nwea Research

GUIDE

User guide for interpreting the NWEA state dashboard:

Exploring the educational impacts of COVID-19

May 2021

The NWEA® state dashboard, Exploring the educational impacts of COVID-19, provides insight into the educational impacts of COVID-related academic disruptions for students who took MAP® Growth™ assessments in public schools within selected states. The goal of this document is to explain the analyses, statistics, terms, and data included in the dashboard, as well as what they can tell us about unfinished learning in the state.

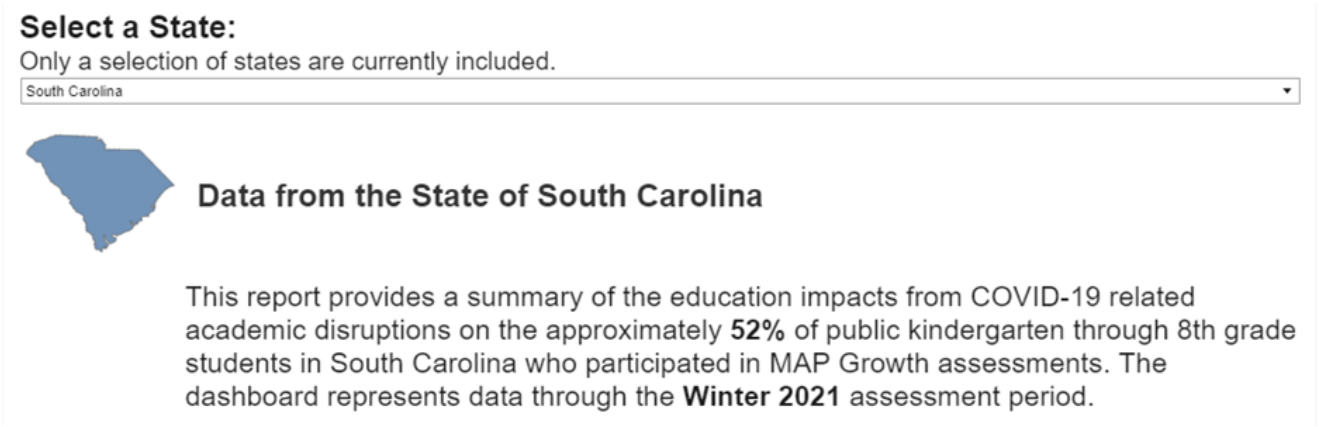
Representativeness of the results

It is important to note that not all students within a state take MAP Growth assessments, and thus the achievement and growth trends summarized in the dashboard may not generalize to all students in the state. The summary statistic included at the top of each state's dashboard (see the image below) reflects the approximate percentage of all K-8 public school students in the state who took a MAP Growth assessment during the Fall 2019 term, and serves as a way of understanding MAP Growth coverage for kindergarten to eighth grade students within the state. This percentage was calculated using testing and enrollment information from Fall 2019 because this was the most recent term fully unimpacted by academic disruptions related to COVID-19. The estimated total number of students in the state is derived from the NCES Table 203.25[i] state-by-state enrollment projections of pre-kindergarten to eighth grade public school students.[1] MAP Growth test counts used for this estimate are based on the total unique count of kindergarten to eighth grade students in public schools in the selected state who completed a MAP Growth assessment in reading or math.

