

# Guide to Interpreting State-Provided Principal Growth Scores for Grades 4-8 in 2022-23

PREPARED FOR THE NEW YORK STATE EDUCATION DEPARTMENT BY EDUCATION ANALYTICS, INC.  
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## The Role of Growth Scores in Annual Performance Reviews

New York State teachers of English language arts (ELA) and mathematics in grades 4-8 including teachers of grade 8 students who take the Algebra I Regents examination, and their principals will receive State-provided growth scores based on 2022-23 State tests. The growth scores are **for advisory purposes only** pursuant to Chapter 59 of the Laws of 2019, which amended the Student Performance Category requirements of Education Law §3012-d. These growth scores describe how much students are growing academically in ELA and mathematics (as measured by the New York State tests) compared to similar students statewide.

## Development of Growth Measures

The Regents Task Force on Teacher and Principal Effectiveness—comprising representatives from key stakeholder groups, including **educators, educator unions, and educator professional organizations**—provided input into the development of APPR regulations and the design of the current State-provided growth scores. In addition, a technical advisory committee of leading experts in the nation reviewed the technical accuracy and utility of the statistical methodology used to calculate scores.<sup>1</sup>

Staff assignment data that are submitted by districts are used to link principals to specific grade levels within a school. In schools where two (or more) principals are assigned to different grade levels, those principals will have growth scores that include only the grade levels of their assignments.

## Why Growth?

## Where and when will data be available?

State-provided growth scores for 2022-23 are expected to be distributed to districts in November 2023.

## Where can I get more information?

Additional information is available on the [nysed.gov State-Provided Growth Measures Toolkits](https://nysed.gov/State-Provided-Growth-Measures-Toolkits) page.

Detailed guidance documents on [New York's law and regulations](#), and additional information on APPR plans is available under [Education Law §3012-d](#).

All students enter their teachers’ classrooms at differing levels of academic proficiency or achievement. One way to measure proficiency is student performance on standardized assessments. By measuring the amount of progress, or “academic growth” a student makes during a given school year on these assessments, we can begin to understand the influence of that particular school year experience on student learning.<sup>2</sup> By measuring academic **growth** in addition to **proficiency**, we can identify strengths and gaps in student progress and help principals to better support students who have a wide range of academic needs.

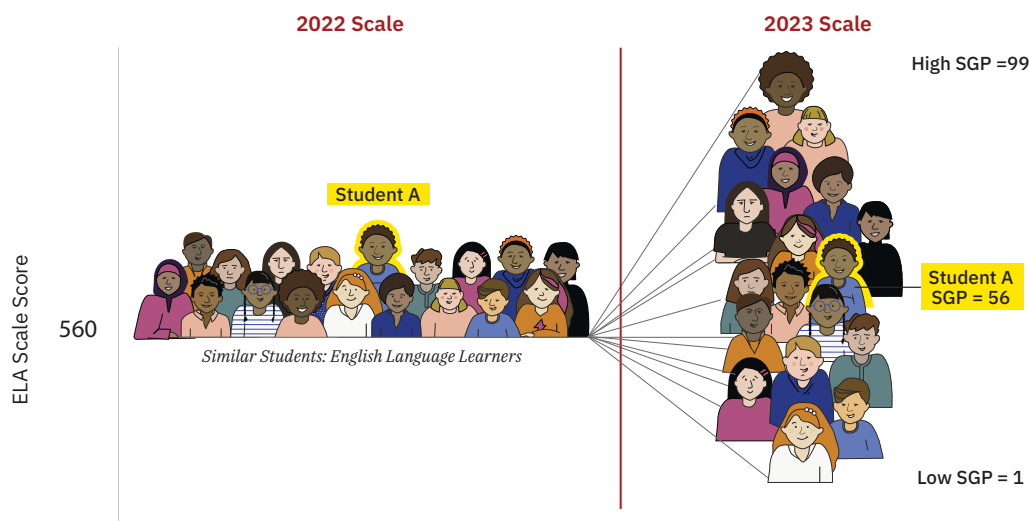
Growth measures for principals in grades 4-8 provide information on the growth of students for which they are responsible compared to students with similar characteristics across the state. This information can inform principals’ understanding of how, on average, their students grew compared to their peers.

