

education analytics

LINKING STUDY BETWEEN SOUTH CAROLINA COLLEGE- AND CAREER-READY ASSESSMENT (SC READY) AND MAP ASSESSMENT, GRADES 3-8

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INTRODUCTION

In the fall of 2025, the South Carolina Education Oversight Committee (SC EOC), in collaboration with the South Carolina Department of Education (SCDE), partnered with Education Analytics (EA) to complete a level-linking study between the South Carolina College-and Career-Ready Assessment (SC READY) in Mathematics and English Language Arts (ELA) and NWEA's MAP interim assessments in Mathematics and Reading, respectively. This report outlines the methodology used by EA and the outcomes of the linking study. The goal of this report is to statistically connect the SC READY and MAP assessments' scale scores in grades 3-8 to facilitate further comparisons of proficiency status on these two assessments.

METHODS

Data

This linking study used data from the spring 2025 SC READY Mathematics and ELA/Reading assessments and the MAP Mathematics and ELA assessments administered in the fall, winter and spring of the 2024-254 school year. Only students who took the MAP assessments within 30 days of SC Ready in spring 2025 were included in the spring analysis. For linkings with fall and winter interim assessments, the research sample includes students who took both SC READY and the fall or winter interim assessment. Students were matched through their state IDs or district IDs. Specifically, the study included students who completed the fall, winter, or spring MAP along with the spring SC READY assessment.

Post-Stratification Weighting

To increase the generalizability of the linking results based on the matched student sample to South Carolina's student population, EA applied post-stratification weights to the calculations. The variables used in the weighting process include gender, race/ethnicity, English learner (EL) status, poverty status, disability status, and whether a student met or exceeded standards on the same subject SC READY assessment. Through post-stratification weighting, the weighted study sample provides a closer match with South Carolina state population on these key demographic and academic performance variables than the original sample.

Raking was used to calculate the post-stratification weights. Raking involves an iterative proportional fitting procedure, which introduces each demographic and academic variable in a sequence so that it ensures the sample accurately represents the population of all variables under consideration. The variables are introduced one at a time, which allows for the incorporation of more variables in the weighting procedure. The raking procedure includes the following steps:

- 1. Collect marginal distributions of each weighting variable from South Carolina's student population.
- 2. Calculate marginal distributions of each weighting variable from the matched sample.
- 3. Calibrate post-stratification weights using the raking procedure.
- 4. Trim the weight to be within the range of 0.3 and 3. This is done to minimize the impact of outlier cases which may carry extremely large or small weights.
- 5. Apply the weights to the matched sample before conducting the linking analyses.

Equipercentile Linking

The linking analyses between SC READY and MAP assessments were conducted using the equipercentile linking method (Kolen & Brennan, 2004). The equipercentile linking function is determined by the cumulative distribution functions of the two assessments. In the linking process, the cumulative distribution function of scores on the MAP assessment converted to the spring SC READY score scale is aligned to the cumulative distribution function of scores on SC READY. More specifically, this process utilizes percentile ranks, which indicates the percentage of scores in the frequency distribution that fall below a particular score. Equipercentile linking then establishes the relationship between the two sets of test scores by identifying corresponding percentile ranks of the test scores. Thus, we can establish scores on the MAP assessment that are aligned to the three SC READY achievement level cut scores (i.e., cut score between Does Not Meet Expectations and Approaches Expectations, cut score between Approaches Expectations and Meets Expectations, and cut score between Meets Expectations and Exceeds Expectations) at grades 3-8. The linking function can be written as:

$$e_Y(x) = G^{-1}[F(x)]$$

where x represent a score on test X (e.g., SC READY ELA), $e_Y(x)$ is its corresponding score on test Y (e.g., MAP Reading), F(x) is the cumulative distribution function of a given score on SC READY, and G^{-1} is the inverse of the cumulative distribution function for MAP, which indicates the MAP scale score corresponding to a given percentile in the distribution.

Prior to the equipercentile linking, the polynomial log-linear pre-smoothing method is applied to reduce irregularities of the test score distributions. This method fits polynomial functions to the log of the sample density to smooth the distributions of the assessments (Holland & Thayer, 1987, 2000; Rosenbaum & Thayer, 1987).

Classification Accuracy

Classification accuracy statistics are used to evaluate the degree to which the equivalent scores on the spring MAP assessment to the SC READY achievement level cut scores can be used to accurately classify students' proficiency status. In this report, we summarize seven types of commonly used classification accuracy statistics (see Table 1) based on the cut score

between Approaches Expectations (i.e., not proficient) and Meets Expectations (i.e., proficient).