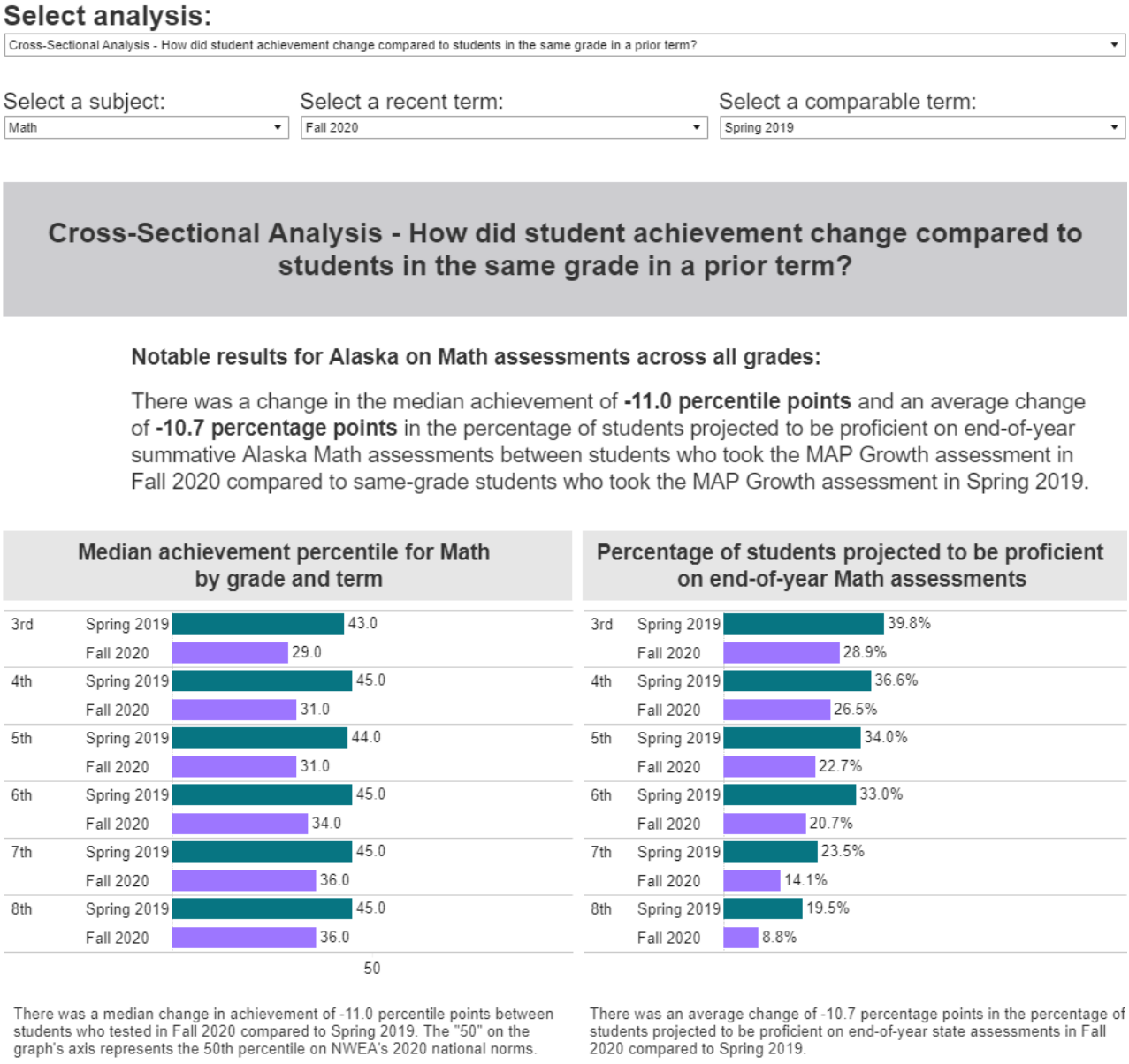
Cross-sectional and cohort results

Cross-sectional view

The cross-sectional analysis examines how students performed in one term (Fall 2020, Winter 2021, or Spring 2021) relative to same-grade students in a prior term.



