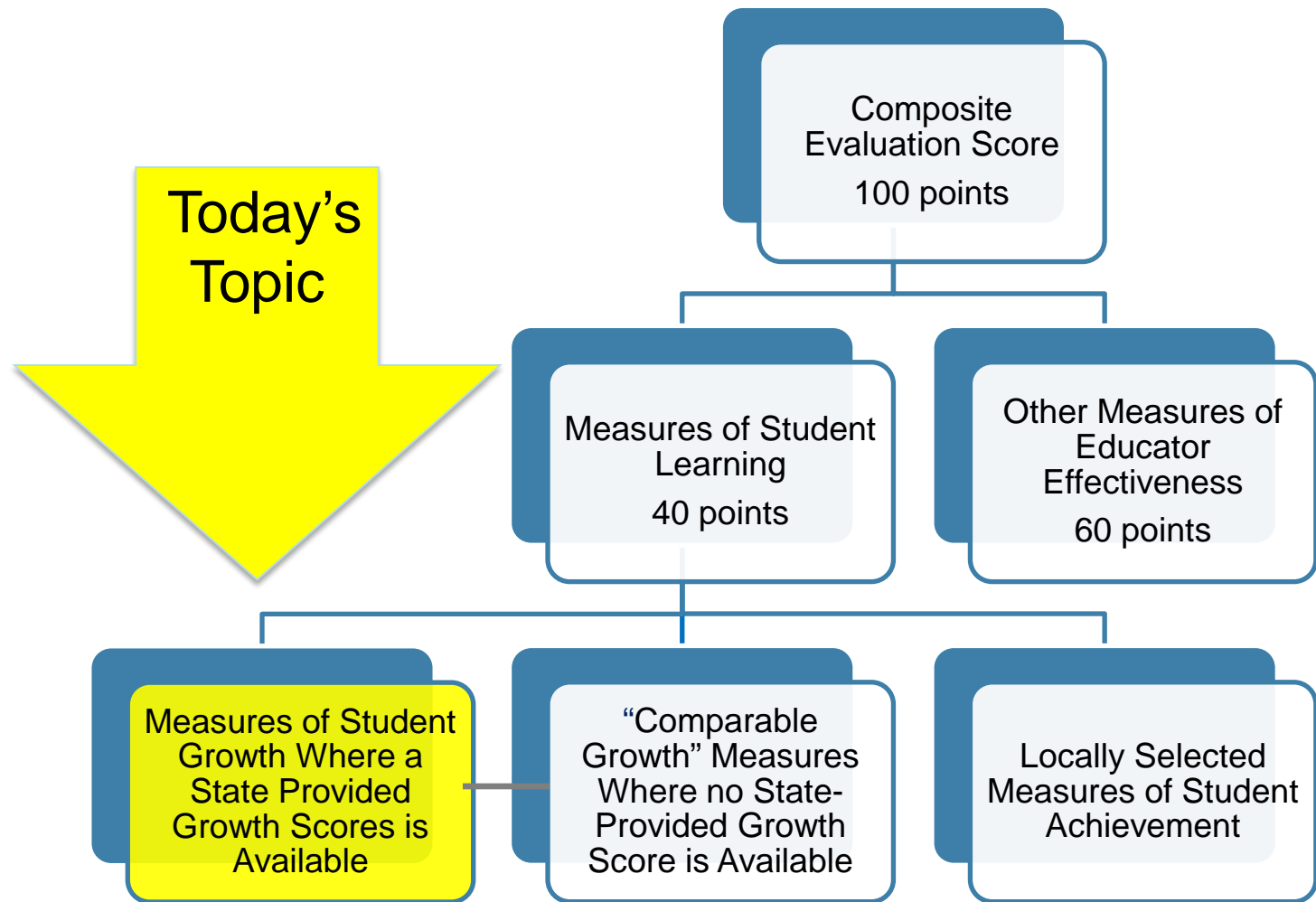


Altmar Parish Williamstown Central Schools

**Understanding Teacher and
Principal Growth Scores**

4 – 8 Math and ELA

New York State Multiple Measures Evaluation System



Student Growth Percentiles (SGPs)

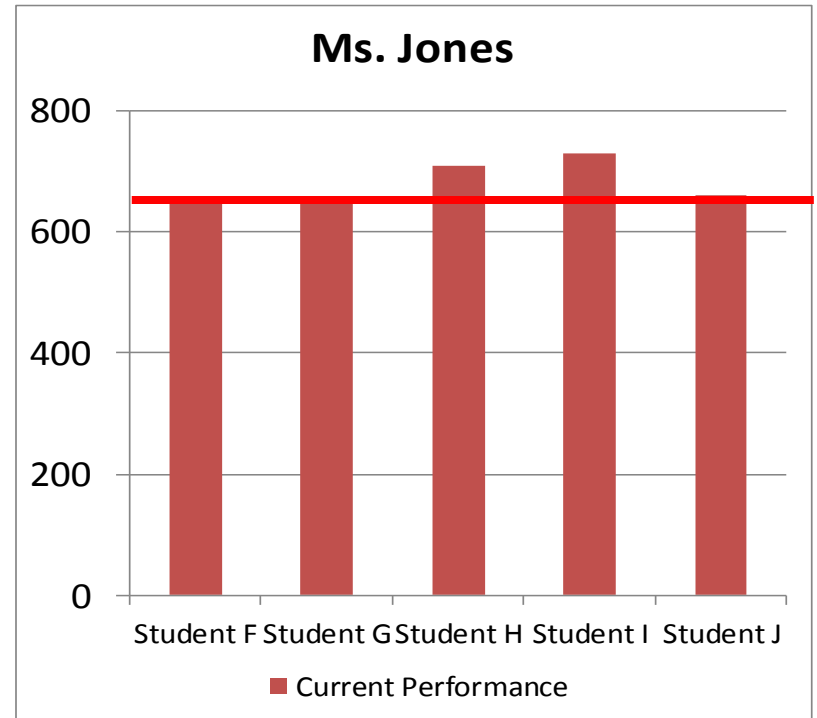
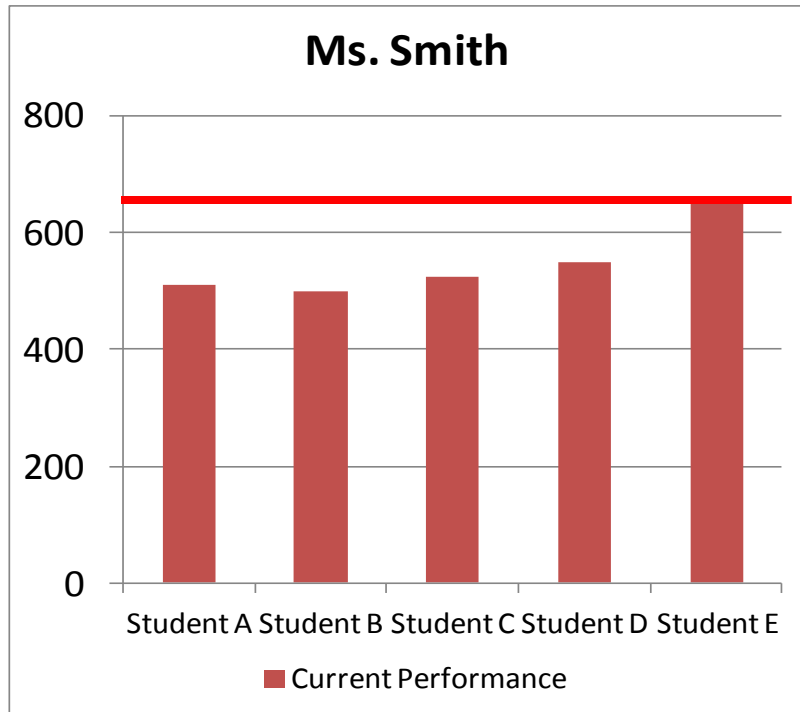
By the End of This Section....

- **You should be able to:**
 - Explain why the State is measuring student growth and not achievement for purposes of educator evaluation
 - Describe how the State is measuring growth compared to similar students
 - Define a student growth percentile

Why Growth and Not Proficiency?

One way to compare student performance on tests across teachers' classrooms is to observe student proficiency at the end of the year.