## How Does New York State Measure Student Growth?

The simplest way to measure growth would be to subtract a student’s test score in a prior year from their test score in the current year (e.g., test score in spring 2023 minus test score in spring 2022). However, New York State’s tests are not designed to allow for this kind of calculation because the test scores are not comparable across grade levels. Nor would this approach account for a student’s starting point and other background characteristics. Instead, New York State’s approach is to compare the current year scores of similar students—that is, of students who had the same prior test scores and other characteristics—in order to measure growth while accounting for students’ starting levels of achievement.<sup>3</sup>

This method, illustrated in **Figure 1**, shows Student A (highlighted in yellow) with an ELA score of 560 in 2022.<sup>4</sup> Compared to other students who also had scores of 560 in 2022, Student A’s ELA test score in 2023 was in the middle range when compared to those same students. We can describe Student A’s growth relative to similar students as a “**student growth percentile**” or **SGP**. In this example, because Student A’s SGP is 56 (Student A scored 10th out of 18 similar students; 10 divided by 18 equals 56% or an SGP of 56), it means that this student achieved an ELA test score as high or better than 56 percent of other students with the same starting point and characteristics. SGPs range from 1-99 and always tell you where a student stands in a distribution of similar students (specifically, what share of students performed the same as or better than). New York State’s growth model calculates SGPs separately by subject and grade.

**FIGURE 1. MEASURING STUDENT GROWTH COMPARED TO SIMILAR STUDENTS**



<sup>2</sup> Education Law §3012-d(2)(c) defines “student growth” as: “the change in student achievement for an individual student between two or more points in time.”

<sup>3</sup> This “comparison” is done through a regression modeling approach. For more details, please see the Growth Model for Educator Evaluation 2021-22 Technical Report, which is available on the [NYSED Growth Measures Toolkits](#) page. The 2022-23 Technical Report will be available on the NYSED website in the fall of 2023.

<sup>4</sup> Note that the sample scaled scores are for illustrative purposes only.

## What Assessments Are Used to Determine Grades 4-8 ELA and Math Growth Scores?

Students must have an immediate prior year score in the same subject in order to receive an SGP. Typically, students may also have up to two additional prior achievement scores, or pretests included as predictors in the model, if available. However, in 2022-23, only single prior year assessment results were used.

**TABLE 1. ASSESSMENTS AVAILABLE FOR GROWTH SCORES**

		Current Year Assessment				
		Grade 4	Grade 5	Grade 6	Grade 7	Grade 8/ Algebra I
Prior Years Assessment, Same Subject	Grade 3	REQUIRED				
	Grade 4		REQUIRED			
	Grade 5			REQUIRED		
	Grade 6				REQUIRED	
	Grade 7					REQUIRED

## Factors Used to Define “Similar Students” in the Growth Model

For educator growth scores, we further refine the definition of similar students to include additional factors known to impact student performance in order to better isolate the impact of a student’s teacher on their performance. In the State growth model, the term “similar students” means not only students with the same academic history, but also students with the same English language learner (ELL), economic disadvantage, or disability statuses at both the student and classroom levels. **Table 2** displays specific factors for each of these categories. We account for whether a student is an ELL, for example; we also account for the percentage of ELL students in a student’s ELA or mathematics course. This type of factor is intended to address peer effects, acknowledging that it may be a different experience for a student to be in a class or course with many ELL students (and a different job for an educator with many ELL students) than it is to be in a course with fewer ELL students.

— TABLE 2. FACTORS USED TO DEFINE “SIMILAR STUDENTS”

Categories	Factors
<b>Academic History</b>	<ul style="list-style-type: none"> <li>• Prior-year test score, same subject*</li> <li>• Prior-year test score, different subject</li> <li>• Retained in grade</li> <li>• Average prior achievement and range around average prior score in student’s course (same subject)</li> <li>• New to school in a non-articulation year (e.g., entered middle school as an 8th grader)</li> </ul>
<b>English Language Learners</b>	<ul style="list-style-type: none"> <li>• Student’s ELL status</li> <li>• Percentage of ELLs in a student’s <b>course</b></li> <li>• New York State English as a Second Language Achievement Test (NYSESLAT) scores</li> </ul>
<b>Economic Disadvantage</b>	<ul style="list-style-type: none"> <li>• Student’s economic disadvantage status</li> <li>• Percentage of economically disadvantaged students in student’s <b>course</b></li> </ul>
<b>Students with Disabilities</b>	<ul style="list-style-type: none"> <li>• Student’s disability status</li> <li>• Student’s status for spending less than 40% of time in general education setting</li> <li>• Percentage of students with disabilities in student’s <b>course</b></li> </ul>

\* Due to cancelation of the 2019–20 grades 3–8 ELA and math assessments and the particularly low participation in the 2020–21 assessments, test scores prior to the 2021–22 school year shall not be used to generate student growth scores. The 2022–23 growth results will include only one prior year assessment and the 2023–24 growth results will include up to two prior year assessments.