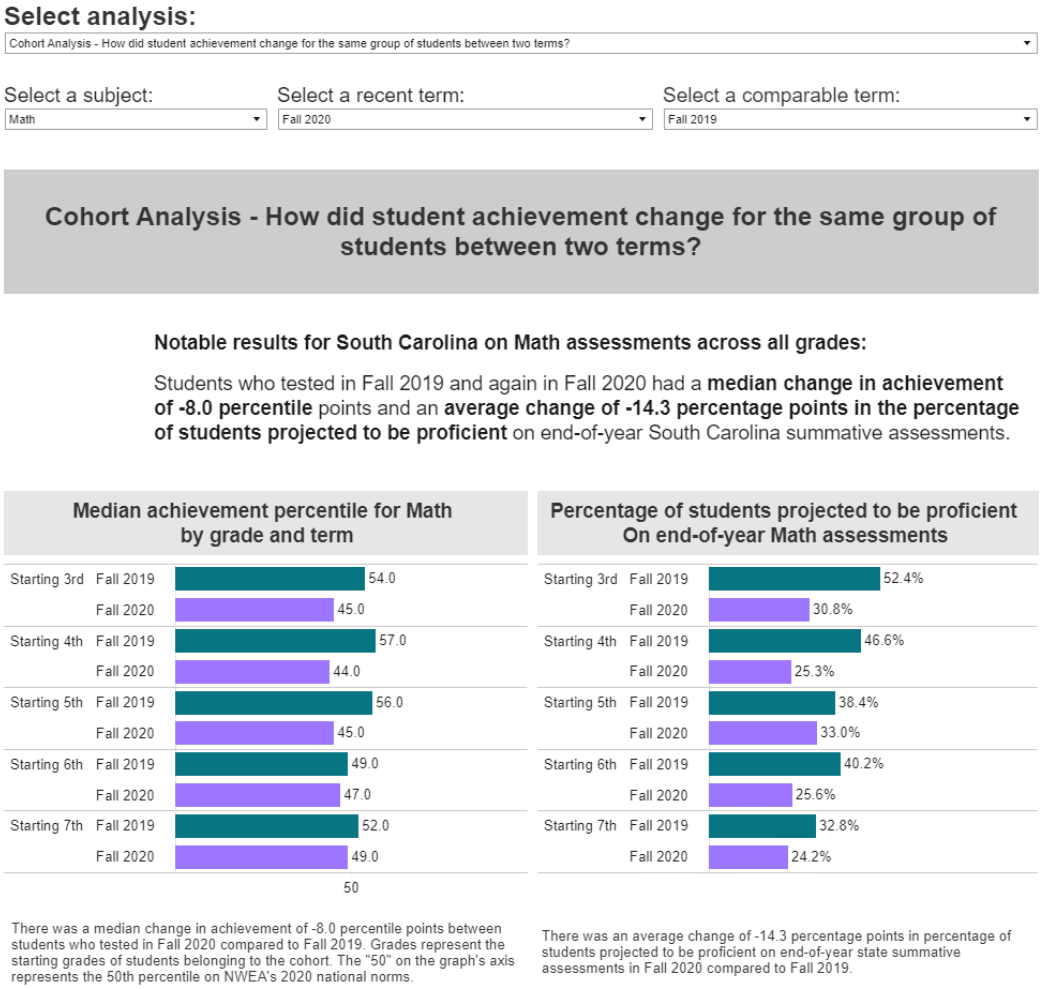
[1] https://nces.ed.gov/programs/digest/d20/tables/dt20_203.25.asp



These cross-sectional analyses include MAP Growth results from groups of schools and students that may differ between terms—for example, these analyses may include results from schools that administered MAP Growth assessments in Fall 2020 but did not test in Fall 2019 and vice versa. This approach allows us to show term-over-term changes in student outcomes using the full sample of students who tested at each term. However, when interpreting these cross-sectional results, it is important to consider—based on the number of students tested—how different student samples are between terms. Testing patterns across the country have varied significantly this year within and between schools and observed student attrition is not random[ii, iii], so it is critical to understand shifts in numbers of students tested when interpreting cross-sectional differences in student outcomes across terms. For example, the results of NWEA's attrition study "showed systematic demographic differences across subjects and grades: a larger fraction of attriters were minoritized students, students with lower achievement in fall 2019, and students in schools with higher concentrations of racial/ethnic minorities and socioeconomically-disadvantaged students" (Johnson & Kuhfeld, 2021; p1).

Cohort view

To provide an additional view of changes in student outcomes, we also include the same results for students who consistently tested across multiple terms.