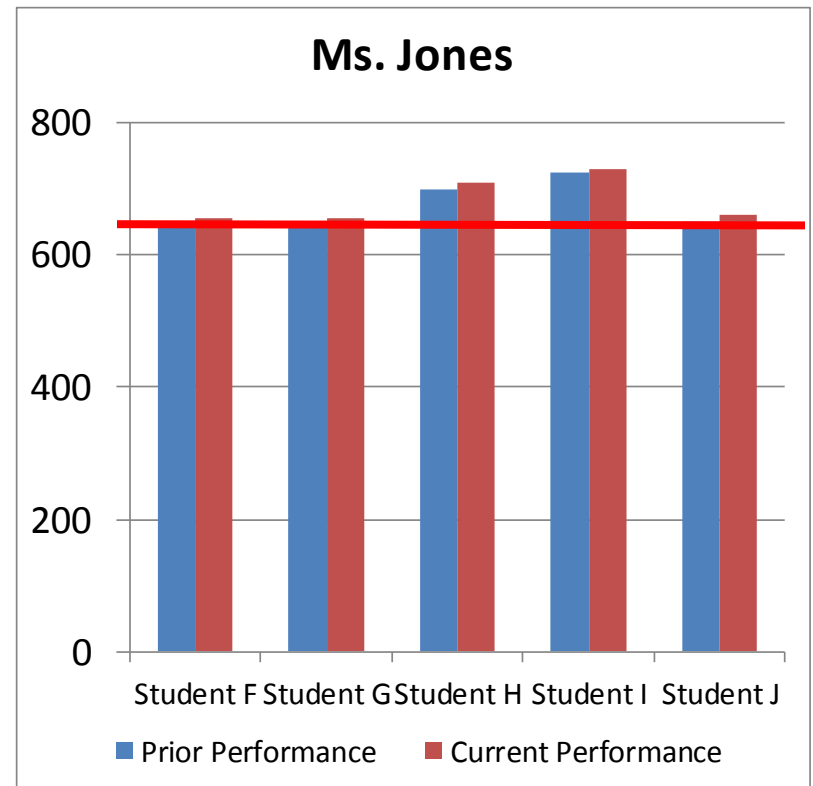
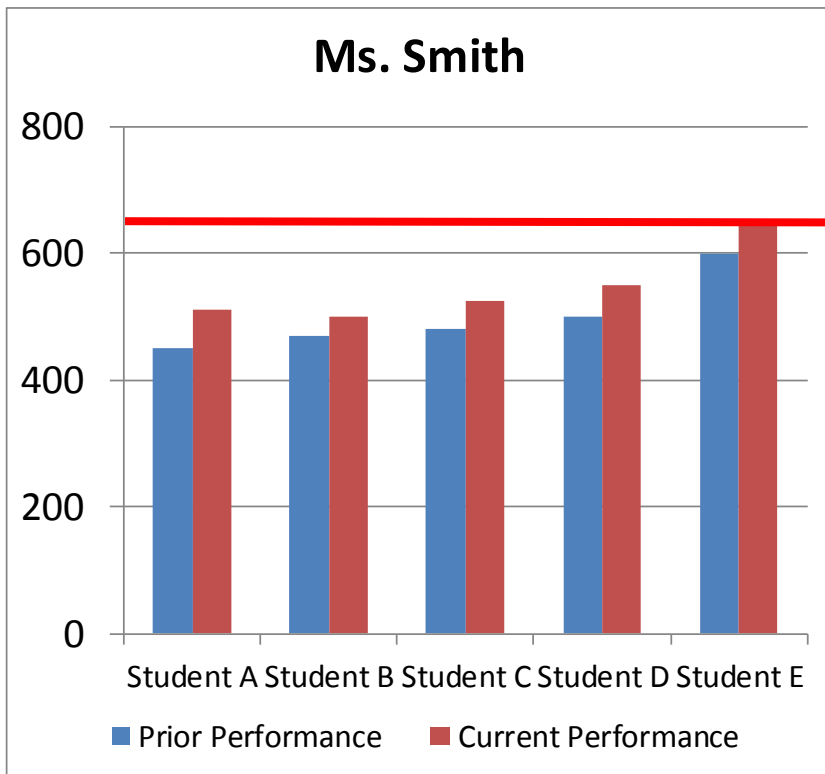
Based on this information alone, whose students had a better year?



— Proficiency

Why Growth and Not Proficiency?

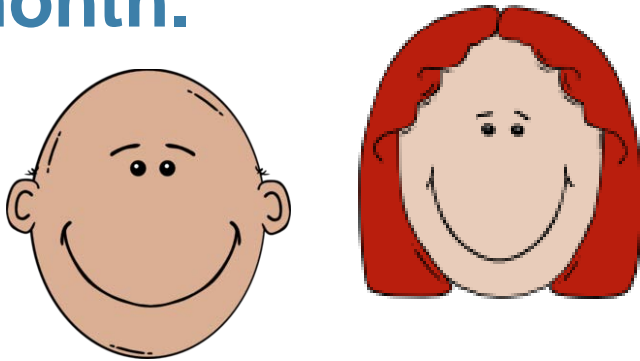
By adding in prior performance (blue bars), we can see how much a student grew from last year to this year. **With this additional information, now whose students had a better year?**



— Proficiency

How to Measure Growth?

Example: Her hair grew one inch last month.

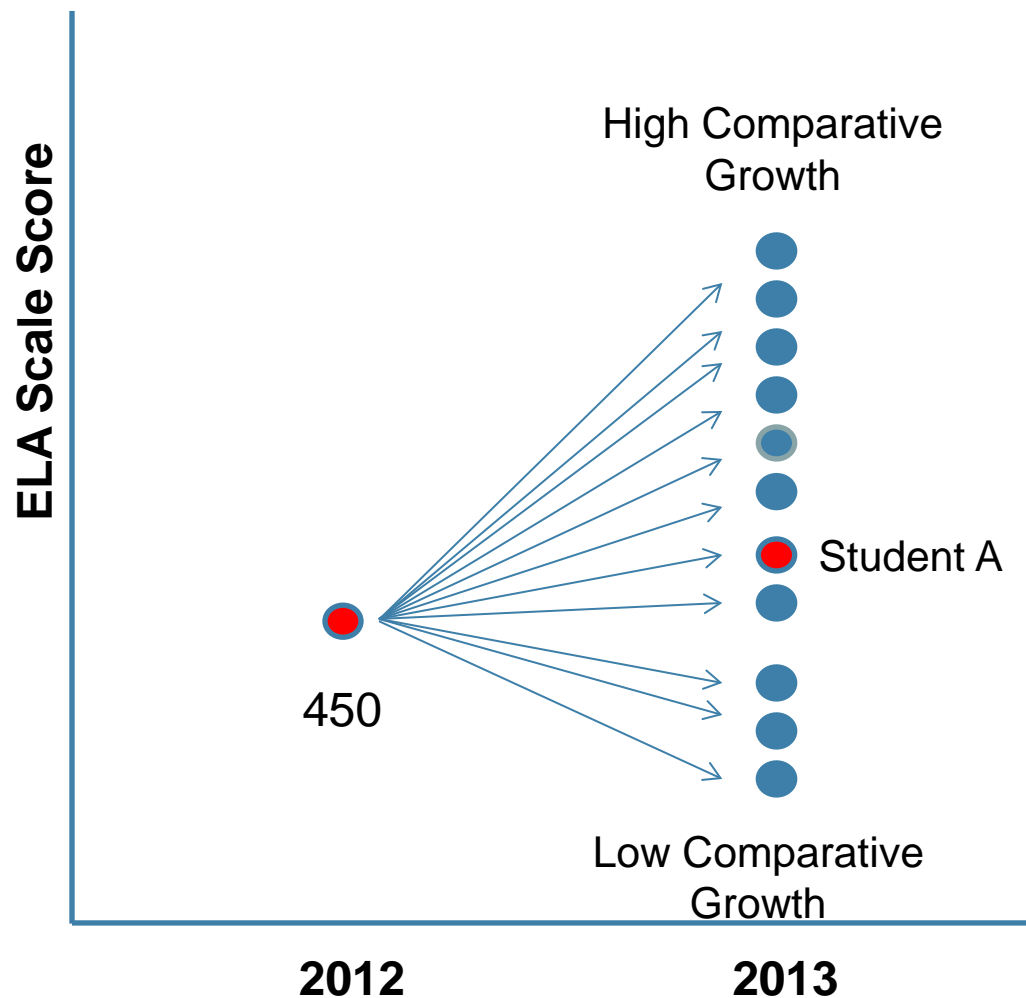


So did his.

- Whose hair growth seems more impressive?

- Starting point matters.
- Just knowing how much growth happened may not be enough.
- The State growth system provides equitable comparisons.

