); N = 418 (Highest OSS:)

Prior Scale Score Decile/Range*

	Student Growth Percentile Range										
	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[2189,2303)	9.53	9.98	10.05	10.11	9.83	10.14	9.86	9.71	10.05	10.75	(9.9%)
2nd/[2303,2344)	9.51	10.35	9.75	10.05	10.47	9.45	10.26	10.53	9.51	10.11	(10%)
3rd/[2344,2375)	9.83	9.65	10.08	9.74	9.49	10.70	9.80	9.52	10.39	10.79	(9.8%)
4th/[2375,2403)	9.14	9.93	10.79	10.02	10.24	9.87	10.18	9.60	10.48	9.75	(9.9%)
5th/[2403,2429)	9.33	10.03	9.56	10.12	9.97	10.00	9.77	10.65	9.35	11.23	(10.3%)
6th/[2429,2452)	9.83	9.80	9.43	9.83	10.45	9.89	10.30	10.17	10.05	10.24	(9.8%)
7th/[2452,2476)	9.67	9.85	10.42	10.00	9.58	10.18	9.76	10.06	10.12	10.39	(10%)
8th/[2476,2502)	9.36	10.96	10.32	9.81	10.14	9.69	9.99	8.99	10.05	10.69	(10%)
9th/[2502,2537)	9.45	9.30	9.63	10.53	9.54	10.14	10.05	10.62	10.38	10.35	(10.1%)
10th/[2537,2621]	9.51	10.19	10.01	9.75	10.28	9.90	10.07	12.40	9.18	8.70	(10.1%)

*Prior score deciles can be uneven depending upon the prior score distribution

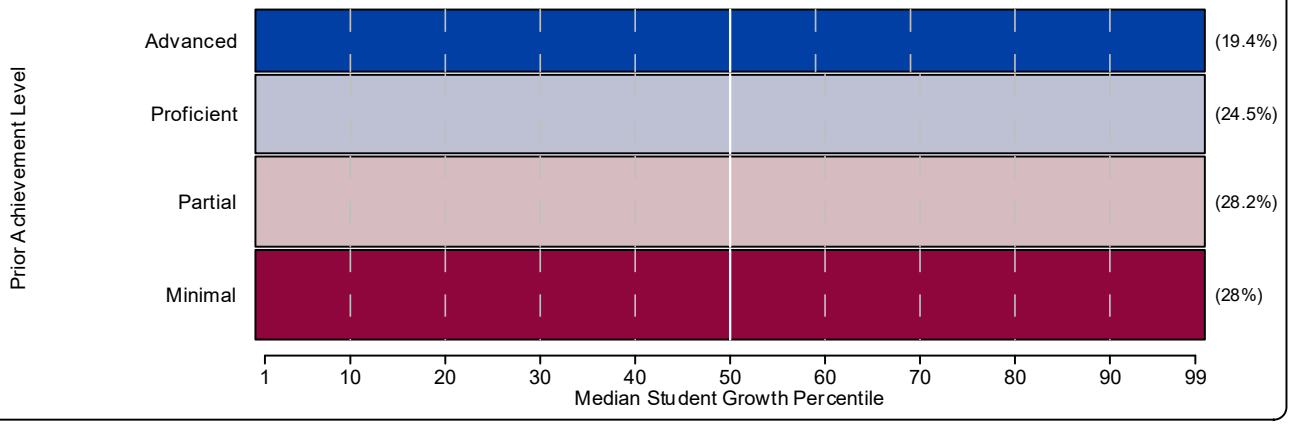
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Math SGP, Grade 5 (N = 32,213)

SGP Deciles by Prior Achievement Level (Mathematics)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

Student Growth Percentile Range

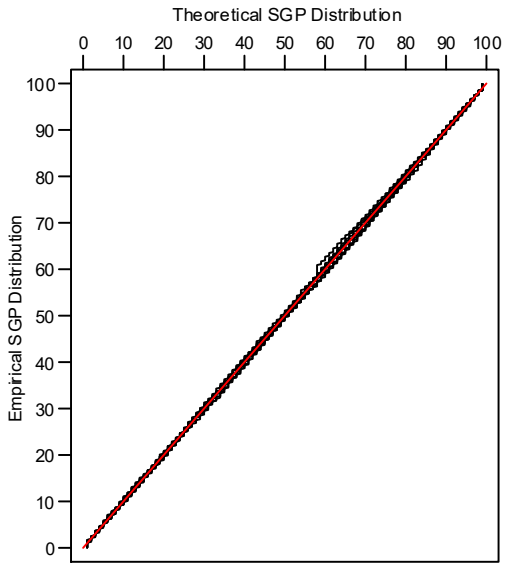
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[2219]	67.3	17.0	15.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 223
Highest OSS:	[2700]	0.0	0.0	0.0	0.0	0.0	0.0	24.3	0.0	2.2	16.1	18.6	38.8	N = 317

Student Growth Percentile Range

Prior Scale Score Decile/Range*	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[2204,2347)	9.56	9.97	10.00	10.00	10.34	10.22	10.03	9.75	9.53	10.63	(9.9%)
2nd/[2347,2386)	9.37	9.40	10.70	9.71	9.96	9.56	9.59	10.33	11.14	10.24	(10%)
3rd/[2386,2416)	9.28	10.50	9.81	10.56	10.06	10.12	10.31	9.62	9.15	10.59	(9.9%)
4th/[2416,2443)	10.02	9.86	10.24	9.13	9.86	9.13	9.99	10.18	10.63	10.94	(9.8%)
5th/[2443,2470)	9.27	9.90	9.39	9.99	10.23	10.92	9.96	10.14	10.02	10.17	(10.4%)
6th/[2470,2494)	9.24	10.54	10.35	10.26	9.31	9.59	10.10	9.88	9.91	10.83	(9.8%)
7th/[2494,2519)	10.00	9.66	9.48	9.45	10.31	9.63	9.97	10.44	10.40	10.65	(10.1%)
8th/[2519,2547)	9.16	9.90	10.02	9.93	10.64	10.27	9.65	10.14	9.34	10.95	(10.1%)
9th/[2547,2582)	9.78	10.35	9.72	10.16	9.41	10.03	9.88	9.53	11.07	10.07	(9.9%)
10th/[2582,2659]	9.38	9.93	10.42	9.96	9.99	12.16	9.05	9.44	9.41	10.24	(10.2%)

*Prior score deciles can be uneven depending upon the prior score distribution

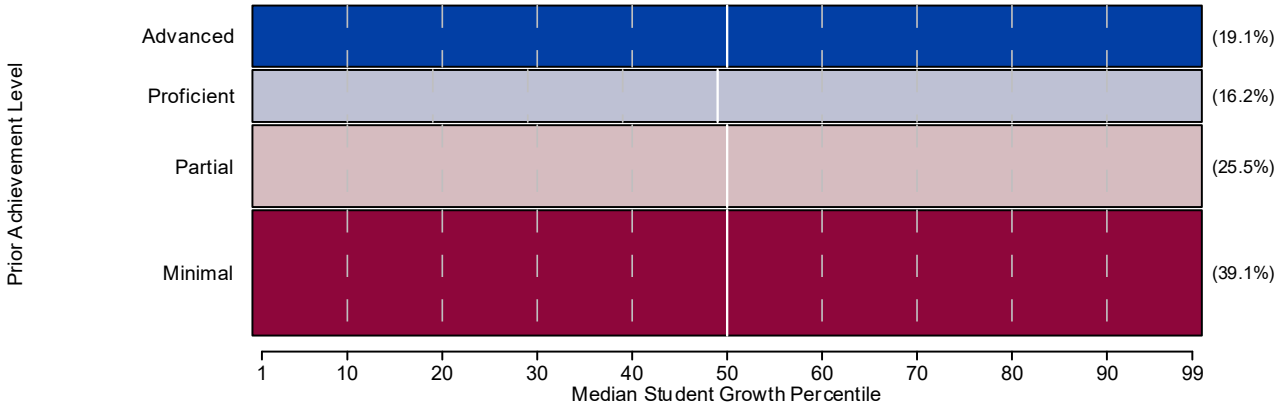
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Math SGP, Grade 6 (N = 32,496)

SGP Deciles by Prior Achievement Level (Mathematics)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

Student Growth Percentile Range

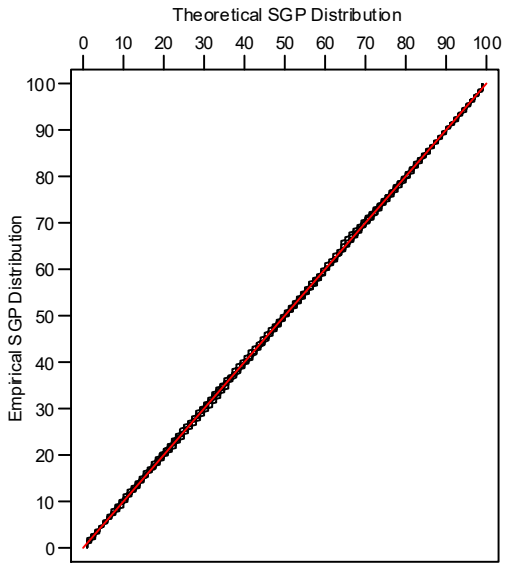
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[2235]	60.6	16.1	19.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 485
Highest OSS:	[2748]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.5	1.0	11.0	13.0	46.5	N = 200

Student Growth Percentile Range

Prior Scale Score Decile/Range*	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[2219,2351)	10.48	10.04	9.24	9.61	10.14	9.92	10.66	9.80	9.77	10.35	(10%)
2nd/[2351,2394)	9.46	9.87	10.25	10.00	10.22	9.68	9.97	10.25	9.81	10.50	(9.8%)
3rd/[2394,2427)	9.68	10.48	9.55	9.86	9.55	10.39	9.62	10.27	9.99	10.61	(9.9%)
4th/[2427,2457)	8.66	10.51	10.12	10.39	9.78	9.39	10.05	9.60	10.48	11.02	(10.2%)
5th/[2457,2485)	10.29	8.95	9.98	9.51	10.25	10.59	9.76	10.75	9.57	10.35	(9.9%)
6th/[2485,2514)	9.61	10.21	10.40	9.58	9.19	9.61	10.82	9.55	10.24	10.79	(10.2%)
7th/[2514,2543)	9.65	9.84	9.50	10.29	10.57	9.84	9.47	10.26	10.03	10.54	(9.7%)
8th/[2543,2575)	9.51	10.88	9.99	10.09	9.72	10.05	9.93	9.48	9.84	10.51	(10.1%)
9th/[2575,2615)	9.75	9.03	9.60	10.21	10.12	10.00	10.42	10.15	10.00	10.72	(10.2%)
10th/[2615,2700]	9.34	10.26	10.17	9.74	10.05	10.02	11.06	9.19	9.90	10.26	(10%)

*Prior score deciles can be uneven depending upon the prior score distribution

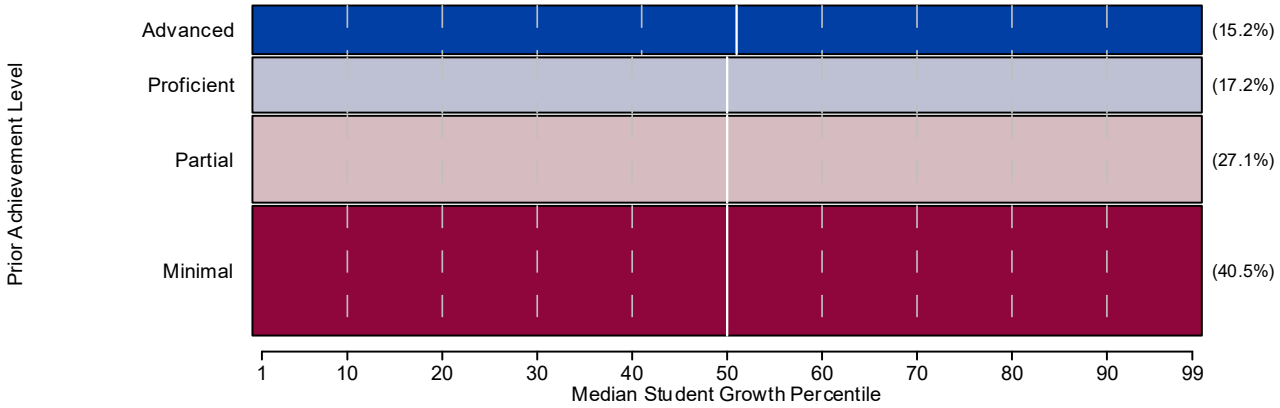
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Math SGP, Grade 7 (N = 32,690)

