2020-21 Growth Model: Baseline Growth Applications

COLORADO
Department of Education

Why use student growth?

To understand student performance on state assessments, Colorado uses two primary measures: achievement and growth.

Achievement (also called "proficiency" or "status") measures how well a student's knowledge compares to established performance expectations. The state compares a student's overall scale score on each assessment to established grade-level expectations to determine student achievement. For achievement information, go to: https://www.cde.state.co.us/accountability/achievement.

Growth measures how much individual students progress compared to their academic peers (i.e., students with similar performance histories). Compared to achievement, growth is more sensitive to year over year changes in student performance and is not correlated with demographic characteristics. The state uses student growth percentiles to report progress. To interpret a percentile score, it is helpful to convert it to a percentage. As an example, a student with a growth percentile of 65 performed better than 65% of their academic peers. For more information, go to: https://www.cde.state.co.us/accountability/coloradogrowth.

How is Colorado reporting growth for 2020-21?

This year, schools and districts received two calculations of student growth: cohort-referenced growth and baseline-referenced growth.

Cohort-referenced growth (the traditional way growth has been reported by the state) is a comparison of a student's progress against their current-year academic peers, meaning that each year, the statewide median growth percentile resets to 50. Because it is norm-referenced against the current cohort of students, major changes in statewide trends due to pandemic learning disruption may be masked.

Baseline-referenced growth (new for 2021-22) compares a student's progress against a baseline historical academic peer group. Instead of resetting the statewide median growth percentile to 50, baseline growth compares progress relative to historical pre-pandemic growth expectations. For example, a student's 2020-21 score for CMAS is compared to what would have been expected for that student pre-pandemic based on the performance of their peers. Because disruptions were system-wide in 2020, baseline-referenced growth better detects statewide shifts in student progress. *This is the approach the department recommends for considering the impact of the COVID-19 pandemic.*

To learn more about the 2020-21 Baseline Growth calculation, go to: https://www.cde.state.co.us/accountability/baseline-growth-overview-and-state-results-2021. To consult statewide growth results, go to: http://www.cde.state.co.us/schoolview/datafiles.

Important Considerations

GAP IN STATE ASSESSMENTS

CMAS growth was calculated using 2-year interval instead of the traditional 1-year due to the gap in state assessment administration during the 2019-20 school year. Therefore, baseline expectations were derived from student performance from the 2016-17 to 2018-19 school years and then applied to 2018-19 to 2020-21 student results.

WIDA ACCESS growth was calculated using 1-year intervals because 2019-20 assessments were administered before the pandemic impacted test administration. Therefore, baseline expectations were derived from student performance from the 2018-19 to 2019-20 school years and then applied to 2019-20 to 2020-21 student results.

PARTICIPATION AND REPRESENTATIVENESS

CDE has analyzed both current and historical data and found that *participation rates above 85% generally ensure adequate representativeness* for results to be interpreted with confidence. For schools and districts with participation rates under 85%, the performance data may not be representative of the full student population and should be interpreted with caution. If one or more student groups were systematically over- or underrepresented among those testing, the observed school or district results may not be an accurate reflection of the performance of the system. This data should be analyzed and considered carefully to check expectations around student performance.

What are some ways to interpret and use Baseline Growth?

Baseline growth is a helpful way to gauge the impact of the COVID-19 pandemic on student learning as it compares current performance against pre-pandemic expectations. However, users should consider the atypical test administration conditions of 2021 and interpret results with caution. These include participation and representativeness, grade levels tested, and more limited trend data (see box on page 1 for additional detail). The suggestions below capture major questions schools or districts should ask when consulting their baseline growth data.

Suggestions for…	Guiding questions
Interpreting low, typical, or high growth: Students with low growth are progressing at a rate lower than what would have been expected pre-pandemic. This is important because students with low growth may not be demonstrating the academic progress expected for that subject area. This is particularly important for those students already below grade-level expectations. Students with typical growth are progressing at a rate typical to what would have been expected pre-pandemic, while students with high growth are progressing at a rate higher than what would have been expected pre-pandemic. However, typical or high growth may not indicate a student is reaching benchmark expectations for their grade level in that subject area. It is important to consider whether similar growth results are evidenced for all student groups or if there are large gaps in performance between groups.	What is the participation rate of the student population of interest? Is this data representative of the population? Are baseline growth results above or below state-level or nearby district-level results? Using student-level results, which students exhibited low, typical, or high growth? How does this compare with student-level achievement results? Do all student groups have similar baseline growth results or are there substantial growth gaps (i.e., are certain student groups showing less growth than others)?
Using local data: It is helpful to supplement baseline growth data with local data to check expectations and monitor trends. For instance, schools can compare their English Language Arts grade 5 baseline growth results to their interim assessment results. If a school exhibits low growth in both, it may be a helpful flag to dive deeper into achievement and growth trends for that grade level or student group – particularly if these trends have persisted despite the return to in-person instruction.	What other data sources can supplement baseline growth results to better understand the impacts of the pandemic? *Examples: interim assessment results, formative assessment results, remote/in-person instruction data, number of quarantines, student engagement data, school climate data, etc. For support in using non-assessment data, go to: https://www.cde.state.co.us/uip/using-non-assessment-data-09-09-2020.*
Checking expectations: MTSS teams and/or data teams may find it helpful to use baseline growth to check expectations around pandemic impact. While state data provides a helpful checkpoint, it is a single point in time assessment and should not be used to drive instruction. Local data is a better way to progress monitor because data is collected more regularly.	How does baseline growth confirm or conflict with expectations around local pandemic impacts?

In any year, schools and districts should ensure they are triangulating multiple data sources when making decisions. Importantly, state assessments are still the best measure to understand student performance against Colorado Academic Standards; however, state assessments do not tell the full story of a school or district's performance.

WHERE CAN I LEARN MORE? – Additional Resources and Guidance

State accountability was paused for the 2020-21 and 2021-22 school years. To learn more about the state accountability pause, go to: https://www.cde.state.co.us/accountability/accountabilitypause. To learn more about analyzing and responding to state assessment data, go to: https://www.cde.state.co.us/accountability/analyzingandrespondingtostatedata. To learn more about using data for small student populations, go to https://www.cde.state.co.us/uip/dataanalysisforsmallstudentpopulations2021. For other questions regarding the Colorado growth model, please e-mail: accountability@cde.state.co.us.