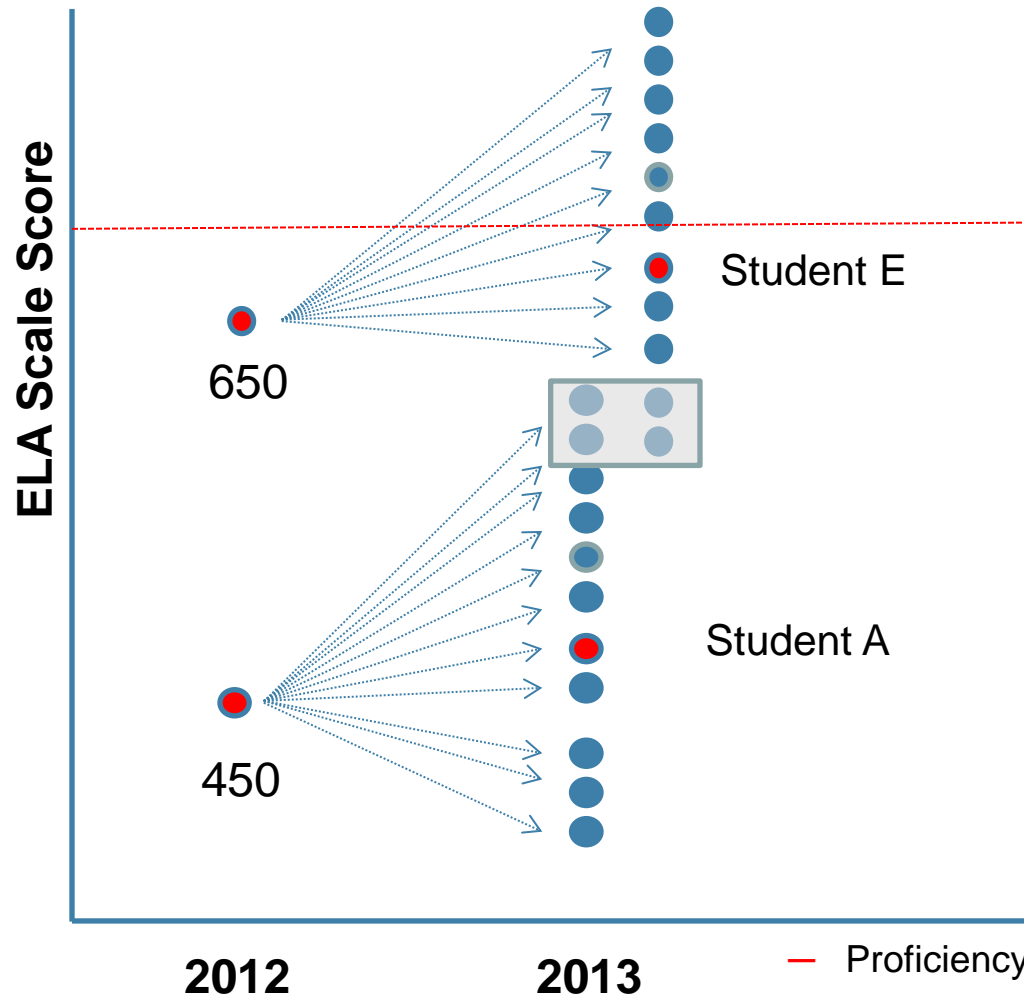
Student A's Current Year Performance Compared To "Similar" Students



If we compare student A's current score to all other students across the state who had the same prior score (for example 450), we can measure her growth relative to all other students who had that same scaled score last year.

The state refers to the differences in comparative growth as a student growth percentile (SGP)

Student E's Current Year Performance Compared To "Similar" Students



We can make similar comparisons for other students with different prior test scores. Notice that students with relatively low prior scores, like student A, can have high comparative growth, as can students with high starting scores, like student E.

Students with high comparative growth may not reach proficiency.

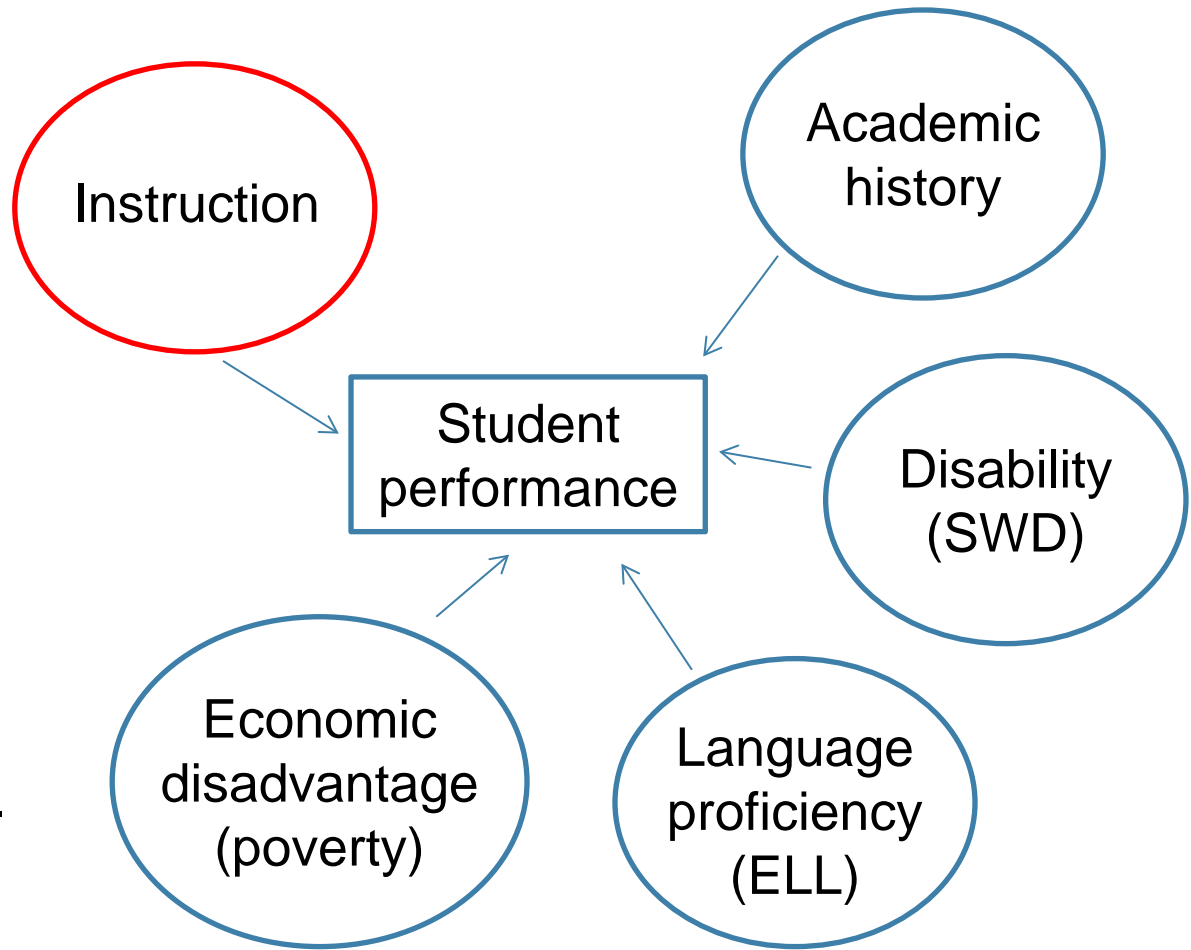
Student Growth Percentiles: True or False?

1. A student who performed as well or better than 50 percent of similar students showed growth and will have a higher student growth percentile (SGP). 1. True
2. A student with an SGP of 80 must be proficient. 2. False
3. A student with an SGP of 20 grew less than a student with an SGP of 60. 3. False
4. The highest SGP that a student can receive is 99. 4. True
5. A student with an SGP of 75 got about 75% of test questions correct. 5. False
6. Extra credit: A student with an SGP of 55 in math and an SGP of 50 in ELA learned more math than ELA content this year. 6. False