SGP Deciles by Prior Achievement Level (Mathematics)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

Student Growth Percentile Range

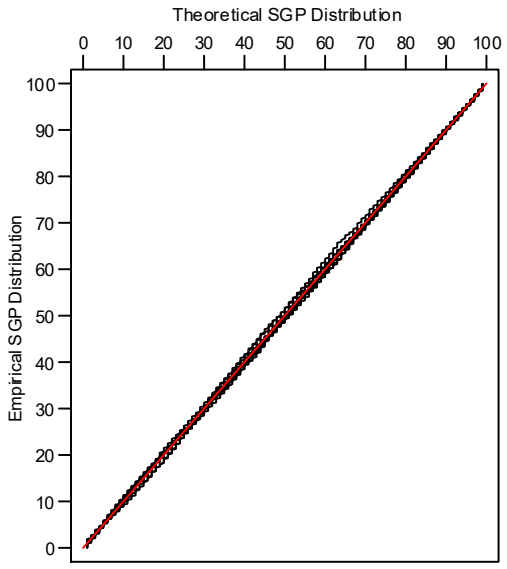
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[2250]	68.8	19.0	12.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 525
Highest OSS:	[2778]	0.0	0.0	0.0	0.0	0.0	0.0	23.6	0.0	8.4	15.2	16.9	36.0	N = 178

Student Growth Percentile Range

Prior Scale Score Decile/Range*	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[2235,2341)	10.34	9.61	9.64	9.57	10.03	10.09	9.85	9.91	9.88	11.07	(10%)
2nd/[2341,2396)	9.29	10.24	10.12	10.12	10.03	10.31	9.47	9.53	10.34	10.55	(9.9%)
3rd/[2396,2438)	9.47	10.43	9.53	10.15	10.27	9.56	9.93	10.77	9.81	10.09	(9.9%)
4th/[2438,2471)	10.25	9.24	10.37	9.15	9.36	10.44	10.44	9.55	10.31	10.90	(10%)
5th/[2471,2501)	8.88	10.94	9.99	10.68	10.38	9.36	9.33	10.08	9.72	10.65	(10.2%)
6th/[2501,2529)	9.17	8.98	10.16	10.04	10.22	10.29	10.81	9.88	9.88	10.56	(9.9%)
7th/[2529,2559)	9.88	10.24	9.61	9.21	9.55	10.03	10.21	10.06	10.60	10.60	(10.1%)
8th/[2559,2591)	10.17	10.42	9.80	10.54	9.77	10.73	9.53	9.43	9.03	10.57	(9.9%)
9th/[2591,2633)	8.78	9.33	10.75	9.61	10.54	9.24	10.20	10.23	10.69	10.63	(9.9%)
10th/[2633,2748]	9.53	9.95	9.50	10.19	9.59	11.63	9.19	9.95	10.19	10.31	(10.2%)

*Prior score deciles can be uneven depending upon the prior score distribution

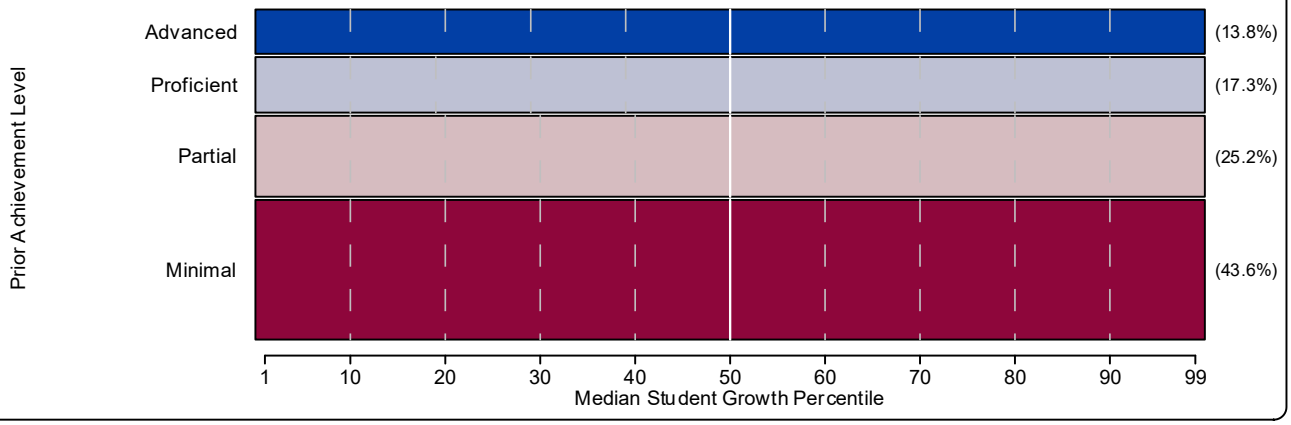
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Math SGP, Grade 8 (N = 32,862)

SGP Deciles by Prior Achievement Level (Mathematics)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

Student Growth Percentile Range

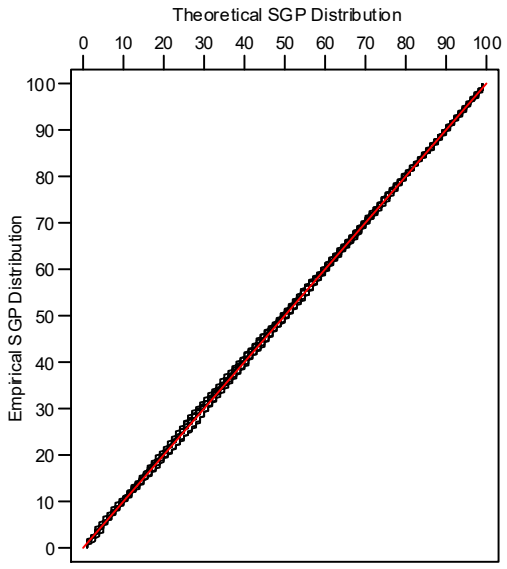
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[2265]	67.9	17.5	14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 633
Highest OSS:	[2802]	0.0	0.0	0.0	12.2	0.0	1.3	4.4	5.5	18.3	20.1	13.3	24.9	N = 458

Student Growth Percentile Range

Prior Scale Score Decile/Range *	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[2250,2345)	9.74	9.95	10.10	9.98	9.95	9.86	9.70	10.10	10.01	10.62	(10%)
2nd/[2345,2398)	10.65	9.46	10.34	9.52	10.25	10.19	10.07	9.85	9.64	10.04	(10%)
3rd/[2398,2438)	9.14	10.83	9.82	10.37	9.42	10.03	9.97	9.60	9.85	10.96	(9.9%)
4th/[2438,2471)	10.30	9.56	10.02	10.05	9.93	9.29	9.71	10.76	10.45	9.93	(9.9%)
5th/[2471,2505)	9.53	10.68	10.47	9.44	9.98	9.95	10.01	9.16	9.50	11.29	(10%)
6th/[2505,2537)	9.25	9.53	9.37	10.47	9.98	10.02	10.44	10.29	10.69	9.95	(9.9%)
7th/[2537,2571)	9.53	9.95	10.30	9.80	10.13	10.19	9.53	10.16	9.47	10.96	(10.2%)
8th/[2571,2608)	9.94	10.93	10.03	10.00	9.76	9.08	10.28	9.88	10.13	9.97	(9.9%)
9th/[2608,2654)	9.05	9.26	9.96	10.08	9.96	10.56	9.87	10.23	10.56	10.47	(10.1%)
10th/[2654,2778]	9.99	9.96	11.52	9.60	9.57	9.81	9.81	10.26	9.39	10.08	(10.1%)

*Prior score deciles can be uneven depending upon the prior score distribution

QQ-Plot: Student Growth Percentiles



7.1.2 WIDA assessment

The SGP package generates a set of goodness of fit plots that provide information about how well the model fits the data. There are four panels for each grade area. For WIDA it would be first through twelfth grade. The first panel labeled 'SGP Deciles by Prior Achievement Level' displays SGP decile for each achievement level in the prior year.

The second panel labeled 'Ceiling / Floor Effects Test' examines the relationship of the lowest observable scale score (LOSS) and highest observable scale score (HOSS) with the computed SGP associated with that scale score. This analysis provides evidence as to whether there is misfit due to range restriction. If there are not enough students in the low and high ends of the scale, the model has a difficult time differentiating students into adjacent SGPs. Boxes in green indicate things are good while boxes in red indicate some degree of misfit. It should be noted that model misfit is nearly always present, but it is important to ascertain the degree of misfit present.

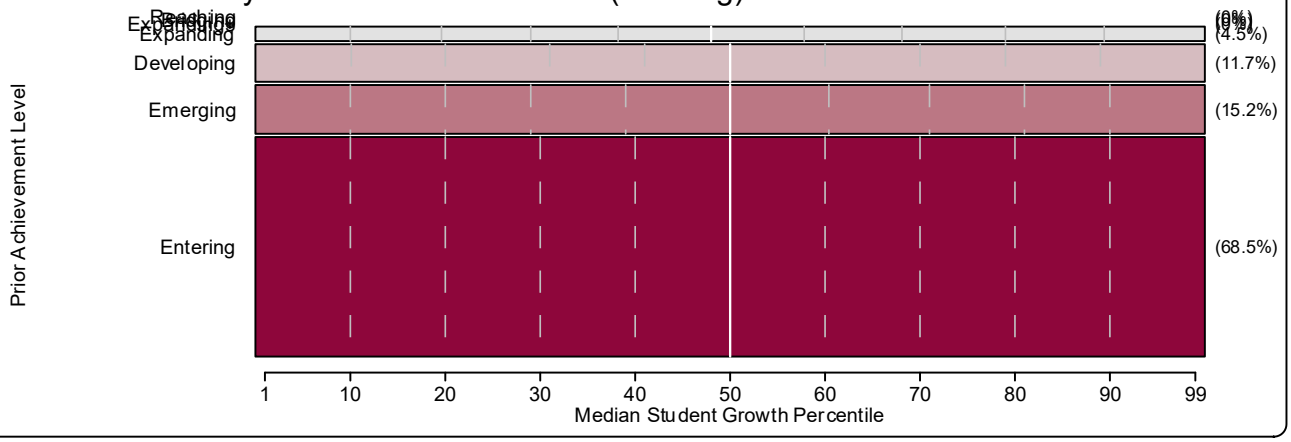
The third panel, bottom left, displays the distribution of the prior scores across the distribution of percentiles. With perfect model fit, there would be 10% of students at a given prior score range in each percentile category. The SGP package will shade cells either red or blue, depending on how far they vary from 10%. Red indicates the percentage is enough above 10% while blue is below 10%.

The fourth panel, bottom right, is a QQ Plot that displays the empirical SGP distribution against the theoretical distribution. A model that fits would be observed when the black line does not stray too far from the red, ideal line.