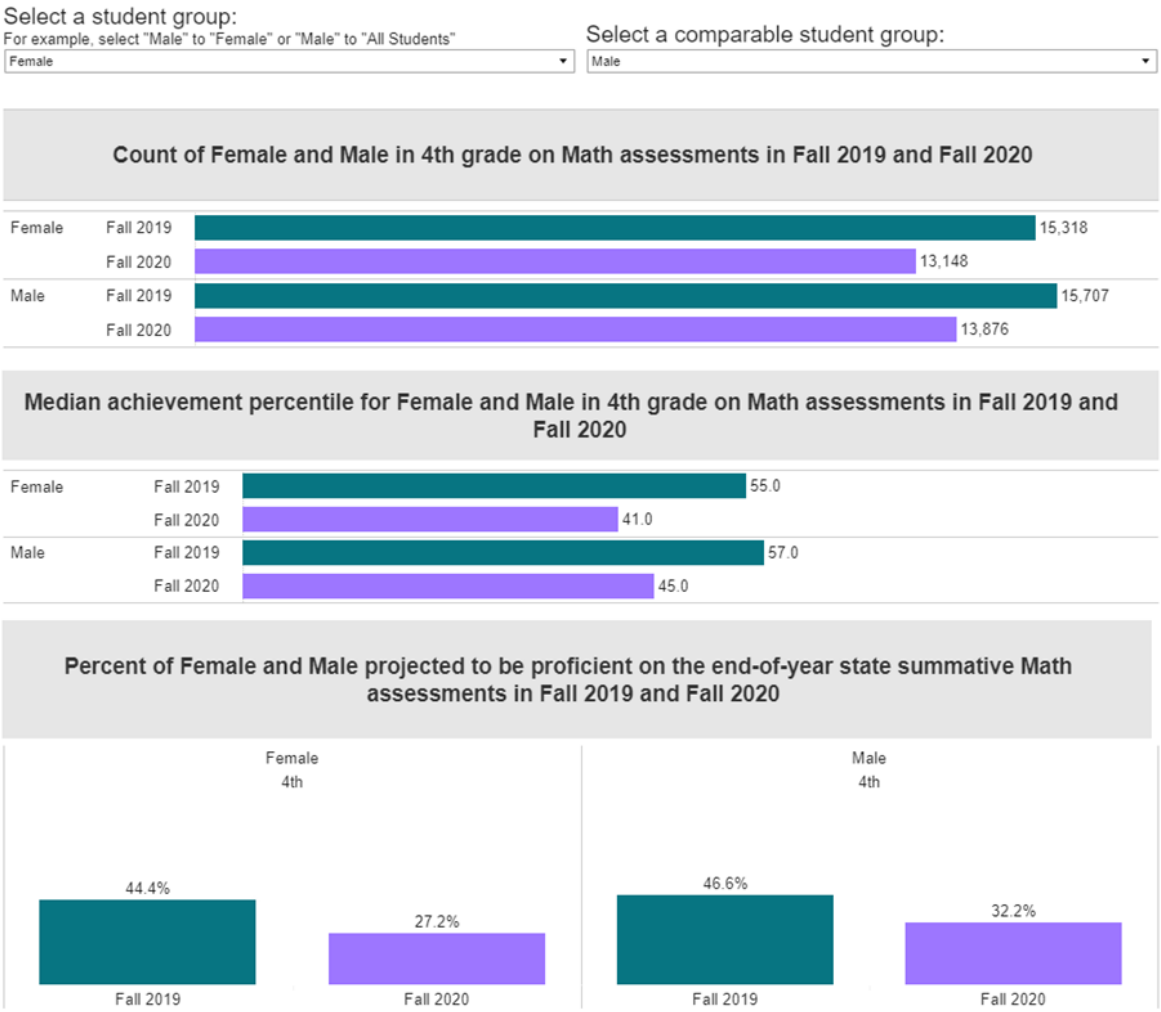


This cohort view includes students who participated in MAP Growth testing in the two terms selected (note that Spring 2020 is not included as very few students tested at the onset of the pandemic). Depending on the focal comparison term selected, different groups of students are included in these results. For example, when Fall 2020 and Fall 2019 are selected, only students who tested in those two terms are included; when Spring 2021 and Fall 2020 are selected, the view adjusts to show data from students who tested in both Spring 2021 and Fall 2020. This view allows for an understanding of how outcomes have changed for those students for whom there was consistent testing information over an established period of time. When interpreting cohort results, it is important to consider that the outcomes for students who consistently tested may be notably different than outcomes for students with less consistent testing patterns (that is, results may be positively biased). This is especially true if the number of students with MAP Growth test results in the cohort view is significantly different than the number of students with results in the cross-sectional view.

Taken together, the cross-sectional and cohort views allow end users to examine changes in student outcomes across and during the period of COVID-related interrupted learning. Select the cross-sectional view for an examination of the results for all students who tested in a particular term (compared to a prior term) and select the cohort view for an examination of the results for only those students who consistently tested across the selected terms.

Comparing outcomes for student groups

The final set of visualizations in the dashboard includes test counts, median achievement, and projected proficiency information by individual grade and subject for various student groups, including summaries by



gender, race/ethnicity, and school poverty level.

Student demographic information is based on data provided by a school or district through the NWEA rostering process. School poverty measures are based on 2020 SEDA data[iv]. School poverty measures are based on the percentage of students in a specific school who are eligible to receive free or reduced-price lunch, with schools assigned to the following categories:

- Low poverty school—25% or fewer of a school's students eligible for free or reduced-price lunch
- Low to moderate poverty school—Greater than 25% but less than or equal to 50% of students eligible
- Moderate to high poverty school—Greater than 50% but less than or equal to 75% of students eligible
- High poverty school—Greater than 75% of students eligible

This section allows users to examine achievement trends between two student groups of interest. For example, users can evaluate how median achievement and projected proficiency have changed for students in fourth grade in low poverty schools compared to same-grade students in high poverty schools. It is recommended that users make comparisons among similar student groups (e.g., fourth grade males to fourth grade females). This section also provides information on how the number of students tested has potentially changed between

terms for students in these groups and schools.