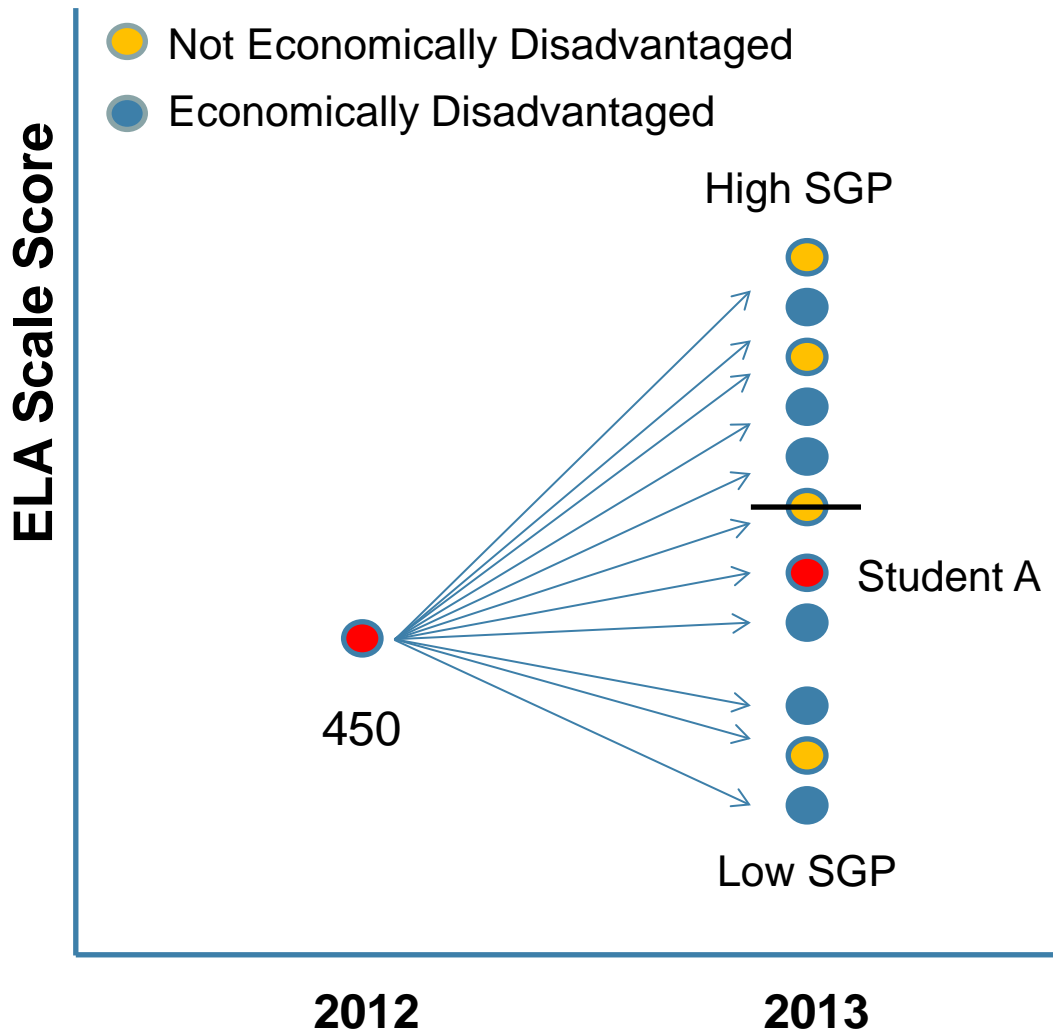
Defining “Similar Students”

The state includes data about four characteristics (circled in blue here) when comparing student growth.

Correcting for these factors help focus the growth on those areas that a teacher can control (like instruction).



Expanding the Definition of “Similar” Students: An Example

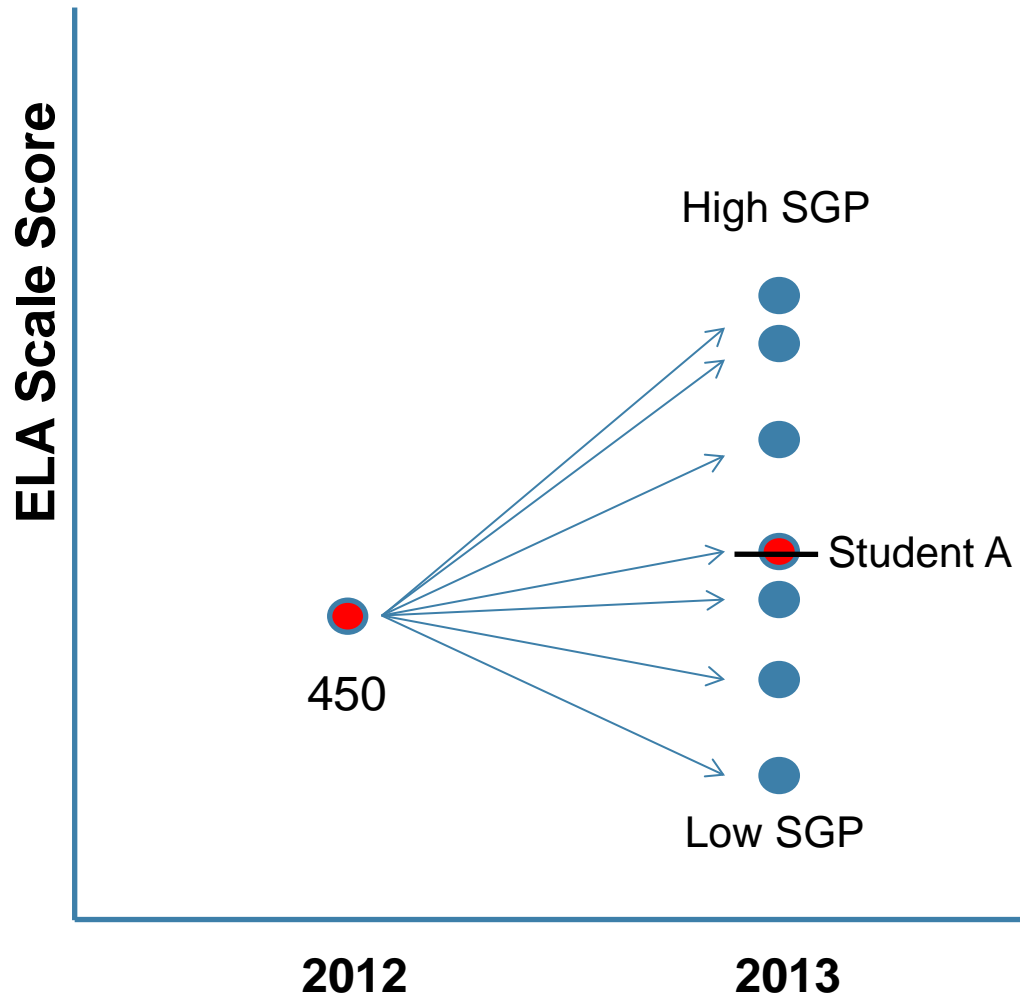


Previously, we compared all students with the same prior scores to measure growth for Student A.

Now we expand the definition of “similar” to include other characteristics, such as whether or not the student is economically disadvantaged.

Expanding the Definition of “Similar” Students: An Example

Now the comparison group for Student A includes students with the same prior score AND who are economically disadvantaged.



Factors Used to Define “Similar Students” in the Growth Model for 2012–13 and 2013–14

Grades 4–8 ELA/Math	Similar Student Characteristics
Academic History:	<ul style="list-style-type: none"> • Up to three years of student state exam scores, same subject • Prior-year test score, different subject • Retained in grade • New to school in year other than entry year
Student With Disability (SWD)	<ul style="list-style-type: none"> • SWD (Yes/No) • SWD spends less than 40 percent of time in general education setting • Percentage of SWDs in student’s class/course
English Language Learner (ELL)	<ul style="list-style-type: none"> • ELL (Yes/No) • New York State English as a Second Language Achievement Test scores • Percentage of ELLs in student’s class/course
Economic Disadvantage (Poverty)	<ul style="list-style-type: none"> • Poverty (Yes/No) • Percentage of students in poverty in student’s class/course

Partner Activity

- One of your teaching colleagues is concerned about her growth score because she teaches more students with disabilities than other teachers in her grade level.
- With a partner, brainstorm what you would say to this teacher.
 - **What information about how student growth percentiles are computed can you give her to address her concerns?**

From SGPs to Teacher and Principal Mean Growth Percentiles (MGPs)

By the End of This Section....

- **You should be able to:**
 - Define a mean growth percentile (MGP)
 - Explain which students count in an educator's MGP and how
 - Describe how MGPs are used to compute HEDI ratings and growth scores using measures of statistical confidence

Mean Growth Percentile

- The score that a teacher will get for the purposes of evaluation is called a **Mean Growth Percentile or MGP**.
 - The MGP is an Average of SGPs for students in that teacher's class (who have a growth score)
- The MGP tells us, on average, how a teacher's students did compared to similar students.
 - Example: An MGP of 51 means that on average this teacher's students perform better than 51 percent of similar students.

Elements Factored into of Teacher Growth Scores (MGP)

- **Start and End Dates** - students who were in school from BEDS day to the day of the state assessments
- **Enrollment** - the amount of time that a child is enrolled in a teachers class (this needs to be at least 60% of the time to count toward a teachers MGP)
- **Attendance** - the amount of time a student was absent in a teachers class

From Student Growth to Teacher Growth Scores

Ms. Smith's Class				
	SGP	Enrollment Duration	Attendance	Enrollment x Attendance
Student A	45	80%	90%	.72
Student B	40	100%	95%	.95
Student C	70	50%	80%	N/A
Student D	60	100%	90%	.90
Student E	40	100%	75%	.75

To measure teacher performance, we find the mean growth percentile (MGP) for her students, which is the weighted average of the SGPs. In this case:

$$\text{Step 1: } (.72 \times 45) + (.95 \times 40) + (.90 \times 60) + (.75 \times 40) = 154.4$$

$$\text{Step 2: } .72 + .95 + .90 + .75 = 3.32$$

$$\text{Step 3: } 154.4 / 3.32 = 46.5$$

Ms. Smith's mean growth percentile (MGP) is 46.5, meaning on average her students performed as well or better than about 47 percent of similar students.

