



Overview

The Colorado Department of Education (CDE) has developed a school and district *Achievement Percentile Rank Report* to support interpretation of achievement results on Colorado Measures of Academic Success administered by the Partnership for Assessment of Readiness for College and Careers (CMAS PARCC) in spring 2015. **This report will not be used for state accountability purposes and is purely informational.** It makes it possible to view relative achievement on both the Transitional Colorado Assessment Program (TCAP) and CMAS PARCC tests. Background information on the data included in the report and recommendations on how local planning teams can use the reported data as part of Unified Improvement Planning (UIP) are also provided in this document.

Achievement Percentile Rank Reports are available for all Colorado public schools, and all school districts by school level (e.g., elementary, middle, high) for which at least 16 individual student scale scores were obtainable from the 2015 CMAS PARCC assessment administration. The reports include percentile ranks, mean scale scores, and participation rates for English Language Arts (or reading and writing in 2013 and 2014) and Mathematics assessments administered in the spring of 2013-15. Scores are included for each of the following student groups within the school or district that include 16 or more students: all students at the school or district by school-level, students in each grade level 3-10 (as available), minority students, students eligible for free/reduced-price lunch, students with a disability on an Individual Education Plan (IEP), and English Learners.

Sample Achievement Percentile Rank Report

normative basis for comparison, this report may be used to compare changes in a school or district's relative performance across the transition from TCAP to CMAS-PARCC. The percentile ranks included in this report show how the mean scale scores for an individual school or district compare to the means of all other schools in the state at a particular level: elementary, middle, high, and by grade level. Rankings for disaggregated groups reflect their standing relative to all students. For additional guidance on this report, please refer to the documents posted under the Achievement Percentile Rank Report header on the Accountability in Transition webpage: <http://www.cde.state.co.us/accountability/impact-of-assessment-transition-on-school-and-district-accountability>

TCAP Reading - PARCC English Language Arts	2013 TCAP			2014 TCAP			2015 CMAS PARCC		
	Percent Participation	Mean Scale Score	Percentile Rank	Percent Participation	Mean Scale Score	Percentile Rank	Percent Participation	Mean Scale Score	Percentile Rank
Elementary School Level									
All Students	99.6%	559.0	48	99.5%	587.9	46	94.8%	740.1	52
Minority Students	99.5%	566.3	23	99.5%	564.8	23	96.4%	729.2	26
Free/Reduced Lunch Eligible	99.5%	560.5	19	99.5%	550.5	18	96.3%	725.0	19
Students with Disabilities	98.7%	503.5	1	98.6%	496.5	1	90.4%	702.7	1
English Learners	99.4%	549.5	11	99.5%	548.8	12	97.9%	722.4	15
Middle School Level									
All Students	99.1%	640.2	45	99.3%	639.4	45	88.5%	739.5	50
Minority Students	98.8%	638.3	18	99.3%	618.2	20	92.4%	729.0	26
Free/Reduced Lunch Eligible	98.8%	633.2	14	99.2%	613.8	15	91.6%	724.6	17
Students with Disabilities	98.0%	559.5	1	98.1%	556.8	1	87.9%	699.7	1
English Learners	98.9%	603.7	9	99.5%	602.8	8	96.1%	722.8	14
High School Level									
All Students	98.1%	672.2	43	98.1%	670.4	42	66.5%	736.3	42
Minority Students	98.1%	654.8	17	98.1%	653.6	14	73.9%	725.7	17
Free/Reduced Lunch Eligible	97.8%	649.0	11	98.0%	649.2	10	74.4%	722.2	13
Students with Disabilities	96.6%	604.5	1	96.4%	607.6	1	68.5%	696.8	1
English Learners	99.0%	641.1	4	98.6%	641.1	5	82.3%	716.6	11

These reports for all schools and districts can be accessed at www.schoolview.org. Select "Performance Framework Reports and Improvement Plans" under "Resources for Student Learning." Choose the district and then (if appropriate) the school from the drop-down menus in the middle of the page. Select *Achievement Percentile Rank Report* from the right drop-down menu.

Interpreting Percentile Ranks

What are percentile ranks? A percentile is a method for showing how a particular score compares with all the other scores in a group, or distribution, by ranking the range of scores from 1 to 99. The higher the percentile, the higher the rank is of the individual score among all the scores in the distribution. For example, if your vocabulary knowledge is at the 60th percentile for people your age, that means you know more words than 60% of your peers.