Student Growth Percentile Goodness-of-Fit Descriptives

2026 Reading SGP, Grade 1 (N = 4,959)

SGP Deciles by Prior Achievement Level (Reading)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

Student Growth Percentile Range

		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[121,126]	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 25
	[126,152]	48.0	52.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 25
Highest OSS:	[334,341)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	75.0	N = 24
	[341,378]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	N = 27

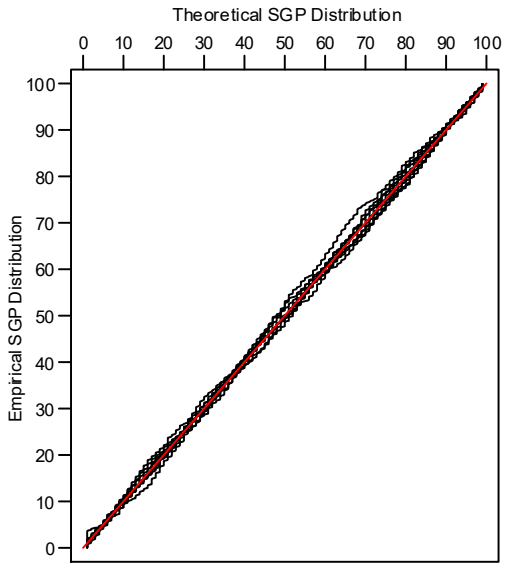
Student Growth Percentile Range

Prior Scale Score Decile/Range *

	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[100,109)	10.37	9.07	9.94	10.58	9.72	10.37	9.29	9.72	10.37	10.58	(9.3%)
2nd/[109,133)	10.51	9.73	10.12	9.53	11.09	9.14	10.70	10.12	9.34	9.73	(10.4%)
3rd/[133,156)	9.29	9.88	10.67	10.47	8.70	10.47	7.91	10.28	11.07	11.26	(10.2%)
4th/[156,174)	9.61	10.22	9.00	10.22	10.84	9.61	12.07	9.61	8.79	10.02	(9.9%)
5th/[174,193)	8.67	10.48	9.48	10.08	10.08	10.69	9.88	10.69	10.28	9.68	(10%)
6th/[193,212)	10.00	9.18	11.22	9.18	11.63	8.98	8.16	10.20	10.20	11.22	(9.9%)
7th/[212,231)	10.04	10.64	8.43	9.44	9.04	10.24	12.85	10.04	8.63	10.64	(10%)
8th/[231,252)	8.63	9.04	10.64	11.45	9.24	9.64	8.43	10.24	12.05	10.64	(10%)
9th/[252,277)	10.24	11.24	10.24	8.63	11.24	10.44	11.65	8.63	8.03	9.64	(10%)
10th/[277,308]	9.47	9.86	10.06	10.65	9.07	9.66	9.47	10.26	10.85	10.65	(10.2%)

*Prior score deciles can be uneven depending upon the prior score distribution

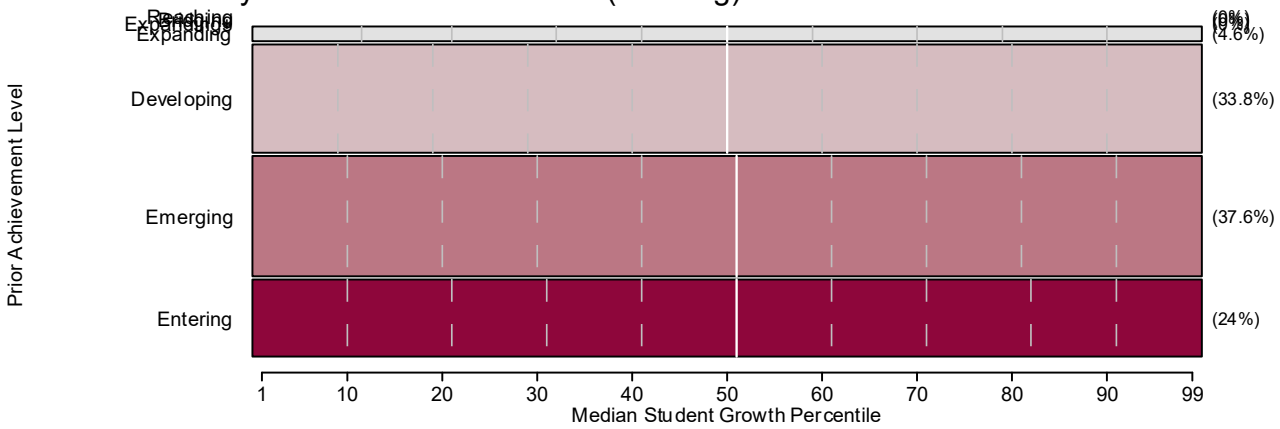
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Reading SGP, Grade 2 (N = 4,915)

SGP Deciles by Prior Achievement Level (Reading)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

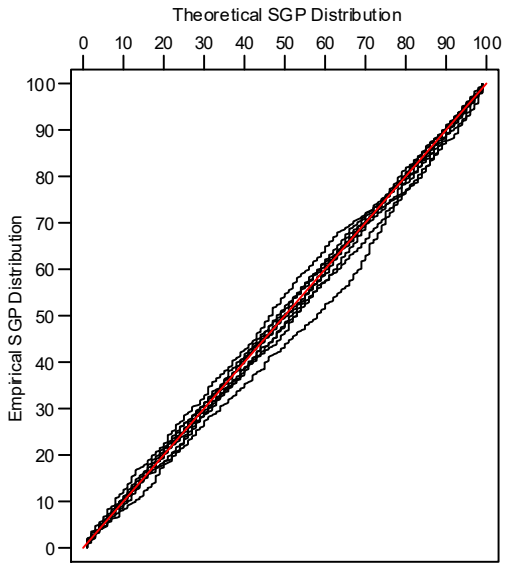
		Student Growth Percentile Range												
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[151,197)	77.8	11.1	11.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 27
	[197,204]	46.4	25.0	10.7	14.3	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 28
Highest OSS:	[361,365)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	20.8	29.2	41.7	N = 24
	[365,408]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	22.2	70.4	N = 27

Student Growth Percentile Range

Prior Scale Score Decile/Range *	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[156,216)	10.25	9.22	8.81	10.04	7.58	11.07	8.61	10.45	10.86	13.11	(9.9%)
2nd/[216,236)	8.99	9.21	10.06	8.78	12.63	8.78	10.49	9.21	9.42	12.42	(9.5%)
3rd/[236,248)	10.10	9.90	10.49	10.10	9.32	11.07	9.71	8.93	9.71	10.68	(10.5%)
4th/[248,257)	8.56	9.19	8.35	8.35	8.56	8.35	10.44	14.61	11.69	11.90	(9.7%)
5th/[257,264)	8.08	9.17	10.92	9.39	10.04	11.14	11.14	8.52	9.61	12.01	(9.3%)
6th/[264,272)	11.74	9.92	10.32	10.32	11.54	9.72	7.89	7.69	9.11	11.74	(10.1%)
7th/[272,281)	10.25	10.25	8.54	9.30	8.92	9.87	11.20	11.01	10.63	10.06	(10.7%)
8th/[281,290)	10.12	9.30	10.95	10.33	10.12	10.33	9.92	8.88	9.71	10.33	(9.8%)
9th/[290,303)	10.27	10.88	9.24	9.24	9.65	10.27	10.06	11.50	8.83	10.06	(9.9%)
10th/[303,329]	9.69	9.50	10.47	10.47	11.05	9.11	9.11	10.47	9.69	10.47	(10.5%)

*Prior score deciles can be uneven depending upon the prior score distribution

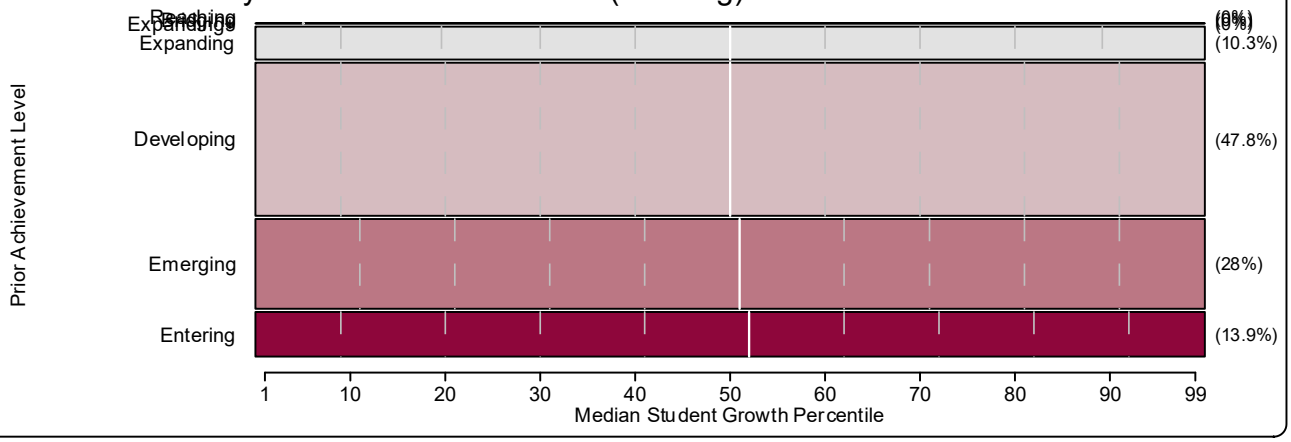
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Reading SGP, Grade 3 (N = 5,440)

SGP Deciles by Prior Achievement Level (Reading)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

		Student Growth Percentile Range												
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[143,197)	60.9	17.4	21.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 23
	[197,207]	48.1	22.2	22.2	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 27
Highest OSS:	[378,385)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	16.0	72.0	N = 25
	[385,427]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	93.3	N = 30

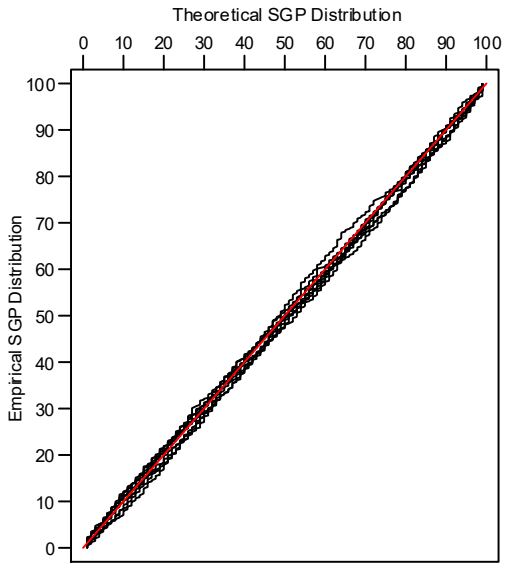
Student Growth Percentile Range

Prior Scale Score Decile/Range *

	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[181,244)	11.23	9.58	9.76	10.13	9.02	8.66	9.39	8.84	11.42	11.97	(10%)
2nd/[244,266)	10.74	7.41	10.00	10.00	9.26	9.07	9.63	10.93	10.56	12.41	(9.9%)
3rd/[266,277)	8.27	12.60	8.27	10.43	9.65	9.45	9.84	9.84	9.25	12.40	(9.3%)
4th/[277,287)	6.94	9.79	12.10	8.90	9.43	9.96	11.92	9.79	10.50	10.68	(10.3%)
5th/[287,296)	11.65	9.68	9.14	9.32	10.75	9.86	8.60	10.22	7.71	13.08	(10.3%)
6th/[296,304)	9.65	8.53	9.83	11.13	9.83	10.20	8.16	9.46	12.62	10.58	(9.9%)
7th/[304,311)	10.38	9.98	9.58	9.78	9.18	8.98	11.58	9.98	9.78	10.78	(9.2%)
8th/[311,319)	10.75	10.75	10.36	8.83	10.36	10.75	9.79	7.68	10.75	9.98	(9.6%)
9th/[319,329)	8.22	9.38	9.38	10.53	10.69	9.21	10.86	11.51	9.70	10.53	(11.2%)
10th/[329,350]	10.36	9.82	9.64	10.00	9.46	10.18	10.18	9.82	10.54	10.00	(10.3%)