Minimum Number of Scores Required for Reporting Teacher MGPs

- In order for an educator to receive a growth score, he or she must have a minimum sample size of **16 student scores** in ELA and/or mathematics across all grades he or she teaches.
- If an educator does not have 16 student scores, he/she will not receive a growth score from the State.
 - Educators likely to have fewer than 16 scores should have student learning objectives (SLOs).



16

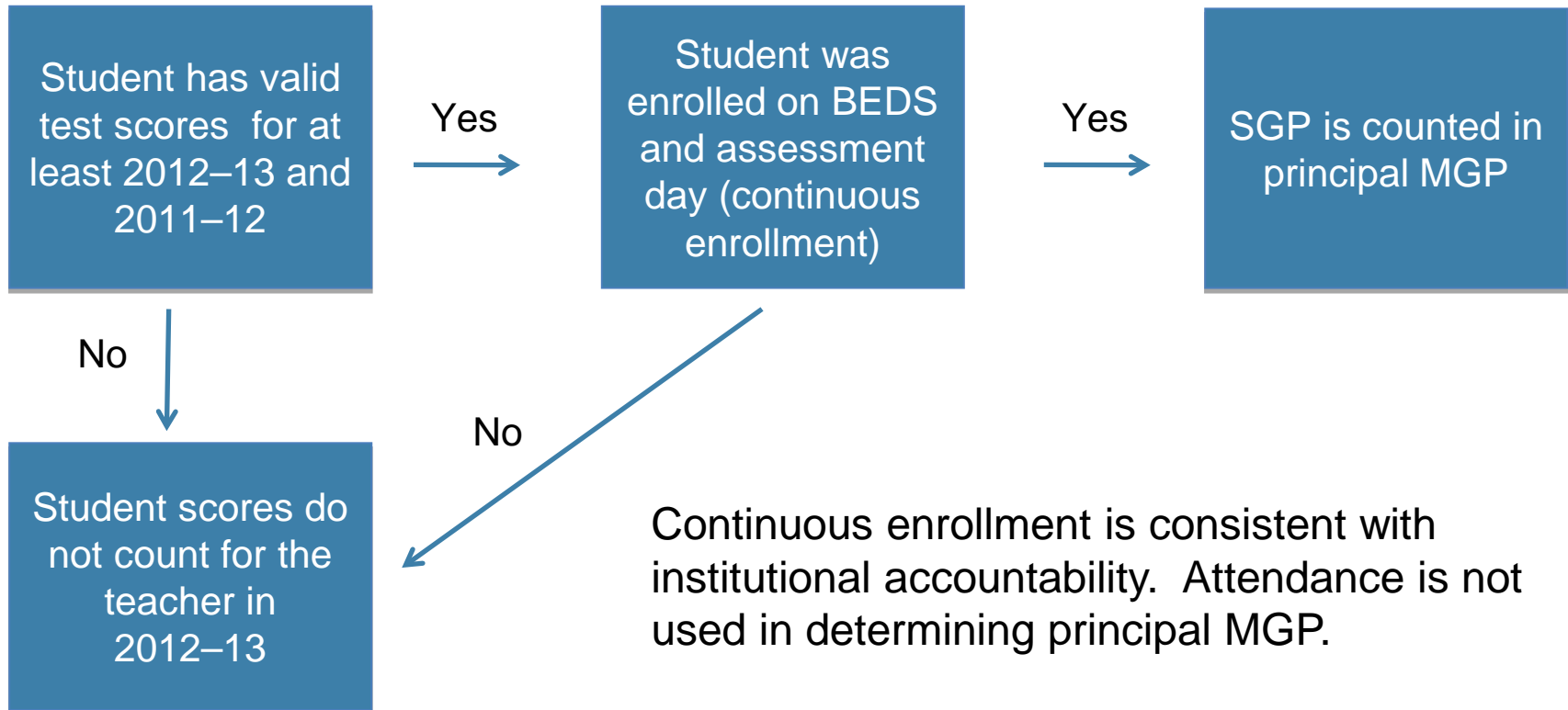
Adjusted and Unadjusted MGP's

- **State Reports that will be available to teachers will display “unadjusted” and “adjusted” MGPs. Adjusted MGPs account for similar student characteristics and are used for evaluation.**

Partner Activity

- You are a principal in a school that serves grades 4-8. The teachers in your building are worried about their growth scores because you have a highly mobile student population.
- With a partner, brainstorm what you would say to your teachers.
 - **What information about how mean growth percentiles are computed can you give the teachers to address their concerns?**

Which Students Count in a Principal's MGP for 2012–13?



From Student Growth to Principal Growth Scores

Principal Jensen's School		
	SGP	BEDS-Assessment Day Enrollment
Student Q	45	Yes
Student R	40	Yes
Student S	70	Yes
Student T	60	No
Student U	41	Yes

Same minimum sample size requirements (16 student scores) for principals as for teachers.

To measure principal performance, we find the mean growth percentile (MGP) for all her students who were enrolled on BEDS and assessment day. To find a principal's mean growth percentile, take the average of SGPs in the school:

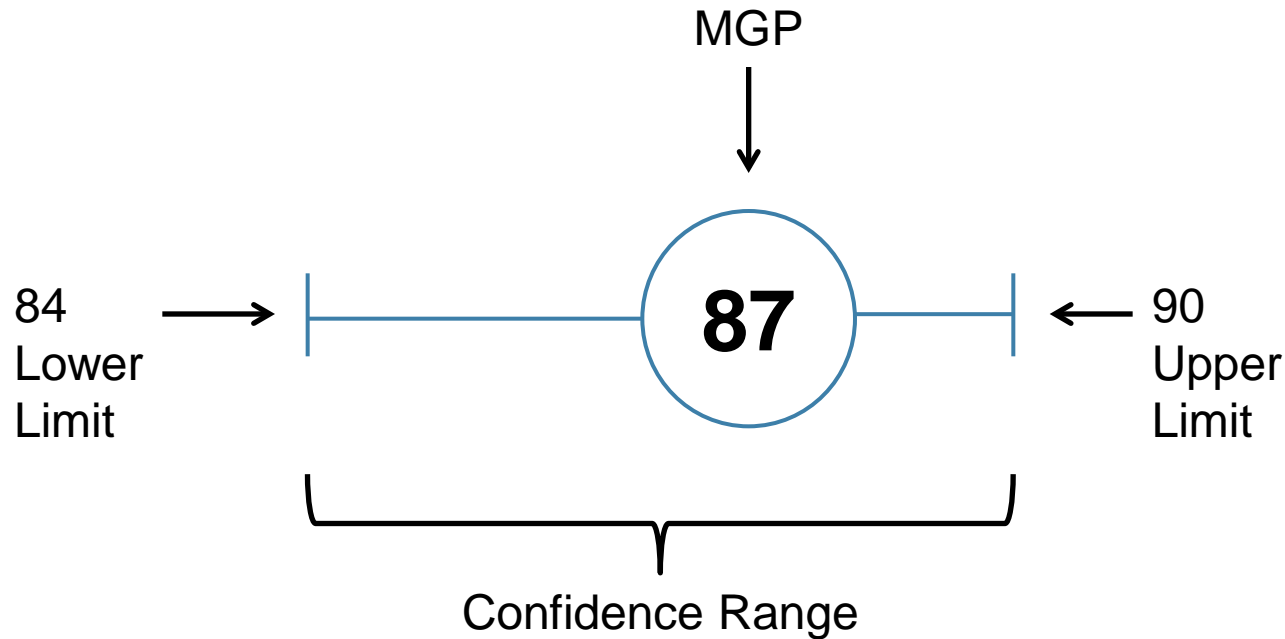
Step 1: $45+40+70+41=196$

Step 2. $196/4=49$.

Principal Jensen's mean growth percentile (MGP) is 49, meaning on average her students performed as well or better than 49 percent of similar students.

