

## Student Growth Simulator User's Guide

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Welcome to the Student Growth Simulator. This tool allows you to set ambitious, long-term academic goals for all students and for all ESSA-required subgroups. As you set these long-term goals, the tool will calculate the interim goals that are required to achieve year-to-year progress.

### What are ESSA's requirements for goal setting?

"The State shall establish ambitious State-designed long-term goals, which shall include measurements of interim progress toward meeting such goals for all students and separately for each subgroup of students in the State...that, for subgroups of students who are behind on the measures...take into account the improvement necessary on such measures to make significant progress in closing statewide proficiency and graduation rates."

*Every Student Succeeds Act, S. 1177-34*

### Why did we create this tool?

Translating long term goals into achievable yearly goals is a complex task that is made even more complicated by the ESSA requirement to set goals both statewide and also by subgroup.

This tool enables states to meet ESSA's requirements directly: establishing long-term and interim targets for all students and all subgroups, with gap closures, and with the lowest performing students making the greatest annual progress.

Our model allows you to do this by setting targets for any two groups of students. Based on your proposed targets, the model generates targets for all subgroups, while ensuring gap-closures that render the most progress for comparatively worse-off student subgroups. As a result, the calculated interim and long-term goals will be internally consistent and represent 100% of the state's student population.

You can experiment with different goals, use any chosen measure, select alternative target years, and save various iterations for comparative purposes.

### What are the steps for creating my model?

Please follow these steps to create your model.

1. Choose an Indicator: Enter the name of the indicator for which you want to set targets, i.e. "English Language Arts Proficiency Scores." The name you choose is for display purposes only.
2. Set a Target Year: This tool will help you set long-term goals for the indicator you defined above. Here, you need to tell the tool the year by which these goals should be achieved (e.g. 2020 or 2030).

3. Enter your Current Data
  - a. Using data from the current year, enter the relative size of each student subgroup (as a percentage) as well as each subgroup's average score on the target indicator. The sum of all subgroup populations must equal 100%.
  - b. Once your values are entered, select "Submit & Set Target Performance."
4. Set Targets
  - a. Use the drop-down menus to choose any two subgroups.
  - b. Set performance targets for each of the two subgroups, *ensuring that the gap between the two subgroups' target performance is less than the gap between the two subgroups' current performance.*
  - c. When ready, press "Calculate" to continue.
5. View Results
  - a. The model automatically populates the required growth-rate-to-target for each subgroup on a summary table. You can view an annual table or an annual graph by selecting the options above the table.
  - b. The annual graph allows you to isolate subgroups by using the dropdown or by adding/removing them directly in the legend.
6. Make Changes: To make changes to any section or value, select the "Edit" button in that section to open the section's edit controls.

### **What are some limits I might encounter in the model?**

The tool is designed to enable users to try multiple, plausible scenarios, each of which satisfies the ESSA requirements for gap narrowing. However, please note that the model does not allow all possible scenarios. If the result of your entered targets forces the top-performing subgroups' long-term targets to dip, then you have overstepped the limits of what the tool can allow.

Possible Issues (with explanations):

First, there is a general mathematical limit to these models – namely, you are restricted to pairing two groups rather than being able to set multiple groups' targets all at once. This is simply because of the constraint on the number of variables for which the equations can work. You can re-run the model any number of times with pairings of your choice.

Second, a user's proposed targets for subgroup performances must narrow, but not reverse, any current gaps between that subgroup and one that is performing more strongly at the start date of the model. In other words, if subgroup X currently performs two percentage points behind subgroup Y on your chosen indicator, the targets you set cannot be such as to force subgroup X to overtake subgroup Y at the end date. Recall that the model is set to forecast both that all groups will perform better, and also that the gaps between groups will diminish.

Third, if gap-closure is extremely dramatic (i.e., if the lowest group's target, currently far below the all-students' performance, is moved very close to the all students' performance target), then the growth space "left" for the other groups to improve will be minimal, and higher-performing

groups' targets will be mathematically lowered. For instance, imagine that 5% of subgroup M students' currently reach your target, while 50% of all students do so. Now suppose you set subgroup M's target at 50% and the all students' target at 55%. If there is currently a high-performing subgroup (say, already 60% score proficient), the model must "force" down the target for that high-performing group to 55%. We do not believe that such a scenario reflects real-world considerations.

Finally, if you set the all students' target equal to any other subgroup's target, the gap between the two groups closes by 100%. If that is true, then all gaps close by 100%, and the result is that all groups end up with the same target, including any groups currently outperforming the all students group.