*Prior score deciles can be uneven depending upon the prior score distribution

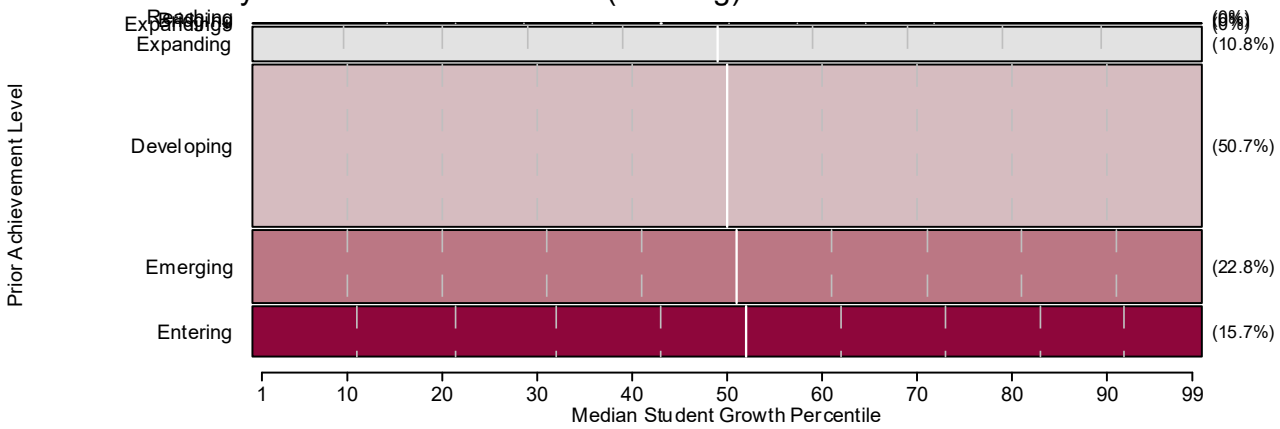
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Reading SGP, Grade 4 (N = 5,241)

SGP Deciles by Prior Achievement Level (Reading)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

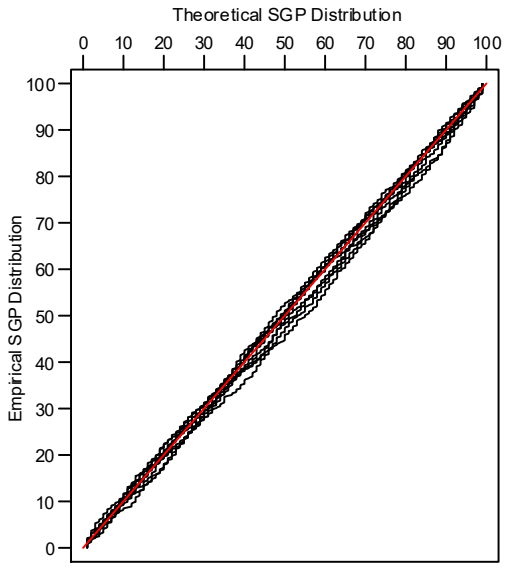
		Student Growth Percentile Range												
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[177,217]	73.9	21.7	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 23
	[217,224]	40.7	18.5	33.3	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 27
Highest OSS:	[404,407]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	16.0	80.0	N = 25
	[407,429]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	96.4	N = 28

Student Growth Percentile Range

Prior Scale Score Decile/Range *	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[175,249)	9.28	9.86	8.32	7.74	9.28	9.86	11.03	11.22	11.41	11.99	(9.9%)
2nd/[249,274)	8.11	8.68	10.75	12.26	9.81	10.75	7.36	7.92	10.38	13.96	(10.1%)
3rd/[274,289)	9.16	9.94	8.97	9.94	8.38	9.75	10.33	11.31	10.72	11.50	(9.8%)
4th/[289,301)	10.71	10.91	7.34	9.33	11.71	9.33	11.11	9.33	9.92	10.32	(9.6%)
5th/[301,311)	9.31	10.99	10.24	9.31	10.06	10.43	9.87	9.68	10.24	9.87	(10.2%)
6th/[311,319)	10.33	6.82	11.11	10.33	9.75	9.36	9.55	10.14	8.97	13.65	(9.8%)
7th/[319,326)	9.41	10.63	10.22	11.45	7.57	11.04	9.82	9.41	9.61	10.84	(9.3%)
8th/[326,333)	10.43	10.97	9.17	9.17	12.23	9.53	8.99	10.07	10.25	9.17	(10.6%)
9th/[333,340)	9.75	9.75	9.36	9.16	9.94	9.16	11.11	10.33	9.94	11.50	(9.8%)
10th/[340,363]	10.19	9.67	10.37	10.19	10.02	9.84	10.37	9.67	9.67	10.02	(10.9%)

*Prior score deciles can be uneven depending upon the prior score distribution

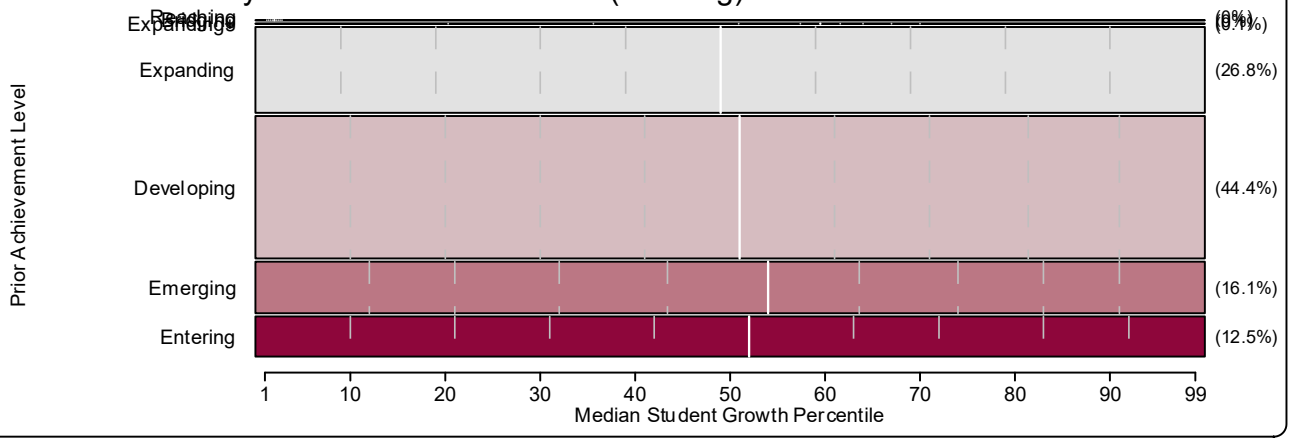
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Reading SGP, Grade 5 (N = 4,081)

SGP Deciles by Prior Achievement Level (Reading)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

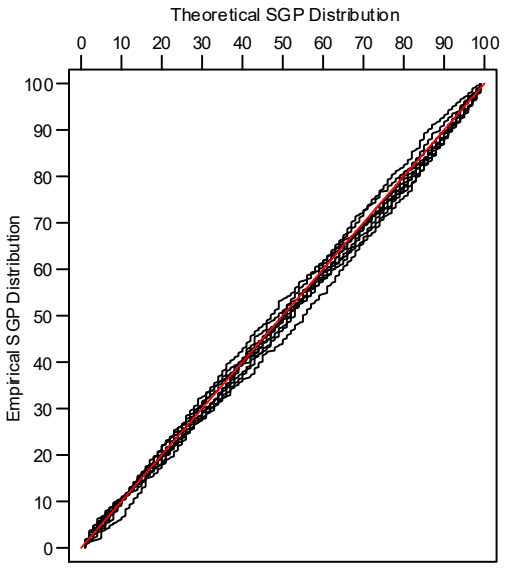
		Student Growth Percentile Range												
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[162,216)	64.0	16.0	8.0	8.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 25
	[216,223]	24.0	12.0	36.0	12.0	4.0	8.0	0.0	4.0	0.0	0.0	0.0	0.0	N = 25
Highest OSS:	[407,411)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	92.0	N = 25
	[411,442]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	3.2	0.0	3.2	90.3	N = 31

Student Growth Percentile Range

Prior Scale Score Decile/Range *	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[198,270)	10.53	9.02	7.77	10.03	9.27	11.03	10.53	9.27	10.53	12.03	(9.8%)
2nd/[270,294)	6.05	11.08	11.34	10.83	9.82	8.06	8.56	10.58	10.33	13.35	(9.7%)
3rd/[294,311)	9.05	10.00	8.81	7.86	8.10	10.71	10.71	9.76	11.90	13.10	(10.3%)
4th/[311,324)	9.90	8.07	9.38	9.11	10.94	10.42	10.42	8.85	10.68	12.24	(9.4%)
5th/[324,334)	10.36	10.36	9.88	11.57	11.08	7.95	7.71	9.40	9.88	11.81	(10.2%)
6th/[334,341)	9.40	9.66	8.88	11.23	9.14	10.70	12.27	10.44	10.70	7.57	(9.4%)
7th/[341,348)	9.32	11.59	11.36	7.27	8.86	9.77	9.09	9.32	10.23	13.18	(10.8%)
8th/[348,354)	9.50	10.45	10.21	9.98	10.45	10.21	11.16	8.31	8.79	10.93	(10.3%)
9th/[354,359)	9.89	7.91	10.73	10.73	10.17	10.73	8.76	10.73	11.02	9.32	(8.7%)
10th/[359,394]	10.26	10.68	9.40	9.40	8.97	10.04	10.04	10.47	10.04	10.68	(11.5%)

*Prior score deciles can be uneven depending upon the prior score distribution

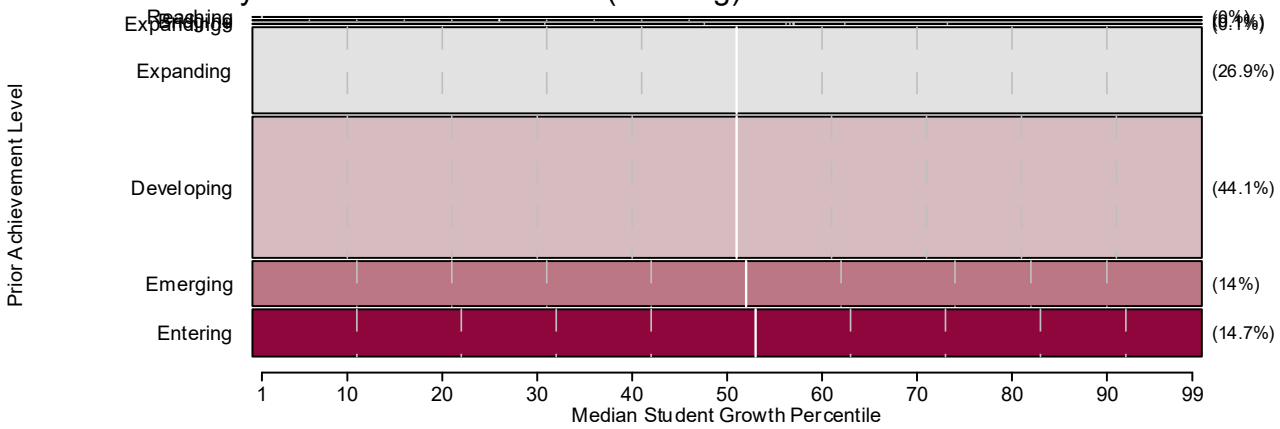
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Reading SGP, Grade 6 (N = 3,573)

SGP Deciles by Prior Achievement Level (Reading)