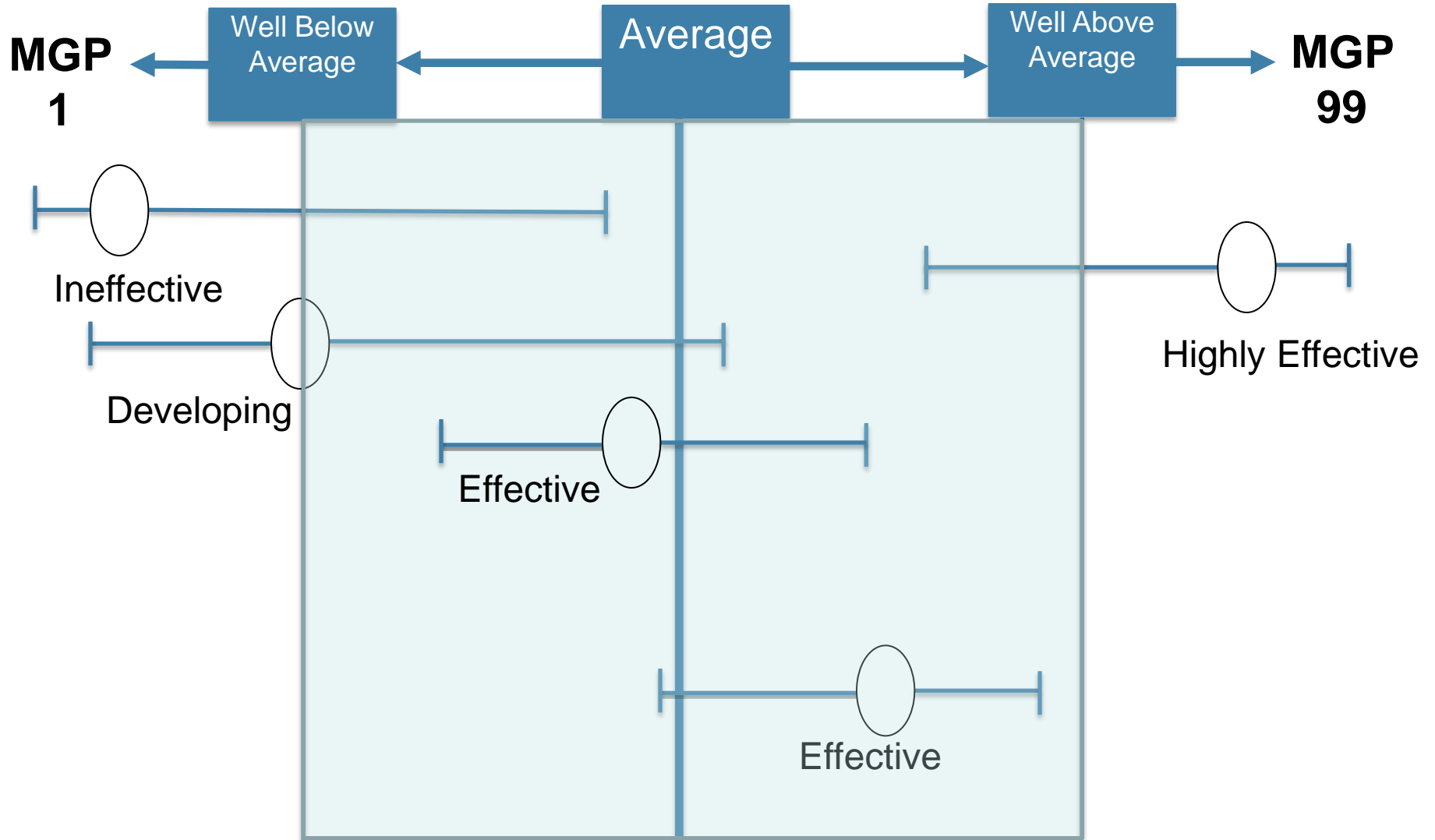
From Teacher and Principal MGPs to HEDI Ratings and Scores

MGPs and Statistical Confidence: Teachers and Principals



- New York State Education Department (NYSED) will provide a 95 percent confidence range, meaning we can be 95 percent confident that an educator’s “true” MGP lies within that range. Upper and lower limits of MGPs will be used when classifying educators into HEDI categories.
- An educator’s confidence range depends on a number of factors, including the number of student scores included in his or her MGP and the variability of student performance in the class or school.

Growth Rating Classification



Percent of Teachers in Each HEDI Rating in 2011-12

Growth Score Ratings 2011-12 Growth Model	Percent of Teacher MGPs (Grades 4-8, ELA/Math)	Percent of Principal MGPs (Grades 4-8)
Highly Effective	7%	6%
Effective	77%	79%
Developing	10%	8%
Ineffective	6%	7%

Similar proportions expected in 2012-13 since same growth classification rules to be used.

By the End of This Section....

- **You should be able to:**
 - Define a mean growth percentile (MGP)
 - Explain which students count in an educator's MGP and how
 - Describe how MGPs are used to compute HEDI ratings and growth scores using measures of statistical confidence
- **With a partner, try providing these descriptions.**
- Extra credit: About what percent of teachers were rated "Effective" on the State-provided Growth Subcomponent in 2011-12?

By the End of This Section....

- **You should be able to:**
 - Define a mean growth percentile (MGP)
 - Average or weighted average of SGPs
 - Explain which students count in an educator's MGP and how
 - Teachers: only those with 60% course enrollment (then students weighted in teacher MGP based on enrollment and attendance)
 - Principals: those present on BEDS and assessment day
 - Describe how MGPs are used to compute HEDI ratings and growth scores using measures of statistical confidence
- **With a partner, try providing these descriptions.**
- Extra credit: About what percent of teachers were rated "Effective" on the State-provided Growth Subcomponent in 2011-12?
 - **77%**

**STATE-PROVIDED MEASURES
OF STUDENT GROWTH FOR
PRINCIPALS OF GRADES 9–12**

By the End of This Section....

- **You should be able to:**
 - Describe the two types of measures to be used for principals of grades 9-12
 - Describe how a final HEDI rating is assigned based on multiple high school measures

Goal of 9-12 Metrics

- **Goal: Measure student growth toward graduation and college and career readiness using available Regents Exam data**
 - **Acknowledge passing Regents Exams that will lead to graduation**
 - **Account for high performance on Regents and go beyond minimum of 5 required Regents**

Two Types of Measures for 9-12 Principals

- **MGP**

- Compares student performance on ELA and Integrated Algebra Regents Exams given 7th and 8th grade state test scores.
- SGPs computed similarly to 4-8 measure, then averaged to find MGP.

- **Comparative Growth in Regents Exams Passed**

- Compares how much progress a school's students are making from one year to the next toward passing up to eight Regents Exams (five required plus up to three more).

Comparative Growth in Regents Exams Passed

Simplified Illustrative Example

Student	Number of Regents Passed This Year For This Student	Number of Regents Passed This Year by Similar Students	Difference
Jessica	1	1	0
Tyler	2	2	0
Ashley	1	2	-1
Emily	3	2	1
Jacob	3	2	1
Total Difference (Sum of Differences)			1
Average Difference (Total Difference/Number of Students)			$1/5 = .2$

Principal's score on this metric is 0.2. On average, students at this school are passing 0.2 Regents Exams more than similar students statewide. A zero represents average or effective results.

NOTE: 0 means student or school achieved the average (or “effective”) result compared to similar students statewide.

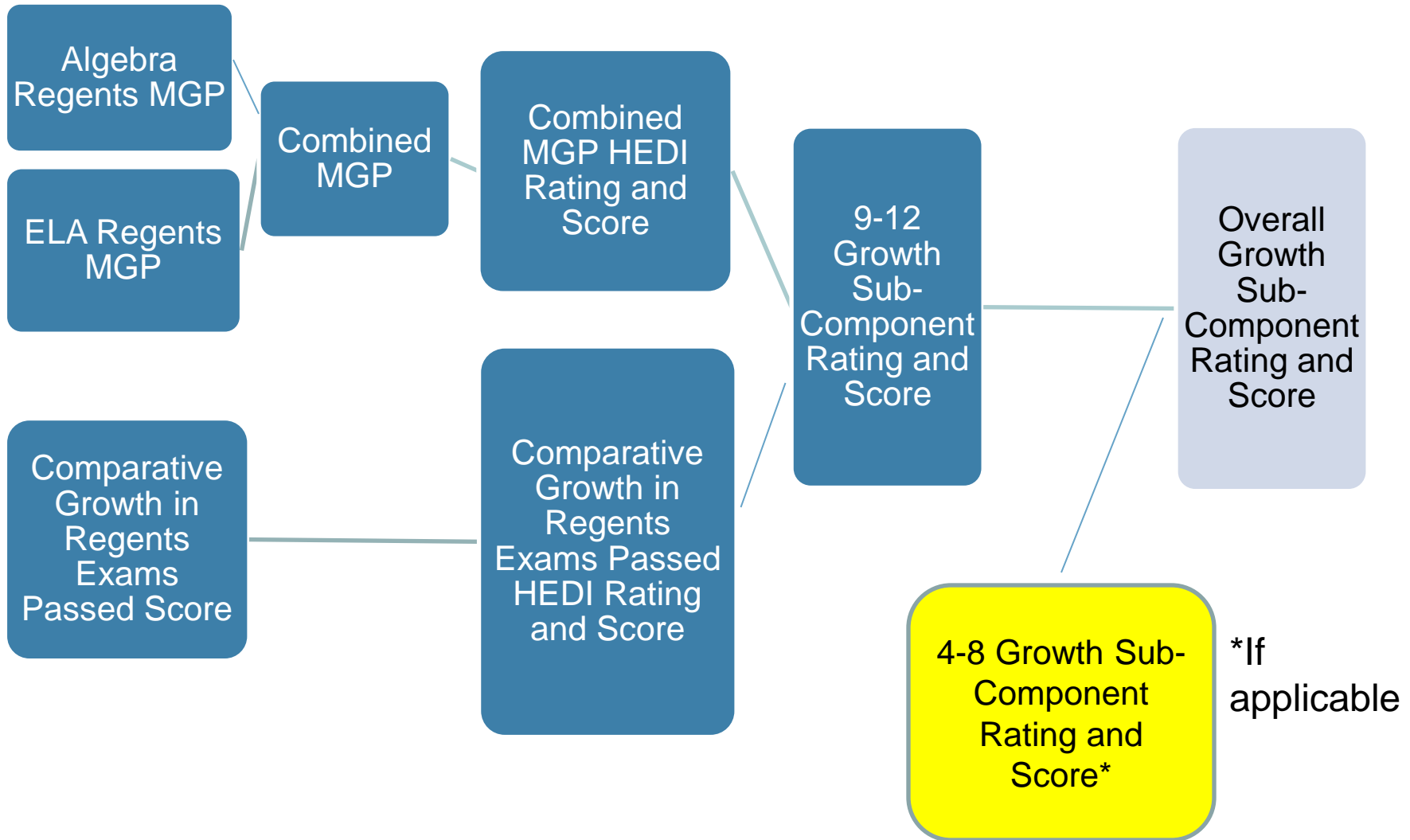
“Similar Student” Characteristics for Grades 9–12 Principal MGP Measures