Why has CDE provided Achievement Percentile Ranks? A percentile rank is useful because it can be interpreted without knowing anything about the scales or scores used for a particular test, or measure, upon which it is based. Percentile ranks provide a normative basis for making a judgment about district/school achievement (e.g., an elementary school with a percentile rank of 75 performed better than 75 percent of the elementary schools in the state).

The percentile ranks included in the *Achievement Percentile Rank Reports* are based on the distribution of school mean scale scores (the average scale score for the students in the group) on the CMAS PARCC and TCAP assessments.



These ranks provide information about how individual district/school mean scale scores compare to the mean scale scores of all Colorado schools at a particular level: elementary, middle, high, and by grade level. To ensure consistency in the interpretation of the achievement results, CDE used the distribution of school means to determine rankings for schools, districts, and the state. Additionally, the percentile ranks for disaggregated groups reflect their standing relative to all students.

For example, if the mean scale score for students with disabilities at a particular elementary school is reported with a percentile ranking of 4, this means that the aggregate performance for that disaggregated group was higher than 4 percent of the overall mean scale scores for elementary schools. It is not a reference to the group's performance compared only to the mean scale scores for students with disabilities.

In addition to providing a basis for understanding individual district/school achievement in light of the performance of other schools, percentile ranks provide a way to understand achievement over time. This is true even when assessment instruments change, as has happened in Colorado over the last three years. The scale for student scores on CMAS PARCC and the former state test, TCAP, are not the same. Thus, it would be NOT be appropriate to compare the mean scale scores on these assessments directly. However, percentile ranks make it possible to view the relative achievement of districts/schools across these different assessment instruments and scales. Rather than comparing CMAS PARCC scores to TCAP scores, stakeholders can consider the changes in percentile ranks based on mean scale scores on TCAP from 2013-14 and CMAS PARCC in 2015.

Interpreting Highlighted Mean Scale Scores

The *Achievement Percentile Rank Report* provides another district/school achievement metric for the 2015 CMAS PARCC administration, mean scale scores. This is different from prior years, when the percent of students scoring proficient/advanced on TCAP was used as the primary achievement metric. With the transition to CMAS PARCC, the mean scale scores allow for more nuanced interpretation of results across the state. Additionally, mean scale scores allow for greater data privacy in reporting at the disaggregated group level.

To provide a point of comparison, CDE color-coded the district/school CMAS PARCC mean scale scores included in the *Achievement Percentile Rank Report*. The cut-points used to determine the color-coding for the mean scale scores reflect the individual student performance levels PARCC used to communicate student knowledge, skills and practices associated with different student scale score ranges.

The following legend illustrates the performance levels and associated color-coding used in the *Achievement Percentile Rank Report*:

Level 1	Level 2	Level 3	Level 4/5
Did not yet meet expectations	Partially met expectations	Approached expectations	Met or Exceeded expectations
650-699	700-724	725-749	750 +

Note: Achievement that met or exceeded expectations (level 4 or 5) is on track for the next grade level, or is college and career ready in the content area.

The color coding indicates the performance level in which the mean scale score falls. For example, if a school's mean scale score for 4th grade in mathematics was highlighted in yellow, that could be interpreted as "the average performance of 4th graders in the school *approached expectations* in mathematics." Colorado has not yet made any determinations on how these performance levels will be used for school or district accountability.



Cautions and Limitations

Participation Rates

With increased numbers of parents excusing students from assessments administered during the 2014-15 school year, local planning teams need to determine whether student participation in assessments should affect how they use district or school-level aggregate achievement results. Specifically, teams should consider the degree to which aggregate metrics such as *percentile ranks* or *mean scale scores* (derived from individual student scores) still provide a complete and accurate picture of the performance of the “group” for which the score was calculated (e.g., the school, a grade level). This is why participation rates are included in the *Achievement Percentile Rank Report*.

Planning teams should report their participation rates when describing achievement if a disaggregated group of students was disproportionately over (e.g., English learners) or under-represented (e.g., non-FRL) in the calculation of the metric, or if the number of students included in the metric was substantially below the federally required 95% participation rate. If participation rates were much lower for some grade levels than for others, planning teams may consider using the grade level data separately (rather than school- or district-level data).