Ceiling / Floor Effects Test

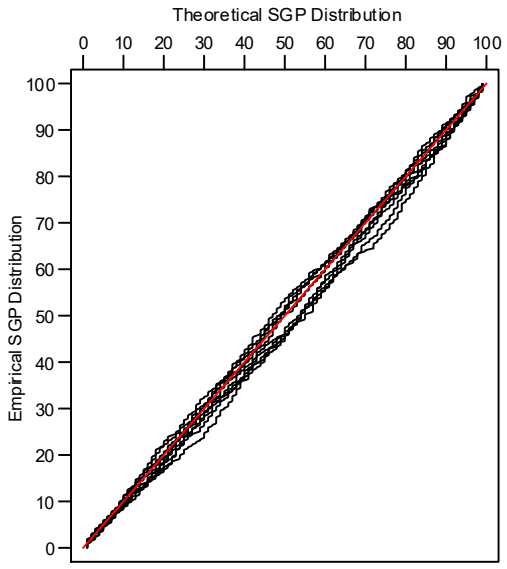
Current Observed Score Extremes (Range)		Student Growth Percentile Range												
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[212,250)	70.8	16.7	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 24
	[250,257]	34.5	20.7	37.9	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 29
Highest OSS:	[388,393)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	8.3	87.5	N = 24
	[393,409]	3.7	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	92.6	N = 27

Student Growth Percentile Range

Prior Scale Score Decile/Range *	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[196,272)	8.71	9.27	8.15	10.39	7.87	11.52	9.27	10.67	11.52	12.64	(10%)
2nd/[272,299)	8.22	8.50	10.76	11.61	11.33	9.07	10.48	9.07	9.63	11.33	(9.9%)
3rd/[299,319)	9.14	12.74	10.25	6.09	7.48	9.42	8.59	10.53	14.40	11.36	(10.1%)
4th/[319,333)	8.99	7.30	7.30	12.36	8.99	10.39	12.36	9.83	8.99	13.48	(10%)
5th/[333,343)	8.99	10.11	10.96	8.99	11.52	10.11	8.99	10.39	10.39	9.55	(10%)
6th/[343,350)	10.06	9.22	9.50	11.73	9.78	8.94	10.61	10.06	11.17	8.94	(10%)
7th/[350,356)	8.38	9.88	11.68	6.29	9.58	11.38	9.28	11.68	8.08	13.77	(9.3%)
8th/[356,361)	10.09	11.62	8.87	11.01	11.31	7.95	9.79	8.87	10.70	9.79	(9.2%)
9th/[361,367)	8.56	8.56	10.77	8.84	8.84	11.33	11.05	9.94	9.94	12.15	(10.1%)
10th/[367,430]	10.24	9.76	9.76	10.98	10.00	10.24	9.27	10.00	9.76	10.00	(11.5%)

*Prior score deciles can be uneven depending upon the prior score distribution

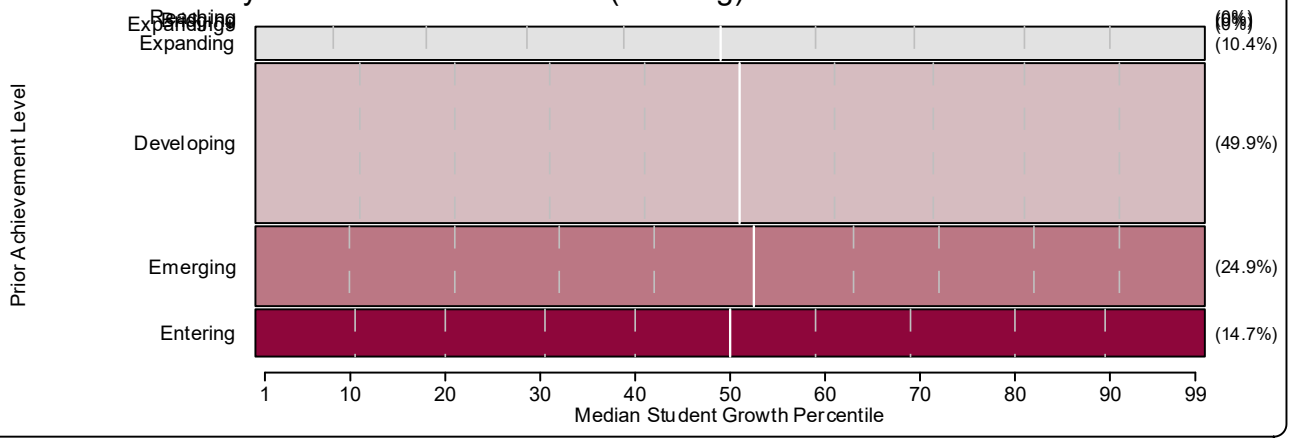
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Reading SGP, Grade 7 (N = 3,772)

SGP Deciles by Prior Achievement Level (Reading)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

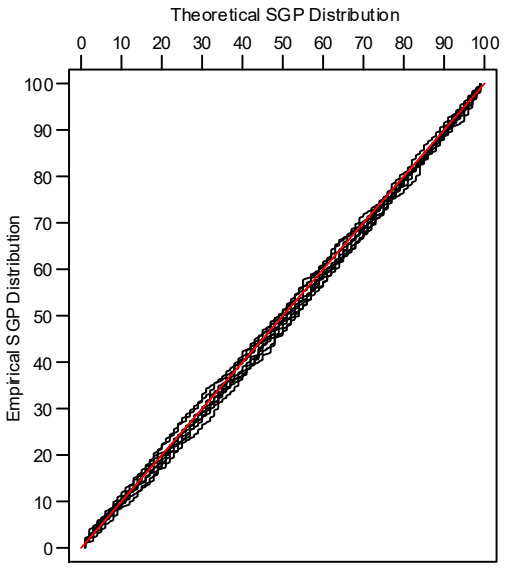
		Student Growth Percentile Range												
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[219,248)	73.9	4.3	17.4	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 23
	[248,255]	44.4	14.8	18.5	14.8	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 27
Highest OSS:	[400,403)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	20.0	65.0	N = 20
	[403,439]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	20.0	76.7	N = 30

Student Growth Percentile Range

Prior Scale Score Decile/Range *	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[226,281)	9.43	10.24	9.43	11.32	9.70	9.97	11.05	9.16	10.24	9.43	(9.8%)
2nd/[281,300)	8.90	8.12	8.64	10.47	9.95	12.04	8.64	9.42	12.30	11.52	(10.1%)
3rd/[300,313)	10.14	11.01	10.43	8.41	8.41	9.86	9.57	11.01	9.28	11.88	(9.1%)
4th/[313,324)	10.30	8.54	8.79	10.30	9.30	9.05	11.81	9.55	10.05	12.31	(10.6%)
5th/[324,332)	8.45	8.73	9.86	9.86	8.73	12.11	10.70	10.99	8.73	11.83	(9.4%)
6th/[332,340)	9.19	9.19	10.76	11.29	9.97	8.40	7.61	11.29	11.02	11.29	(10.1%)
7th/[340,348)	8.84	9.34	10.86	7.58	12.12	9.34	10.86	9.85	10.10	11.11	(10.5%)
8th/[348,356)	9.30	11.11	8.27	10.85	9.82	11.37	8.79	8.53	11.37	10.59	(10.3%)
9th/[356,365)	9.34	8.24	10.16	9.89	10.44	7.97	10.71	11.54	9.89	11.81	(9.7%)
10th/[365,381]	11.20	10.18	9.92	9.67	9.16	10.18	9.67	8.91	10.69	10.43	(10.4%)

*Prior score deciles can be uneven depending upon the prior score distribution

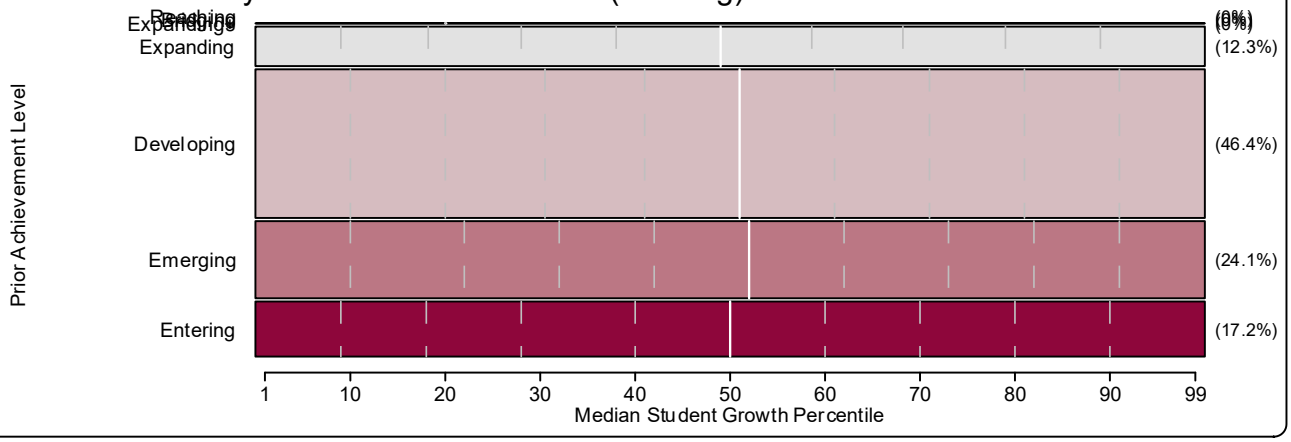
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Reading SGP, Grade 8 (N = 4,195)

SGP Deciles by Prior Achievement Level (Reading)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

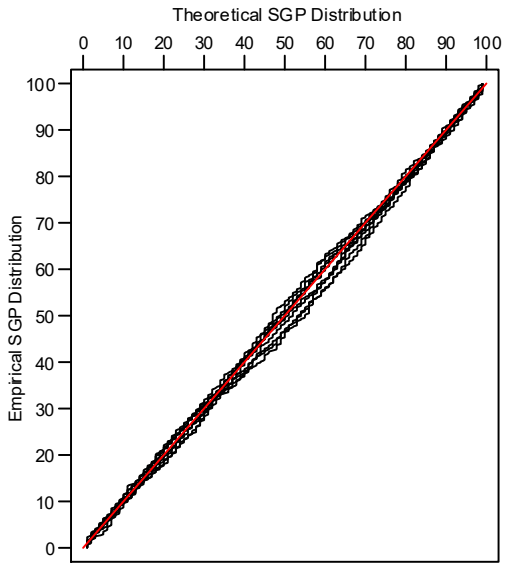
		Student Growth Percentile Range												
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[221,251)	77.8	11.1	11.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 27
	[251,259]	46.4	17.9	21.4	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 28
Highest OSS:	[409,413)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	4.8	23.8	66.7	N = 21
	[413,457]	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	3.3	93.3	N = 30

Student Growth Percentile Range

Prior Scale Score Decile/Range *	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[223,282)	10.46	10.46	10.22	9.49	8.27	11.19	9.49	9.00	10.71	10.71	(9.8%)
2nd/[282,303)	10.24	9.76	10.00	7.07	10.98	9.51	10.73	10.24	10.98	10.49	(9.8%)
3rd/[303,318)	9.60	8.20	9.60	10.07	7.73	10.07	9.84	11.48	11.24	12.18	(10.2%)
4th/[318,329)	8.59	9.85	10.35	11.87	11.62	9.60	6.57	10.35	11.62	9.60	(9.4%)
5th/[329,339)	9.57	10.93	10.02	7.52	8.43	10.48	12.53	8.66	10.25	11.62	(10.5%)
6th/[339,347)	9.35	10.07	9.11	11.75	10.55	8.63	9.11	11.99	7.91	11.51	(9.9%)
7th/[347,355)	9.62	9.38	10.34	7.45	9.62	9.13	11.06	11.78	10.58	11.06	(9.9%)
8th/[355,364)	9.91	11.06	9.22	10.14	9.91	11.75	8.99	7.60	10.37	11.06	(10.3%)
9th/[364,374)	9.26	8.31	10.21	11.40	9.98	7.84	10.69	10.45	10.69	11.16	(10%)
10th/[374,402]	10.61	10.38	9.91	9.20	9.43	11.08	9.20	9.91	9.91	10.38	(10.1%)