Key metrics

Median achievement percentile:
The first set of analyses included in the dashboard summarizes median achievement percentiles by grade, subject, and term. This set of results contextualizes student achievement in a state relative to a nationally representative norming sample of other same-grade students from across the country. Normative information is based on NWEA 2020 norms[v], which provide insight into typical achievement and growth for students across the country prior to COVID-related disruptions.

Percentage of students projected to be proficient:
The second set of analyses in the dashboard summarizes proficiency projections on a state's end-of-year summative assessment by grade and subject. More information on proficiency projections can be found in state-specific linking studies.[2] Briefly, at each term, a student's MAP Growth RIT score can be compared to cut scores found in a state's linking study; this allows educators to identify students who are or are not projected to be proficient on state summative tests. This set of results contextualizes student achievement relative to the proficiency standards/thresholds established in that specific state. These thresholds may vary in difficulty from state to state.

Other notes on the data included in these visualizations

If a student took more than one MAP Growth assessment in a term, the score with the lowest standard error of measurement was selected for inclusion in the analysis. The dashboard excludes data from schools or districts whose agreements with NWEA do not permit the use of their data for research purposes. Finally, these visualizations include MAP Growth data from tests administered both remotely and in person. NWEA research[vi] suggests that the validity and reliability of remote test results are largely comparable with results from in-person testing for students in grades 3 and up; thus, the dashboard primarily focuses on grades 3 through 8.

[2] State-specific linking studies can be accessed here: https://www.nwea.org/resource/type/linking-studies/.
For more information on linking studies, please see: https://nwea.force.com/nweaconnection/s/article/What-is-a-linking-study?language=en_US

i. U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1990-91 through 2018-19; Department of Defense Education Activity (DoDEA) Data Center, Enrollment Data, 2016, 2017, and 2018, retrieved August 11, 2020, from https://www.dodea.edu/datacenter/enrollment.cfm; and State Public Elementary and Secondary Enrollment Projection Model, 1980 through 2029. (This table was prepared August 2020.)

ii. Kuhfeld, M., Tarasawa, B., Johnson, A., Ruzek, E., & Lewis, K. (2020). Learning during COVID-19: Initial findings on students' reading and math achievement and growth. NWEA. https://www.nwea.org/research/publication/learning-during-covid-19-initial-findings-on-students-reading-and-math-achievement-and-growth/

iii. Johnson, A., & Kuhfeld, M. (2020). Fall 2019 to Fall 2020 MAP Growth Attrition Analysis. NWEA. https://www.nwea.org/research/publication/fall-2019-to-fall-2020-map-growth-attrition-analysis/

iv. Reardon, S., Kalogrides, D., Ho, A., Shear, B., Shores, K., & Fahle, E. (2016). Stanford Education Data Archive. http://purl.stanford.edu/db586ns4974

v. Thum, Y. M., & Kuhfeld, M. (2020). NWEA 2020 MAP Growth Achievement Status and Growth Norms for Students and Schools. NWEA Research Report. Portland, OR: NWEA. https://teach.mapnwea.org/impl/normsResearchStudy.pdf

vi. Kuhfeld, M., Lewis, K., Meyer, P., & Tarasawa, B. (2020). Comparability Analysis of Remote and In-person MAP Growth testing in fall 2020. NWEA. https://www.nwea.org/research/publication/comparability-analysis-of-remote-and-in-person-map-growth-testing-in-fall-2020/

About the Center for School and Student Progress at NWEA

The Center for School and Student Progress partners directly with schools and districts across the country to engage in collaborative research on issues that are most relevant to educators' work with their students. The Center provides expert consultation to NWEA partner schools and districts to help make assessment data actionable to improve outcomes for students and applicable to address myriad policy questions. Researchers in the Center also collaborate with schools to create new reports and data visualizations and advise on best practices for assessment integrity.

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NWEA is a not-for-profit organization that supports students and educators worldwide by providing assessment solutions, insightful reports, professional learning offerings, and research services. Visit NWEA.org to find out how NWEA can partner with you to help all kids learn.

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