## How is Student Growth Attributed to Principals?

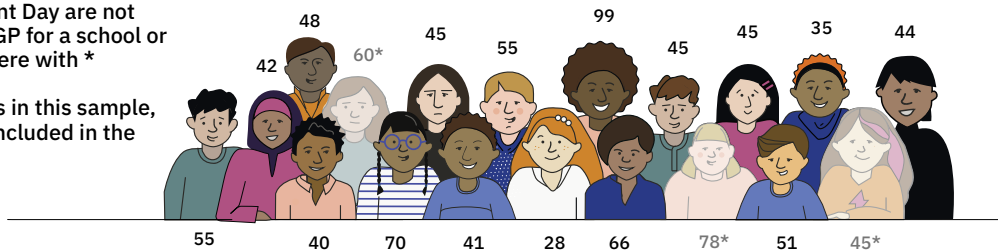
A school's or principal's State-provided growth rating (the HEDI rating) and growth score (0-20) are based on the "mean growth percentile" or MGP, the aggregate measure of student growth in the principal's school. An MGP is calculated by finding the average of all the SGPs for students attributed to a school or principal, across grades and subjects.

**Figure 2** illustrates how an MGP is calculated for a school or principal by averaging SGPs of students. Students who do not meet the continuous enrollment requirement (i.e., those who were not enrolled on BEDS day and on the first day of the State assessment administration) are not included in a school's or principal's MGP.<sup>5</sup> Finally, an MGP is reported only if it is based on at least 16 SGPs.

**FIGURE 2. EXAMPLE OF STUDENTS WHO COUNT IN A SCHOOL'S OR PRINCIPAL'S MGP: SAMPLE DATA**

Students who are not enrolled on BEDS - Assessment Day are not included in the MGP for a school or principal shown here with \*

Of the 19 students in this sample, 16 students are included in the MGP Calculation.



To determine a school's MGP, we find the average of the SGPs for all students who were enrolled on BEDS day and the first day of State Assessments.

**Step 1:**

Sum The Scores for Students Included in the MGP Calculation

$$55+42+48+40+70+45+41+55+28+66+99+45+45+35+51+44 = 809$$

**Step 2:**

Divide Step 1 Result By the Total Number of Students Included in the MGP Calculation

$$809/16 \text{ students} = 50.5$$

**50.5 = MGP of the school**

The school described in Figure 2 has an MGP of 50.5, meaning that, on average, students who were enrolled in this school on BEDS Day performed as well as or better than about 50.5 percent of similar students.