*Prior score deciles can be uneven depending upon the prior score distribution

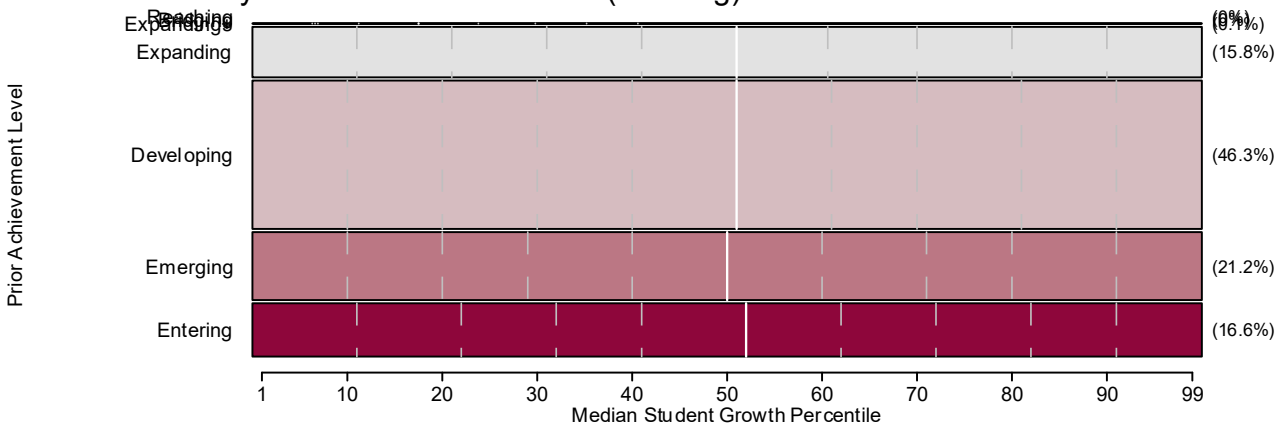
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Reading SGP, Grade 9 (N = 4,107)

SGP Deciles by Prior Achievement Level (Reading)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

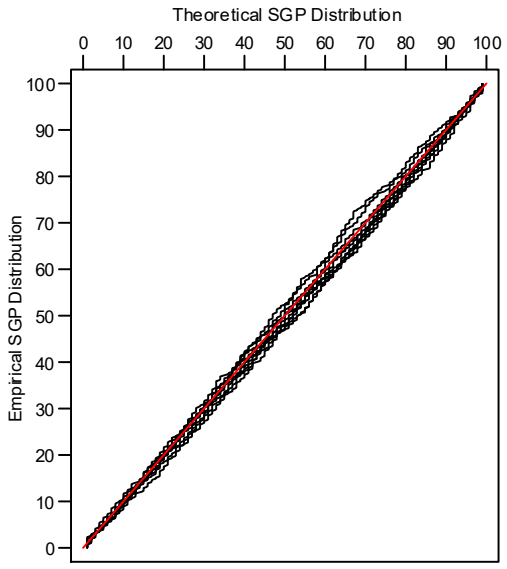
		Student Growth Percentile Range												
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[248,271]	85.2	7.4	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 27
	[271,277]	53.6	17.9	25.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 28
Highest OSS:	[416,422)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	16.0	72.0	N = 25
	[422,445]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	92.0	N = 25

Student Growth Percentile Range

Prior Scale Score Decile/Range *	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[227,287)	9.00	7.79	9.98	9.73	10.22	9.73	9.73	10.95	11.44	11.44	(10%)
2nd/[287,311)	8.17	11.88	9.90	11.63	7.92	10.40	10.15	9.90	8.17	11.88	(9.8%)
3rd/[311,326)	9.39	8.88	9.64	9.90	9.90	9.39	9.90	10.15	11.42	11.42	(9.6%)
4th/[326,339)	8.73	10.14	11.08	8.96	9.91	9.20	9.43	12.26	9.67	10.61	(10.3%)
5th/[339,348)	10.36	9.59	10.10	10.62	11.66	9.07	12.18	6.99	9.07	10.36	(9.4%)
6th/[348,358)	9.57	11.16	8.88	8.43	8.88	9.79	9.57	10.48	10.25	12.98	(10.7%)
7th/[358,366)	8.96	9.95	11.94	10.45	9.70	10.70	10.45	9.45	9.45	8.96	(9.8%)
8th/[366,374)	10.03	9.27	9.77	10.03	8.77	10.03	9.52	10.28	10.28	12.03	(9.7%)
9th/[374,383)	9.40	9.86	8.26	10.09	10.32	10.09	10.32	9.86	10.55	11.24	(10.6%)
10th/[383,406]	9.47	9.47	10.92	10.44	9.22	9.71	9.95	10.44	10.19	10.19	(10%)

*Prior score deciles can be uneven depending upon the prior score distribution

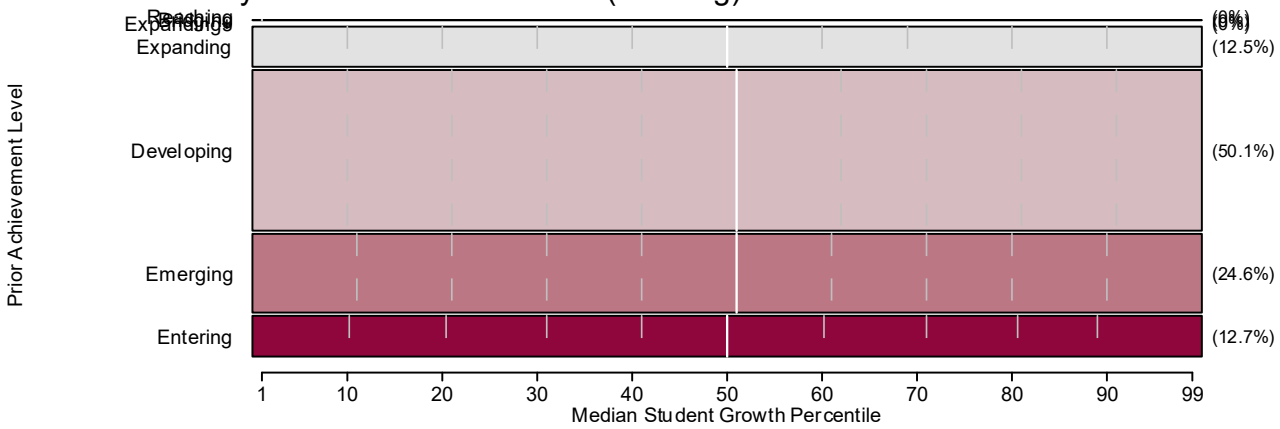
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Reading SGP, Grade 10 (N = 3,875)

SGP Deciles by Prior Achievement Level (Reading)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

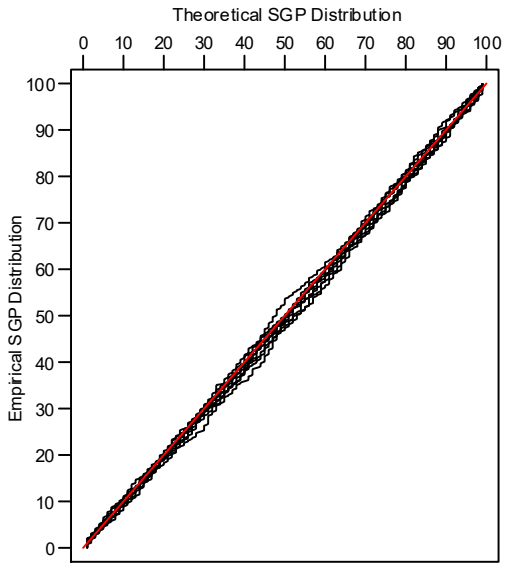
		Student Growth Percentile Range												
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[249,267)	84.6	7.7	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 26
	[267,274]	48.1	14.8	25.9	0.0	7.4	3.7	0.0	0.0	0.0	0.0	0.0	0.0	N = 27
Highest OSS:	[426,430)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	32.0	52.0	N = 25
	[430,472]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	96.2	N = 26

Prior Scale Score Decile/Range *

	Student Growth Percentile Range										
	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[250,304)	9.40	10.18	10.44	10.70	11.49	8.09	9.40	10.70	11.23	8.36	(9.9%)
2nd/[304,323)	9.28	8.49	7.43	11.94	11.14	9.55	10.88	9.02	11.14	11.14	(9.7%)
3rd/[323,336)	9.40	9.66	9.92	6.79	10.97	10.44	10.44	11.49	9.92	10.97	(9.9%)
4th/[336,346)	8.09	10.78	9.97	10.78	9.97	9.43	9.70	11.05	10.51	9.70	(9.6%)
5th/[346,354)	10.14	9.32	9.32	10.14	10.14	10.14	11.23	8.22	10.14	11.23	(9.4%)
6th/[354,362)	9.93	8.80	9.93	9.71	10.38	8.35	11.74	11.51	9.48	10.16	(11.4%)
7th/[362,369)	9.38	10.19	8.85	9.12	9.92	10.99	8.58	10.46	10.72	11.80	(9.6%)
8th/[369,377)	8.88	9.92	10.18	10.18	9.40	10.44	9.92	8.36	12.01	10.70	(9.9%)
9th/[377,387)	9.39	9.39	8.88	9.64	10.66	7.87	11.17	10.91	9.39	12.69	(10.2%)
10th/[387,431]	10.42	9.68	9.68	9.43	9.93	10.17	10.17	9.93	9.18	11.41	(10.4%)

*Prior score deciles can be uneven depending upon the prior score distribution

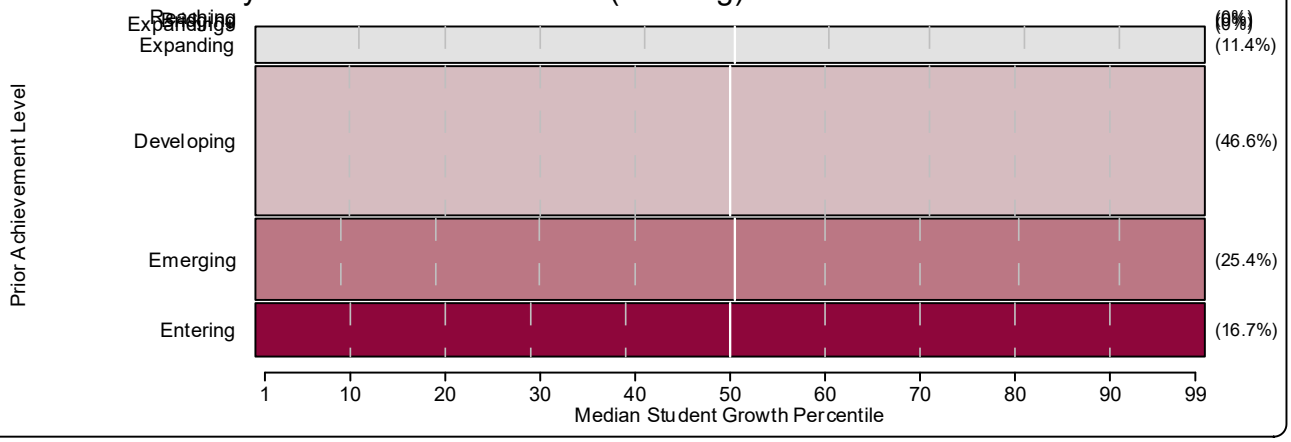
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Reading SGP, Grade 11 (N = 3,521)

SGP Deciles by Prior Achievement Level (Reading)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