Comparability with Other Reports

The mean scale score and percentile rank data included in the Achievement Percentile Rank Report may not match similar metrics provided in previous or future accountability or assessment publications because of differences in the rules used to determine student scores and the comparison points used for the ranks. Scores for students who did not meet the eligibility criteria for the school and district performance frameworks† were not included in the calculations for this report, nor were scores for students taking the Alternate versions of the TCAP and CMAS PARCC assessments. In 2014-15 students in grades 7-10 were eligible to take one of several different CMAS PARCC mathematics assessments depending upon their course enrollment (Algebra I, Integrated I, Geometry, etc.); for the current report, student records were aggregated at the grade- or school-level (elementary, middle, high), not by the CMAS PARCC test taken.

Significance of Change

A number of factors may influence the relative change in school or district achievement from one year to the next, including local practices around curriculum, standards implementation, student demographic shifts, and participation rates. The purpose of this report is to provide a basis for interpretation of CMAS PARCC 2015 achievement results. Caution should be exercised when making decisions based solely on shifts in a percentile rank over time. Rather, these data should be used as part of a body of evidence. High stakes decisions should not be made solely based on this report.

Improvement Planning Uses

Stakeholders engaged in improvement planning at the school or district levels may choose to use the data provided in the *Achievement Percentile Rank Report* for several improvement planning processes, including setting and evaluating the degree to which the school/district met previously determined performance targets, and as part of a body of evidence in describing notable performance trends and determining priority performance challenges for academic achievement.

Setting and Evaluating Performance Targets

The process of establishing performance targets and subsequently evaluating the degree to which the targets have been met are fundamental to improvement planning in Colorado. Evaluating performance in relationship to previously set targets includes comparing the current performance to the aim that was previously determined.



Guidance provided by CDE on improvement planning during the assessment transition offered an option for planning teams to use percentile ranks in setting performance targets and evaluating prior year performance targets. Many districts/schools chose to use percentile ranks as the metric for their performance targets for the 2014-15 school year. Percentile ranks can serve as both the metric and comparison point for school/district achievement for the school/district over-all, by grade-level or by disaggregated group. Because it is a normative metric, the percentile rank includes information about how school/district achievement related to achievement of other schools in the state.

Describing Notable Performance Trends and Determining Priority Performance Challenges

Guidance provided by CDE related to engaging in improvement planning during the assessment transition encouraged planning teams to start by considering their performance trends up to and including the 2013-14 school year, and then to consider the following questions: Is there reason to believe the performance trajectory has changed from the 2013-14 school year? If so, what evidence can be provided that demonstrates that performance has changed?

Achievement results from CMAS PARCC in ELA and math for 2014-15 provide one source of evidence planning teams could consider in determining if their achievement trajectory changed (depending upon the participation rates in the assessment results). This would involve comparing the percentile rank for the district/school, grade level, or disaggregated group for TCAP in 2013 and 2014 to CMAS PARCC in 2015. If the percentile ranks indicate a change in achievement, and participation rates are representative, planning teams should then investigate additional local performance data to confirm this change. The results of this analysis could be reported as part of the notable performance trends for achievement. If the change in performance relates to an area that was identified as a priority performance challenge(s), the analysis could also be used as evidence for selected priority performance challenge(s).

Links

Other resources that could be useful for interpreting data available from the state can be found at the following links:

- State-Level CMAS PARCC Results <http://www.cde.state.co.us/assessment/cmas-englishmath-dataandresults>
- District Dashboard <http://www.schoolview.org/dish/dashboard.asp>
- School Dashboard <http://www.schoolview.org/dish/schooldashboard.asp>

Key Terminology

Mean - A summary measure of a collection of numbers, calculated by adding all of the numbers together and dividing by how many numbers were in the collection (also known as the average).

Metric - A numeric scale indicating the level of some variable of interest. For example, your credit score is a metric that companies use to decide whether to give you a loan.

Scale Score - A conversion of a student's raw score (students responses to individual test questions) on an assessment instrument to a common scale that allows for a numerical comparison between students; considered to be a measure of the student's achievement.

Participation Rate- The percentage of students who received a valid score based on the number of students enrolled at the time of testing. Students who met the criteria for qualifying exemptions are removed from the calculation overall.

† School results do not include those who were expelled from a school, did not enroll until after October 1, took another test form, or withdrew from school during the test window. District results do not include students enrolled after October 1 who were not continuously enrolled in the district from the previous school year.

For questions related to this report please email accountability@cde.state.co.us