

Growth Model Calculation for South Carolina 2018-2019

Education Analytics (EA) calculates school-level academic growth model results for Grades 4-8 in Mathematics and ELA. This handout explains the way the calculations work as a step-by-step process.

For a more complete and detailed explanation of the statistical methodology, please see the full technical report.

Step 1: Collect Student Data & Determine Adjustments



After SC READY testing is complete, EA receives **student data from across the entire state** of South Carolina. EA analyzes the data to find out:

- How fast did students grow academically across the state?
- Were there patterns in how fast different students grew?

Step 2: Create a Customized Statistical Target for Each Student

EA creates a target for each student. The target is the state average growth of similar students (defined as students with the same test history in similarly achieving schools).

These numbers are for illustrative purposes.

The actual adjustment amounts are calculated each year and for each grade/subject independently and reflect the actual data patterns across South Carolina.

+ 35 Average growth for students with the same test history

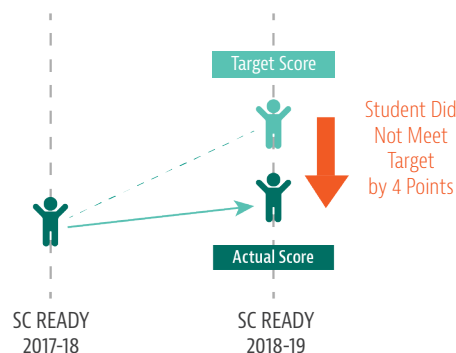
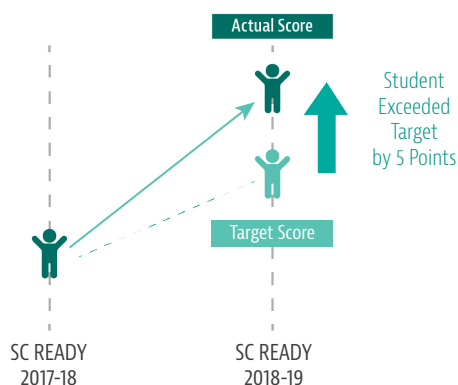
- 5 Adjustment for school average achievement

+ 30 points during the year



Step 3: Compare Actual Scores to Target Scores

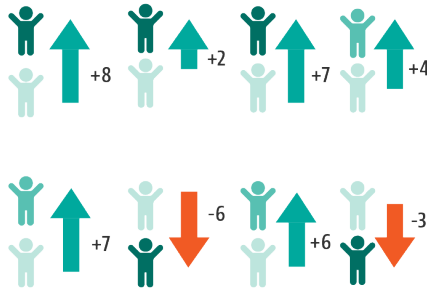
Determine whether each **student exceeded or did not meet the target**, and by how much.



Step 4: Determine Average Growth in Schools

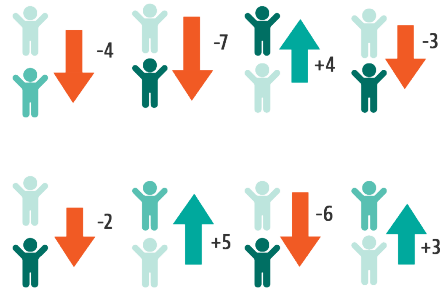
Once individual student results are established, we can then determine if, on average, the school's students exceeded or failed to meet their target scores and by how much. This tells us how much "value" the school "added" to its students' growth.

School A (Average **+3.13** Scale Score Points)



Above Average Value Added

School B (Average **-1.25** Scale Score Points)



Below Average Value Added

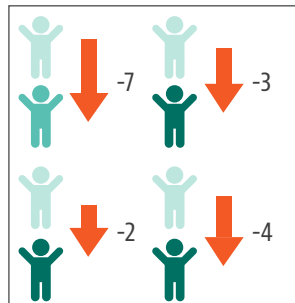
On the left is a school where students on average tended to exceed their target by a wide margin – on average, by a little over 3 points on the test. This is interpreted as the school having an above average impact on students' growth.

On the right is a school where students on average tended to not meet their target by a small amount – on average, they grew about one point less on the test. This is interpreted as the school having below average impact on students' growth.

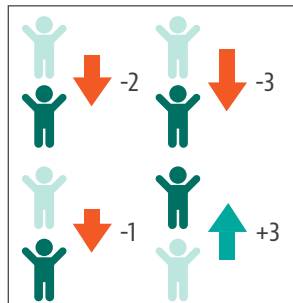
Step 5: Convert Results to the 0-40 Scale

Growth results are **converted to a number on a 0-40 scale**. The following is an example of four hypothetical schools.

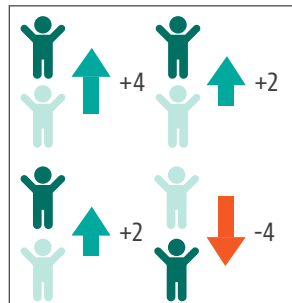
In School C, most students are growing quite a bit less than similar students, which results in this school's growth estimate being low in the scale.



In School D, on average, students are growing just under typical growth for similar students, which results in this school's growth estimate being slightly below 20.



In School E, on average, students are growing a little more than similar students, which results in this school's growth estimate being slightly above 20.



In School F, most students are growing far more than similar students, which results in this school's growth estimate being high in the scale.