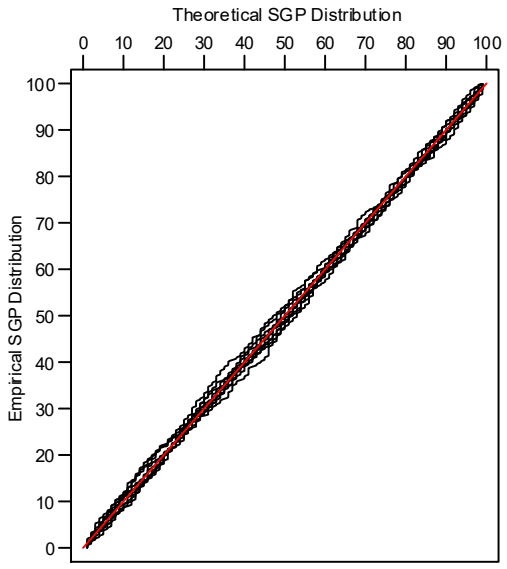
		Student Growth Percentile Range												
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[242,268)	69.2	19.2	3.8	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 26
	[268,276]	33.3	18.5	18.5	14.8	7.4	3.7	3.7	0.0	0.0	0.0	0.0	0.0	N = 27
Highest OSS:	[428,431)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	4.2	20.8	70.8	N = 24
	[431,465]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.8	86.2	N = 29

Student Growth Percentile Range

Prior Scale Score Decile/Range *	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[248,305)	9.17	10.32	10.32	9.17	9.17	10.03	10.89	11.46	10.03	9.46	(9.9%)
2nd/[305,324)	11.43	8.29	10.57	9.43	8.86	11.14	9.43	10.00	8.57	12.29	(9.9%)
3rd/[324,338)	10.80	11.08	10.51	9.66	9.66	7.39	10.23	8.81	9.66	12.22	(10%)
4th/[338,348)	8.07	10.09	10.37	7.78	10.95	12.39	10.09	9.22	10.37	10.66	(9.9%)
5th/[348,356)	10.32	7.74	10.60	10.32	8.02	10.03	10.03	11.75	9.74	11.46	(9.9%)
6th/[356,365)	10.80	11.36	8.31	10.25	10.25	9.14	8.03	11.08	11.36	9.42	(10.3%)
7th/[365,373)	10.40	9.54	11.27	8.38	8.96	10.98	10.12	9.25	7.80	13.29	(9.8%)
8th/[373,382)	8.52	9.94	10.51	10.51	11.08	11.08	9.94	9.38	9.66	9.38	(10%)
9th/[382,392)	11.14	10.56	9.68	9.97	7.92	9.68	9.09	9.97	10.56	11.44	(9.7%)
10th/[392,407]	8.56	10.43	9.63	9.36	11.50	9.09	9.63	9.36	10.70	11.76	(10.6%)

*Prior score deciles can be uneven depending upon the prior score distribution

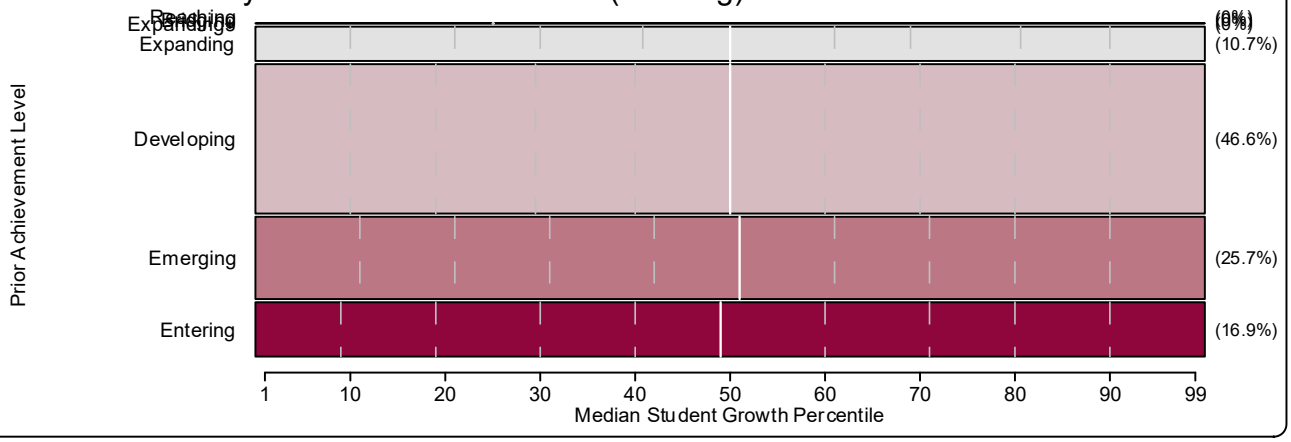
QQ-Plot: Student Growth Percentiles



Student Growth Percentile Goodness-of-Fit Descriptives

2026 Reading SGP, Grade 12 (N = 3,251)

SGP Deciles by Prior Achievement Level (Reading)



Ceiling / Floor Effects Test

Current Observed Score Extremes (Range)

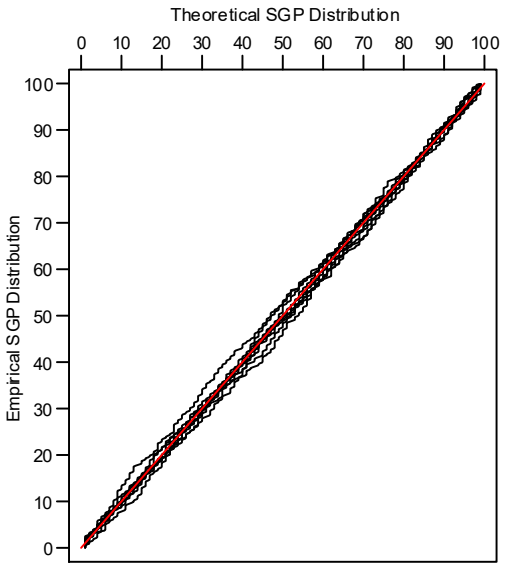
		Student Growth Percentile Range												
		1 to 5	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 94	95 to 99	
Lowest OSS:	[245,267]	81.8	4.5	13.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 22
	[267,272]	76.7	6.7	10.0	3.3	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N = 30
Highest OSS:	[423,428)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	28.0	60.0	N = 25
	[428,474]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.9	82.1	N = 28

Student Growth Percentile Range

Prior Scale Score Decile/Range *	1 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99	
1st/[255,311)	9.52	9.52	11.75	8.25	11.43	10.48	9.52	9.52	10.16	9.84	(9.7%)
2nd/[311,329)	10.00	9.06	10.00	11.56	8.44	8.44	8.75	12.19	9.06	12.50	(9.8%)
3rd/[329,343)	9.42	11.55	9.12	6.69	8.81	12.16	12.46	8.51	11.25	10.03	(10.1%)
4th/[343,353)	8.74	10.68	8.74	11.00	12.94	8.41	7.77	10.03	11.00	10.68	(9.5%)
5th/[353,361)	11.11	7.62	9.84	9.21	9.52	10.16	10.48	11.43	9.84	10.79	(9.7%)
6th/[361,370)	8.68	10.08	10.08	10.64	9.52	10.36	10.36	10.92	9.80	9.52	(11%)
7th/[370,378)	7.80	9.49	9.83	9.83	11.53	9.15	8.81	10.51	13.56	9.49	(9.1%)
8th/[378,387)	12.54	10.20	10.20	9.91	9.33	8.16	10.20	9.33	8.16	11.95	(10.6%)
9th/[387,397)	9.40	11.60	8.78	9.72	10.34	11.29	7.21	10.97	10.97	9.72	(9.8%)
10th/[397,417]	9.46	9.17	11.17	9.74	9.46	9.74	11.75	8.60	10.32	10.60	(10.7%)

*Prior score deciles can be uneven depending upon the prior score distribution

QQ-Plot: Student Growth Percentiles



7.2 Growth and Prior Achievement at the Student Level

Evidence of good model fit begins with a moderately high positive relationship between prior and current achievement, which suggests that growth is detectable and modeling it is reasonable to begin with. For the CRT, current year scores correlate with the prior year scores well. Grades 4 ELA has the lowest correlation at 0.795, which is still strong. Grade 5 mathematics have the highest correlation which is 0.876.

Table 5 Correlation between prior and current scale scores for CRT

Grade	Content Area	Correlation Current vs. Prior
4	ELA	0.795
	MATHEMATICS	0.868
5	ELA	0.808
	MATHEMATICS	0.876
6	ELA	0.817
	MATHEMATICS	0.870
7	ELA	0.822
	MATHEMATICS	0.875
8	ELA	0.814
	MATHEMATICS	0.844

The correlation between years in WIDA is still relatively high but is less than the academic subjects. It could be that students are simply growing in their acquisition of English each year faster than is displayed in ELA and math.

Table 6 Correlation between prior and current scale scores for WIDA

Grade	Correlation Current vs. Prior
1	0.644
2	0.743
3	0.780
4	0.768
5	0.791
6	0.720
7	0.785
8	0.803
9	0.737
10	0.762
11	0.762
12	0.679

Section 8: SGP Results

The median and mean of the growth percentiles are used as measures of central tendency that summarize the distribution as a single number. With perfect data fit, we expect the state median of all student growth percentiles in any grade/subject to be 50 because the data are norm-referenced across all students in the state. Median (and mean) growth percentiles well below 50 represent growth less than the state "average" and median growth percentiles well above 50 represent growth in excess of the state "average". Moreover, SGPs are expected to follow an approximately uniform distribution across a sufficiently large population. The histograms below illustrate the distribution of SGPs by grade and subject.

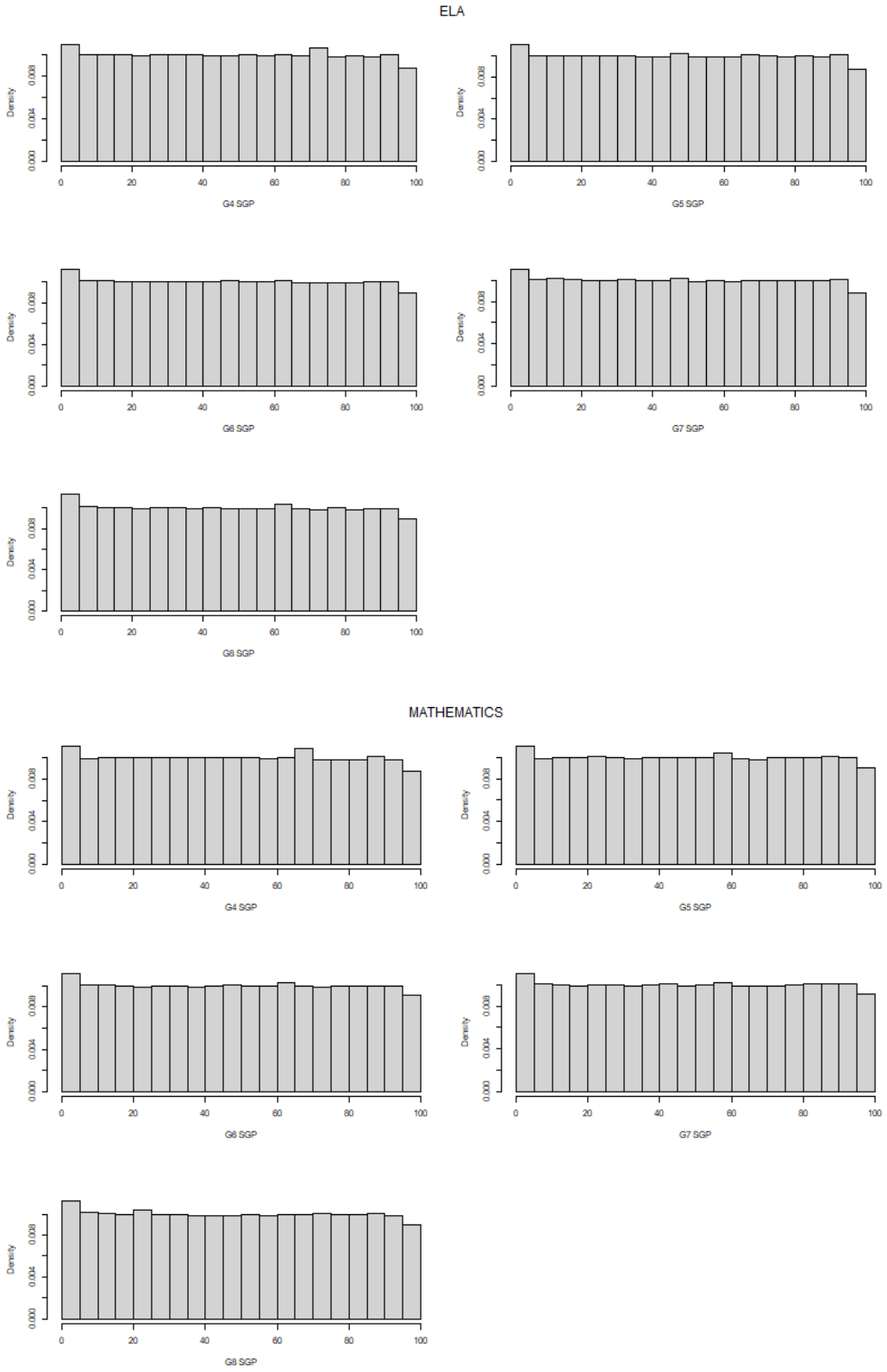
8.1 CRT Assessment

As shown in Table 7, The median student growth percentile is 50 across all grades and subjects, with the mean also approaching 50 in each case. In addition, Figure 1 shows that the histograms display nearly uniform distributions.