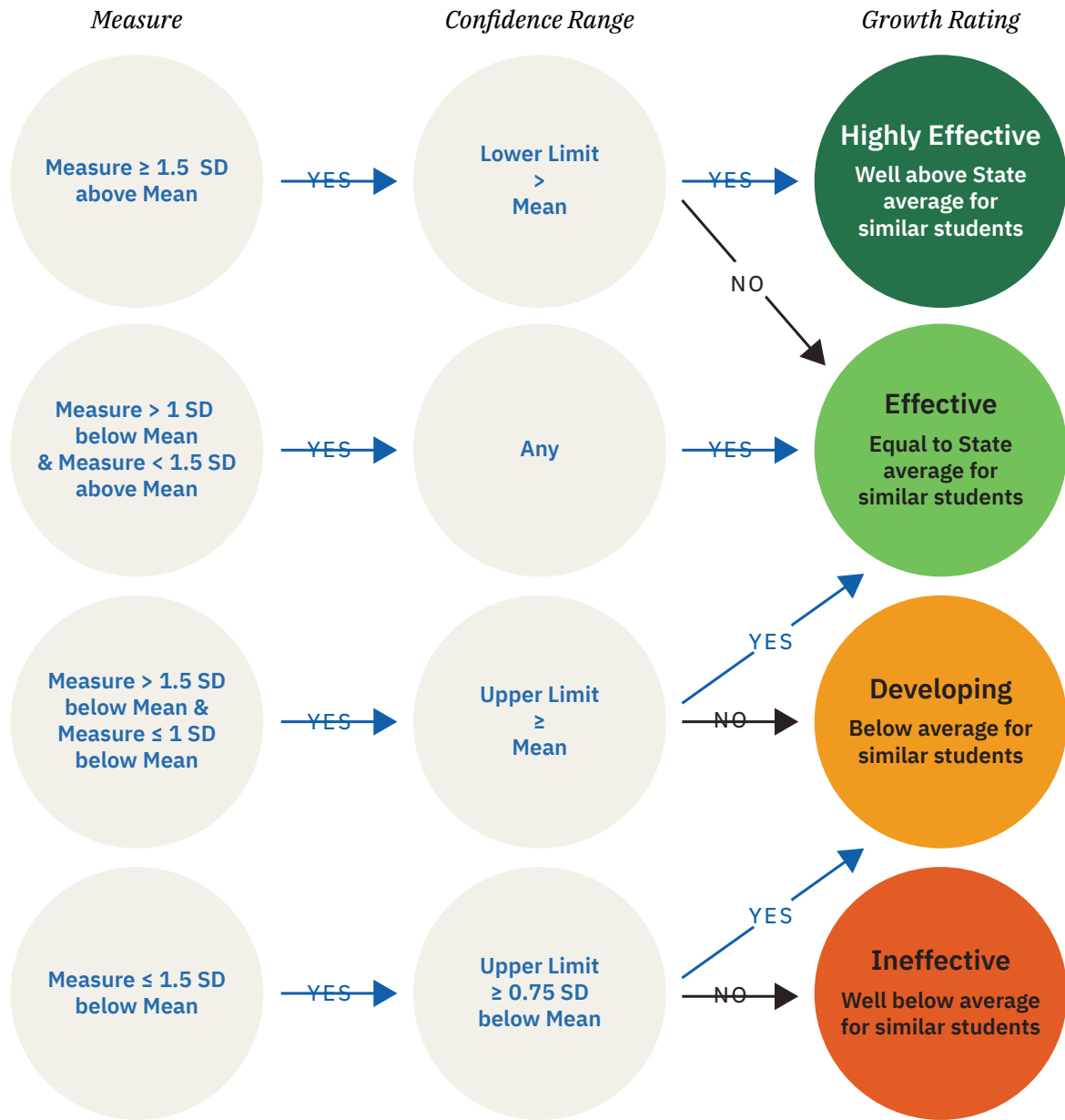
To determine a principal's MGP, we find the average of the SGPs for all students who were enrolled on BEDS day and assessment day and who were in the grade levels to which that principal was assigned, using data submitted by the district, BOCES, or charter school. In this example, there is just one principal for the entire school and therefore the principal's MGP is also 50.5. If, however, two principals were assigned to this school (for example, one to oversee grades K-5 and one to oversee grades 6-8), we would average the SGPs only for students in the grade levels to which the principal was assigned.

For purposes of principal growth scores, we calculate each MGP based on the average of all SGPs in our definition of similar students (including academic history, English language proficiency, economic disadvantage, and disability status). We refer to this MGP as the adjusted MGP. Adjusted MGPs are used to determine growth ratings (HEDIs) and scores. Unadjusted MGPs that take into account only students' prior achievement are also reported, for informational purposes only.

<sup>5</sup> Note that student linkage rules are different and therefore MGPs are computed differently for teachers than they are for principals. Specifically, SGPs for students who were enrolled in a teacher's course for a longer period of time and who attended more regularly count more heavily in a teacher's MGP than those who were enrolled and attended for less time. Students with less than 60 percent course enrollment are not included in a teacher's MGP. For more details and an example, see the Teacher's Guide to Interpreting State-Provided Growth Scores for Grades 4-8, which is available on the [NYSED Growth Measures Toolkits](#) page.



**FIGURE 4. HOW MGP IS CLASSIFIED INTO 3012-D GROWTH RATING FOR PRINCIPALS WITH GRADES 4-8**







## Growth Ratings for Schools or Principals Serving Grades 4-8 & 9-12

To determine a final State-provided growth rating for schools or principals who serve grades 4-8 and grades 9-12, growth ratings and scores are determined for grades 4-8 and grades 9-12 separately and then combined.<sup>6</sup> The grades 4-8 measure growth rating is determined using the process shown in Figure 4. Because multiple grades 9-12 measures exist, growth scores for each grades 9-12 measure are averaged together and then weighted by the number of students in each measure to determine an overall grades 9-12 growth rating and score. An overall growth subcomponent rating that includes results for both grades 4-8 and grades 9-12 students is then computed in the same manner by averaging grades 4-8 and grades 9-12 growth scores by the number of students in each measure and finding the final rating. **Figure 6** shows an example of this process.