	Factors for 9-12 Principal Measures
Academic History	<ul style="list-style-type: none"> • Seventh- and/or eighth-grade student state exam scores, same or different subject (student must have at least one same-subject score for MGP and at least one score for Comparative Growth in Regents) • Total number of Regents Exams passed to date • Average eighth-grade prior state exam scores for students in school (same subject only for MGP; both subjects for Comparative Growth) • New to school in a year other than ninth grade • Percent of students new to school in a year other than ninth grade • Cohort year since ninth-grade entry (years 1–8) (instead of grade level)
Student With Disability (SWD)	<ul style="list-style-type: none"> • SWD (Yes/No) • SWD spends less than 40 percent of time in general education setting • Percentage of students receiving special education services
Economic Disadvantage (Poverty)	<ul style="list-style-type: none"> • Poverty (Yes/No) • Percentage of students in poverty at school
English Language Learner (ELL)	<ul style="list-style-type: none"> • ELL (Yes/No) • NYSESLAT scores • Percentage of ELLs in school

Student Attribution for Grades 9–12 Principals

- **For principals of Grades 9–12:**
 - Include students who are enrolled on BEDS day and first day of Regents Exam administration to closely match the continuous enrollment rule for Grades 4–8 principals.
 - No consideration of student attendance.
 - Must have a minimum of 16 students in either of the two metrics.
 - If one measure has fewer than 16 students, it is dropped for that principal.

HEDI Ratings Based on Multiple Growth Measures



By the End of This Section....

- **You should be able to:**
 - Describe the two types of measures to be used for principals of grades 9-12
 - Describe how a final HEDI rating is assigned based on multiple high school measures
- **With a partner, try providing these descriptions.**

By the End of This Section....

- **You should be able to:**
 - Describe the two types of measures to be used for principals of grades 9-12
 - MGP: ELA Regents MGP, Algebra Regents MGP – similar to 4-8 measure but with Regents Exams
 - Comparative Growth in Regents Exams Passed – focuses on progress toward passing Regents needed for graduation and beyond
 - Describe how a final HEDI rating is assigned based on multiple high school measures
 - HEDI computed separately for MGP and Comparative Growth in Regents measure, then weighted by number of students to determine final HEDI rating.

APPENDIX

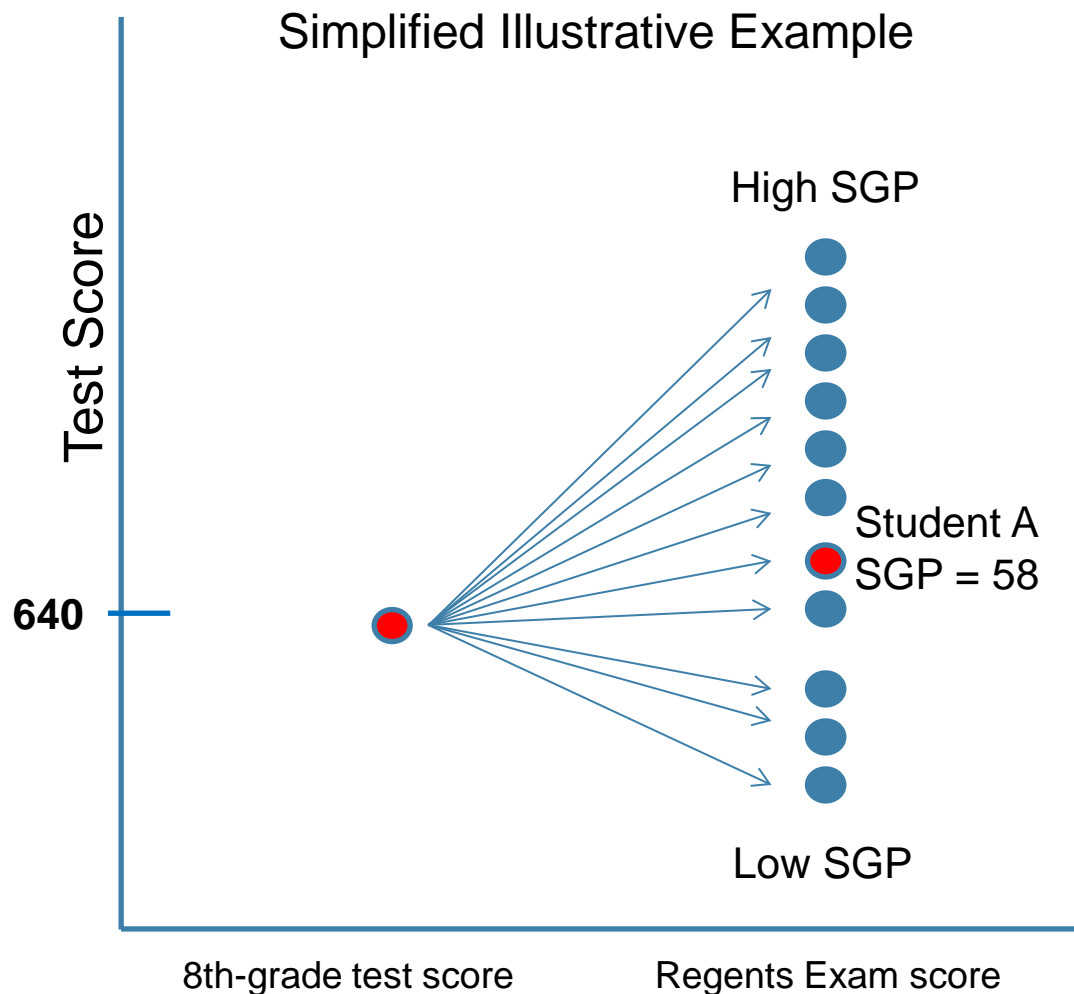
Glossary of Variable Definitions

- **Average prior achievement in class/course (same subject)**—the average prior same-subject achievement on the state assessment of all students attributed to a teacher in the current year.
- **Prior-year different subject test score**—a student's prior-year scale score on the state assessment in the other subject.
- **Students spend less than 40 percent or more of their time in general education**—an indicator of how much time a student may spend receiving special education services. Per IDEA requirements, the student should spend as much time as possible in a general education setting; this categorical variable is reported to the U.S. Department of Education.
- **Percentage of students in poverty, ELLs, and SWDs in class/course**—the percentage of students in a teacher's class/course that meet the definition for any one of these characteristics.
- **Heterogeneity of class/course in terms of achievement** —an indicator of the magnitude of difference in average prior achievement in a teacher's class/course, calculated as the interquartile range in average prior achievement of the classroom (same subject).
- **Class/course size**—the number of students attributed to a teacher in a class/course.

Glossary of Variable Definitions

- **New to school in nonarticulation year (yes/no)**—an indicator that a student enrolled in a new school in a grade level other than the first offered in the school (e.g., enrolled in a K–6 school in the fourth grade).
- **NYSESLAT (for use as a predictor of language proficiency)**—an indicator of English language proficiency in listening/speaking and reading/writing.
- **Over or under age (different from modal age)**—a continuous indicator of the extent to which the student is over or under age for his/her grade. It is calculated as the difference in the student's age from the modal age for the grade.
- **Retained in grade**—an indicator that the student was retained in grade in one of the two years preceding the most recent school year.