Table 7 Mean and Median SGP for students in each grade/subject

Grade	Content Area	N Count	Mean SGP	Median SGP
4	ELA	33,105	49.9	50
4	MATHEMATICS	33,060	49.9	50
5	ELA	32,224	49.9	50
5	MATHEMATICS	32,213	50.0	50
6	ELA	32,574	49.9	50
6	MATHEMATICS	32,496	50.0	50
7	ELA	32,704	49.9	50
7	MATHEMATICS	32,690	50.0	50
8	ELA	32,844	49.8	50
8	MATHEMATICS	32,862	49.8	50

Figure 1 Histogram of SGP for each content area/grade (SGP range: 1-99)



Correlation between prior scale score and SGP

Table 8 Correlation between SGP and prior scale scores

Grade	Content Area	Correlation SGP vs. Prior Scale Scores
4	ELA	-0.004
	MATHEMATICS	-0.004
5	ELA	0.003
	MATHEMATICS	-0.002
6	ELA	0.002
	MATHEMATICS	0.000
7	ELA	0.006
	MATHEMATICS	0.000
8	ELA	0.006
	MATHEMATICS	-0.002

The correlation between students' most recent prior achievement scores and their student growth percentiles is nearly zero for all grade/content areas. This is evidence that students of all ability levels, not just one group of students, have demonstrated growth.

8.2 WIDA Assessment

Median SGPs for WIDA are all between 50 and 51, which is nearly perfect. The histograms also display nearly uniform distributions.

Table 9 Mean and Median SGP for students in each grade/subject

Grade	N Count	Mean SGP	Median SGP
1	4,959	49.9	50
2	4,915	50.4	51
3	5,440	50.4	50.5
4	5,241	50.4	51
5	4,081	50.6	51
6	3,573	50.9	51
7	3,772	50.7	51
8	4,195	50.5	51
9	4,107	50.5	51
10	3,875	50.6	51
11	3,521	50.1	50
12	3,251	50.1	50

Figure 2 Histogram of SGP for each grade (SGP range: 1-99)

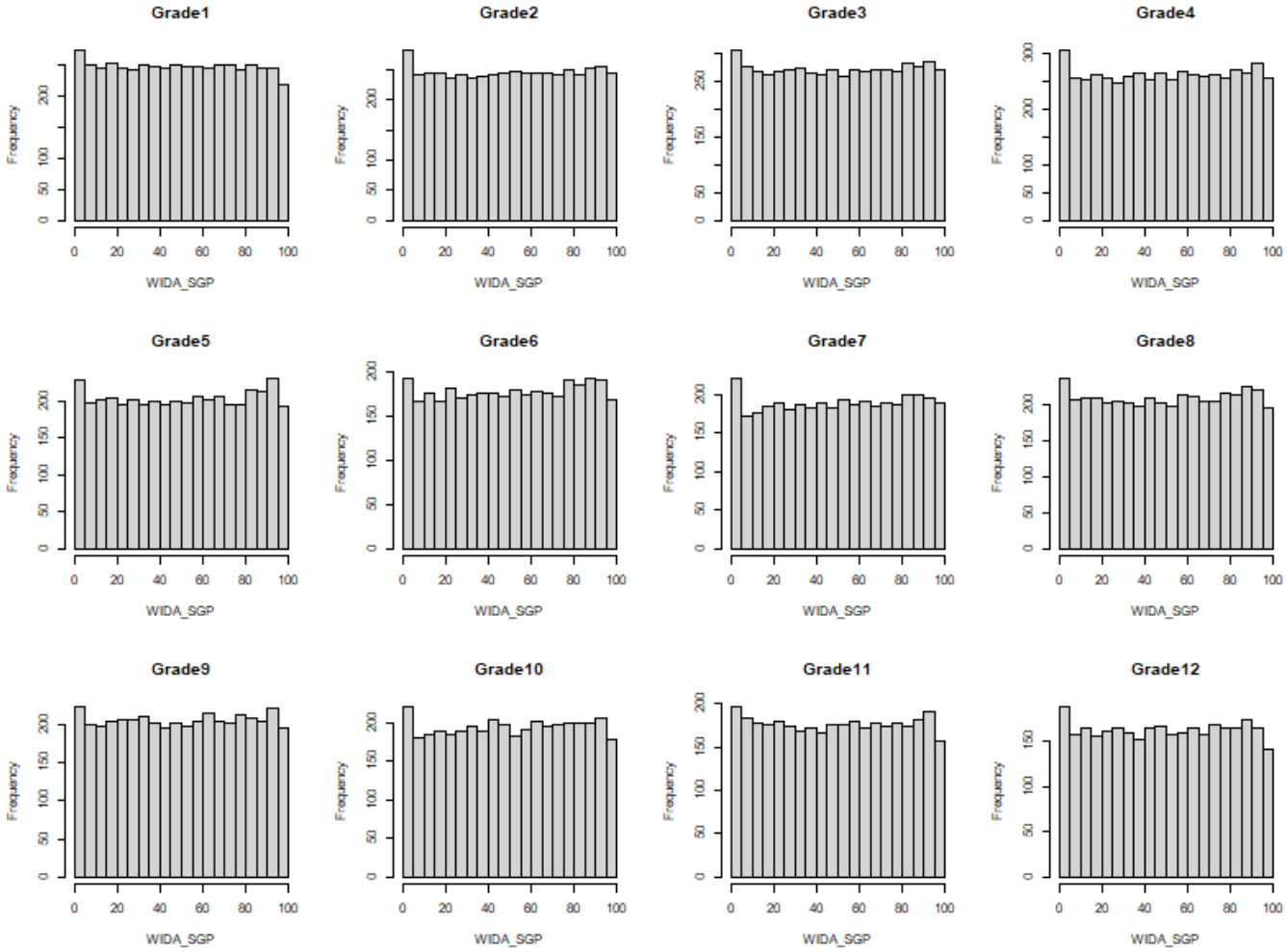


Table 10 Correlation between SGP and prior scale scores for WIDA

Grade	Correlation SGP vs. Prior Scale Scores
1	0.001
2	-0.026
3	-0.009
4	-0.027
5	-0.030
6	-0.024
7	-0.001
8	0.000
9	-0.010
10	0.006
11	0.003
12	0.000

The correlation between students' most recent prior achievement scores and their student growth percentiles is nearly zero for all grade/content areas. This is evidence that students of all ability levels, not just one group of students, have demonstrated growth.

Section 9: Student Growth Targets

9.1 CRT Assessment

Smarter Balanced assessments (SBAC) use the lagged projection "SGP_TARGET_3_YEAR" to calculate Adequate Growth Percentiles (AGP). The AGP for SBAC identifies how much a student needs to grow, in math and ELA, in order reach or maintain proficiency in three years or by the end of 8th grade.

9.1.1 Growth Target Summary Statistics

Table 11 displays the median/mean growth target by current year achievement level that students who are expected to demonstrate in order to reach or maintain proficiency. As expected, students in the lower achievement levels must demonstrate higher growth but even students in the highest achievement level must still demonstrate some degree of growth in order to maintain their status.

Table 11 Median and Mean Growth Targets by Subject and Current Achievement

Subject	Achievement Level	SGP Target	
		Median	Mean
ELA	Minimal Understanding	82	80.3
ELA	Partial Understanding	63	62.9
ELA	Proficient	40	40.3
ELA	Advanced	24	24.1
MATHEMATICS	Minimal Understanding	94	90.3
MATHEMATICS	Partial Understanding	71	70.1
MATHEMATICS	Proficient	47	47.7
MATHEMATICS	Advanced	23	24.5

9.1.2 Growth Targets and Current Achievement

Table 12 displays the relationship between current achievement and growth targets. As shown in the previous table, students with lower scale scores in the current year have higher growth targets. This is in line with expectations, given students in lower achievement levels would need to exhibit higher growth in order to reach proficiency.

Table 12 Student Level Correlations between Growth Target and Current Scale Score.

Grade	Content Area	Correlation Current vs. Target
4	ELA	-0.796
4	MATHEMATICS	-0.856
5	ELA	-0.821
5	MATHEMATICS	-0.869
6	ELA	-0.834
6	MATHEMATICS	-0.859
7	ELA	-0.829
7	MATHEMATICS	-0.845
8	ELA	-0.813
8	MATHEMATICS	-0.803

9.2 WIDA

WIDA uses the lagged projection "SGP_TARGET_5_YEAR" to calculate Adequate Growth Percentiles (AGP). The AGP for WIDA identifies how much a student needs to grow in order reach or maintain proficiency in 5 years or by the end of 12th grade.

9.2.1 Growth Target Summary Statistics

Table 13 Median and Mean Growth Targets by Current Achievement

Achievement Level	SGP Target	
	Median	Mean
L1	86.0	81.7
L2	81.0	77.2
L3	74.0	70.1
L4	63.0	58.3
L4.5	46.0	49.5
L5	39.0	43.9
L6	33.5	39.7

9.2.2 Growth Targets and Current Achievement

Table 14 Student Level Correlations between Growth Target and Current Scale Score.

GRADE	Correlation Current vs. Target
1	-0.656
2	-0.721
3	-0.754
4	-0.708
5	-0.574
6	-0.701
7	-0.734
8	-0.763
9	-0.692
10	-0.634
11	-0.531
12	-0.374

Appendix

For more technical information regarding student growth percentiles, please refer to the following resources:

- Center for Assessment. "Calculation of Student Growth Percentiles." GitHub. Accessed September 16, 2024. https://github.com/CenterForAssessment.
- U.S. Department of Education. A Technical Overview of the Student Growth Percentile Methodology. Accessed September 16, 2024. https://ed.gov.
- R Development Core Team. SGP: Student Growth Percentiles & Percentile Growth Trajectories. Version 2.1-0.0. R Project for Statistical Computing, 2023. https://cran.r-project.org/web/packages/SGP/SGP.pdf.
- Rdrr.io. SGP: Student Growth Percentiles & Percentile Growth Trajectories, Version 2.1-0.0 from CRAN. Accessed September 16, 2024. https://rdrr.io.

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Damien W. Betebenner, and A. V. Iwaarden. 2011. *SGP: Student Grwoth Percentiles & Percentile Growth Trajectories.* https://cran.r-project.org/web/packages/SGP/SGP.pdf.

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