**FIGURE 6. DETERMINING GROWTH RATINGS FOR SCHOOL & PRINCIPALS WITH GRADES 4-8 AND 9-12 GROWTH MEASURES**

	Growth Rating	Growth Score	Number of Students or Student scores in Measure	Percentage of Students (Measure Weight)	Score X Measure Weight	Weighted Score
Grades 4-8 Growth Score	Effective	16	435	18%	$16 \times 0.18$	2.9
Grades 9-12 Growth Score	Effective	15	1,970	82%	$15 \times 0.82$	12.3
Grades 4-12 Overall Growth Score	Effective		2,405	100%		15

*Use the final growth subcomponent score (in this case, 15) to find the final growth subcomponent rating (in this case, Effective).*

*Sum the weighted score from 4-8 (in this case, 2.9) and 9-12 (in this case, 12.3) to get overall growth subcomponent score (in this case, 15).*

### Information Available in District Files

State-provided growth scores are made available to districts by September each school year or as soon as practicable thereafter. Results are provided in separate files for teachers, principals, and schools. These files contain the following information:

**Number of Student Scores:** The number of SGPs included in an MGP.

**Percent of Students Above the State Median:** Percentage of students above the State median SGP in the relevant subject and grade, using adjusted student SGPs.

**Unadjusted MGP (Principal or School):** The mean of the SGPs for students linked to a principal (or school) based on prior achievement scores only, without taking into consideration ELL, students with disabilities, or economic student characteristics.

**Unadjusted MGP (Teacher):** The weighted mean of the SGPs for students who are attributed to a teacher, based on prior achievement scores only, without taking into consideration ELL, students with disabilities, or economic disadvantage student characteristics. The weighted mean is calculated based on the amount of time students were enrolled in and attended a course with a teacher.

**Adjusted MGP (Principal or School):** The mean of the SGPs for students linked to a principal (or school) based on academic history as well as ELL, students with disabilities, and economically disadvantaged student characteristics. This MGP is used to determine a principal's (or school's) State-provided growth score and growth rating.

<sup>6</sup> Details on measures and results for schools and principals of grades 9-12 can be found in the Principal's Guide to Interpreting State-Provided Growth Scores for Grades 9-12, which is available on the [NYS ED growth measures toolkits](#) page.

**Adjusted MGP (Teacher):** The weighted mean of the SGPs for students attributed to a teacher that are based on all factors used to define “similar students” (see Table 2 on page 4). This MGP is used to determine a teacher’s State-provided growth score and growth rating.

**Upper Limit and Lower Limit:** Highest and lowest MGP for a 95-percent confidence range.

**Growth Rating:** Growth rating describes the educator’s HEDI performance on the State-provided growth subcomponent.

**Growth Score:** Using scoring bands for implementation of Education Law §3012-d, a growth score of 0 to 20 points is assigned to each educator based on their overall MGP within each growth rating category.

Districts are also provided with student roster files and MGPs disaggregated by grade and subject. These files show which students were included in an educator’s MGP along with information about each student. These rosters display information about students who were linked to educators but were not included in the calculation of the educator’s MGP. Students who do not meet the minimum enrollment requirements will have a detailed exclusion reason (this will be missing if the student was included).

For students who were included in an educator’s growth score (exclusion reason of “missing”), the following information will be provided:

- Year, which indicates the end of the school year to which the information applies
- District, school, and educator (teacher or principal) name and ID
- Student name and ID
- Assessment subject and grade (“Item Description”)
- Student background characteristics (see box below)
- 2023 State test score and prior year State test score
- SGP (unadjusted and adjusted)

**Student Background Characteristics include:**

- **Disability:** Students identified as having disabilities, based on district, BOCES, or charter school-provided information
- **ELL:** Students who have been identified as English language learners in accordance with Part 154 of the Commissioner’s Regulations, based on district, BOCES, or charter school-provided information<sup>7</sup>
- **Economic disadvantage:** Students whose families participate in economic assistance programs such as free or reduced-priced lunch programs, Social Security Insurance, food stamps, foster care, refugee assistance, earned income tax credit, the Home Energy Assistance Program, Safety net Assistance, the Bureau of Indian Affairs, or Temporary Assistance for Needy Families, based on district, BOCES, or charter school-provided information

<sup>7</sup> See [Part 154 of the Commissioner’s Regulations](#).

## Questions for Consideration

The following are questions to consider as you review your State-provided growth score information:

- How much did my students grow, on average, compared to similar students?  
Is this higher, lower, or about what I would have expected? Why?
- How does this information about student growth align with information about my leadership practice received through observations or other measures? Why might this be?
- How do my MGPs in these subjects compare? Why might they be similar or different?
- How do my MGPs compare across grade levels? Why might they be similar or different?

## Information or Additional Questions

If you have questions about your data, what the scores are used for, or why you received the score that you did, please contact your school's superintendent or district data personnel for assistance. If unable to obtain answers to questions, contact [evaldata@nysed.gov](mailto:evaldata@nysed.gov).

## Disclaimer

If any discrepancies exist between the language in these materials and the Statute, Regulations, or APPR Guidance, the Statute, Regulations, or APPR Guidance prevail.