MGP for ELA and Integrated Algebra Regents Exams: Same Approach as Grades 4–8 MGP Measures



Comparing Student A's Regents Algebra Exam score to other students who had the same eighth-grade mathematics score (640), she earned an **SGP of 58**, meaning she performed as well or better in the current year than **58 percent of similar students**.

SGPs are averaged to get a **school's MGP**.

Additional Details About 9-12 MGP Metric

- **Which test scores count?**

- Count Regents Exam scores from August of prior year (except for ninth graders), January, and June.
- Choose the higher of test scores within these administrations.
- Student scores count up until they pass (after students pass, we do not want the measure alone to encourage additional test taking, which may not be necessary).

- **Which students are included?**

- Students who take either exam during the year and are attributed to the school using NYSED's rule for minimum enrollment.
- Students are included up to eight years after first entering ninth grade.
- Students who take the Integrated Algebra or ELA Regents Exams prior to high school are NOT included in the MGP of a principal of Grades 9–12.

- **What kind of scores would be reported?**

- An MGP will be reported for a principal for ELA, Algebra I, and an overall MGP (as long as minimum *N* sizes are met for each subject area).

**COMPARATIVE GROWTH IN
REGENTS EXAMS PASSED
MEASURE**

Why This Metric?

- A major graduation requirement for students is to pass five Regents Exams; advanced Regents diplomas require more than five.
- This measure compares how much progress the school's students are making from one year to the next toward passing up to eight Regents Exams.
 - On average, about 84 percent of students in a high school are included in the Comparative Growth in Regents Exams Passed measure.
- A principal's score reflects whether or not his or her students exceed the average change in number of Regents Exams passed each year achieved by similar students statewide.

Comparative Growth in Regents Exams Passed

Simplified Illustrative Example

Student	Number of Regents Passed This Year For This Student	Number of Regents Passed This Year by Similar Students	Difference
Jessica	1	1	0
Tyler	2	2	0
Ashley	1	2	-1
Emily	3	2	1
Jacob	3	2	1
Total Difference (Sum of Differences)			1
Average Difference (Total Difference/Number of Students)			$1/5 = .2$

Principal's score on this metric is 0.2. On average, students at this school are passing 0.2 Regents Exams more than similar students statewide. A zero represents average or effective results.

NOTE: 0 means student or school achieved the average (or “effective”) result compared to similar students statewide.

Find the Growth in Regents Score

Student	Number of Regents Passed This Year For This Student	Number of Regents Passed This Year by Similar Students	Difference
Sophia	0	1	-1
Edgar	1	2	-1
Tom	2	2	0
Jenny	2	1	1
Daniel	3	2	1
Total Difference (Sum of Differences)			0
Average Difference (Total Difference/Number of Students)			$0 / 5 = 0$

Principal's score on this metric is 0.0. Students at this school on average are passing about the same number of Regents Exams as similar students. A 0 represents average or effective results.

Additional Details about 9-12 Comparative Growth in Regents Passed Metric

- **Which test scores count?**

- Count Regents Exam scores from August of prior year, January, and June.
- Choose the higher of test scores within these administrations on same tests.
- Student scores count up until they pass (after students pass, we do not want the measure alone to encourage additional test taking, which may not be necessary).
- Five required Regents and no more than three others will count.
- Passing score rules for SWDs are accounted for.

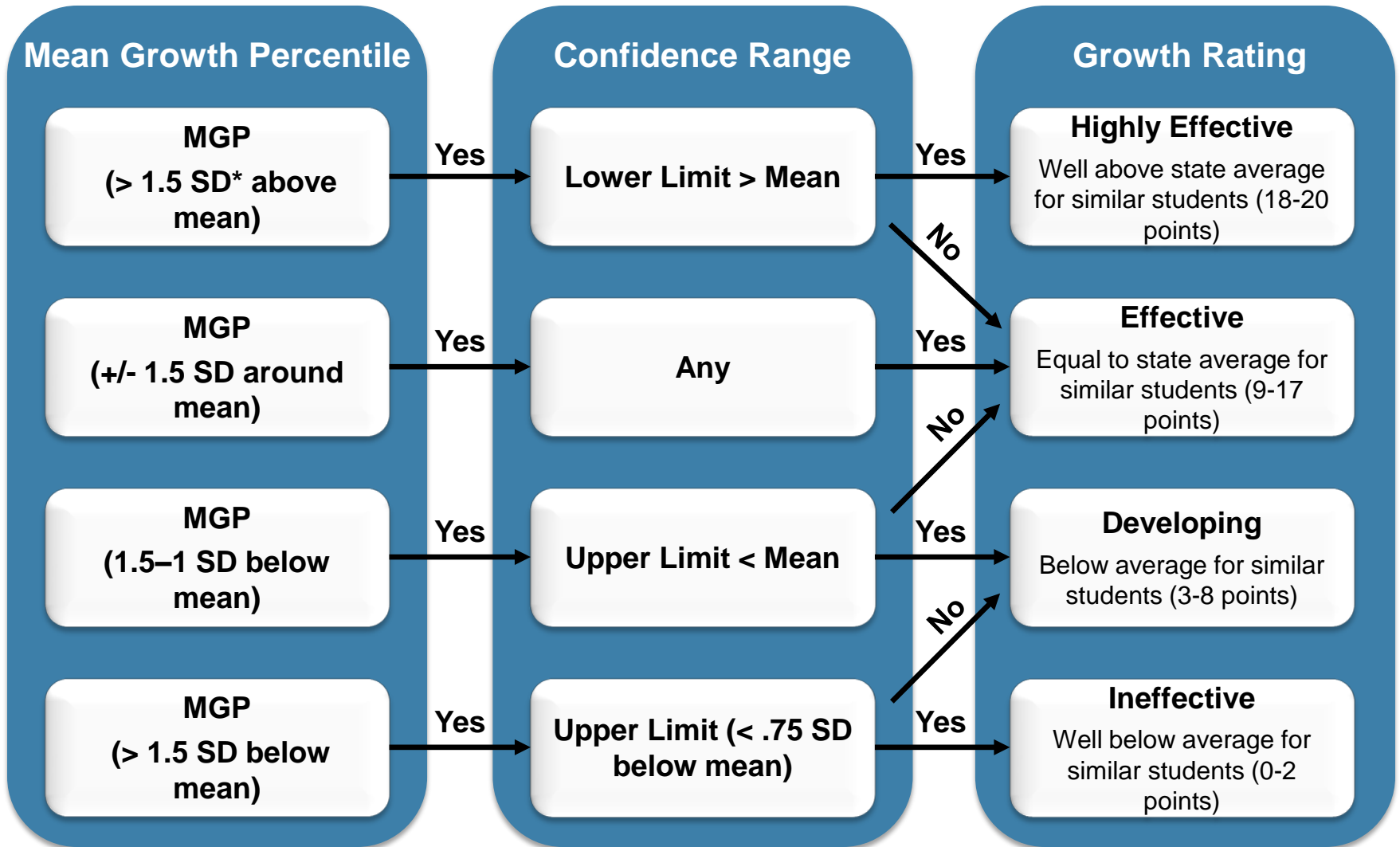
- **Which students are included?**

- All students attributed to a school using NYSED's rule for minimum enrollment, whether or not they take a Regents Exam during the year.
- Students are included up to eight years after first entering ninth grade.
- Students who exceed eight Regents Exams passed are NOT included in a Grades 9–12 principal's results.
- Dropouts are counted until they have reached their fourth year since entering ninth grade, starting with the 2012–13 school year.

Determining HEDI Ratings and Scores for Grades 9–12 Principals

- **The following steps will be taken to determine each principal's HEDI rating and score:**
 1. HEDI rating and scores will be calculated for each measure separately using the same criteria used for Grades 4–8 principal growth measures (see next slide).
 2. HEDI scores are weight-averaged based on the number of student results in each measure.
 3. Resulting score determines combined HEDI rating.
 4. For schools with only one measure, the growth subcomponent rating (HEDI) and score are derived from the Grades 9–12 measure that can be calculated for them (Comparative Growth in Regents Exams Passed or Combined MGP).

Growth Rating Classification Rules for 9-12 Principals for 2012–13



*Standard deviation

Calculating the Growth Subcomponent Rating (HEDI) and Growth Score Points

Sample School	Rating	Score	N of Students in Measure	Percentage of Students (Measure Weight)	Score x Measure Weight	Weighted Score (rounded)
Comparative Growth in Regents Exams Passed	Effective	12	1,635	83	12*.83	10.0
MGP	Developing	8	335	17	8*.17	1.4
Growth Subcomponent Rating/ Growth Score	Effective		1,970	100		11