To facilitate appropriate interpretations of the linking results, a bootstrap analysis was also conducted whereby each linking analysis was replicated 1000 times through iterative resampling of each study sample with replacement. The bootstrap standard errors help us understand the amount of error associated with the estimates. The bootstrap standard errors associated with the test cut scores are reported in Tables 11-12.

Table 1. Description of Classification Accuracy Summary Statistics

Statistic	Description
Overall Classification Accuracy	Proportion of the study sample with correct proficiency classifications on SC READY based on MAP cut scores. Calculated as
	(TP+TN)/Total Sample Size
False Positive (FP) Rate	Proportion of proficient students based on MAP cut scores among those observed as not proficient on the SC READY test. Calculated as FP/(FP+TN)
False Negative (FN) Rate	Proportion of students who were not proficient based on MAP cut scores among those observed as proficient on the SC READY test. Calculated as FN/(FN+TP)
Sensitivity	Proportion of proficient students based on MAP cut scores among those observed as proficient on the SC READY test. Calculated as TP/(TP+FN)
Specificity	Proportion of students who were not proficient based on MAP cut scores among those observed as not proficient on the SC READY test. Calculated as TN/(TN+FP)
Precision	Proportion of observed proficient students on the SC READY test among those classified as proficient based on MAP cut scores. Calculated as TP/(TP+FP)
Area Under the Curve (AUC)	An overall indication of the diagnostic accuracy of a Receiver Operating Characteristic (ROC) curve. AUC tells us how well the MAP cut score separates the study sample as proficient and not proficient in accordance with the SC READY ELA test cut score. An AUC above 0.80 is considered "convincing evidence" of classification accuracy.

Note: TP = true positive; TN = true negative; FP = false positive; FN = false negative.

Figure 1 is a scatterplot of the SC READY and MAP Mathematics scores from grade 4 in spring 2025. The best-fitting curve (i.e., the black dashed line) shows the MAP Mathematics scores that correspond to the SC READY Mathematics scores through the linking estimation. For example, the SC READY Mathematics score of 481 is the cut score for "Meets Expectations" at grade 4. This score corresponds to the MAP Mathematics score of 209 with a standard error of 0.25 in the linking results. The narrow black bands plotted around the dashed curve show the 95% confidence interval. The small standard errors provide evidence of the accuracy of the linking model. However, the SC READY Mathematics score of 481 and the MAP Mathematics score of 209 should not be used interchangeably. As shown in Figure 1, not all students who scored 209 and above on the MAP Mathematics test also scored 481 or higher on the SC READY Mathematics test in spring 2025. Specifically, students in Quadrant IV scored lower than 481. Similarly, students who met or exceeded expectations (i.e., scored 481 or above) on the SC READY Mathematics test, had a wide range of scores on the MAP Mathematics test, some of which were below 209 (i.e., students in Quadrant II). We recommend users examine the scatterplot of observed test scores and bootstrap standard errors to gain a more complete understanding of the linking results and associated limitations.

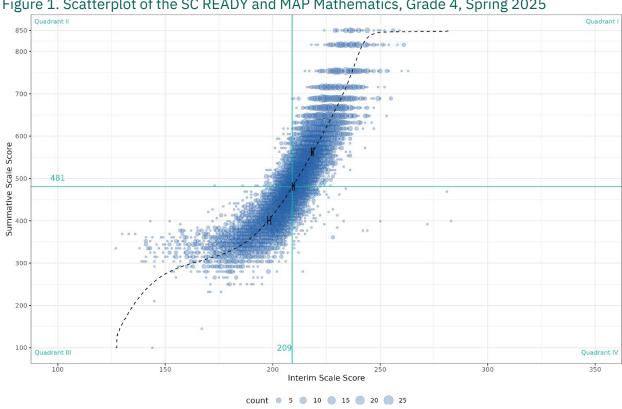


Figure 1. Scatterplot of the SC READY and MAP Mathematics, Grade 4, Spring 2025

RESULTS

Study Sample

The linking study sample described in Tables 2 through 7 includes students who took both the SC READY and MAP Mathematics and ELA/Reading assessments in spring 2025 from 31 school districts in South Carolina. Tables 2 and 3 summarize the sample characteristics, including student demographic subgroups (i.e., gender, race/ethnicity, poverty, EL, and disability status) and percent of students who met or exceeded standards on the SC READY Mathematics and ELA assessments at each grade in the original sample before post-stratification weighting.

Table 2. Unweighted Linking Study Sample Characteristics: Mathematics (Spring)

3	4	5			
		Э	6	7	8
49.5	49.1	48.9	49.5	49.9	48.9
50.5	50.9	51.1	50.5	50.1	51.1
35.2	34.5	32.9	31.9	33	33.3
12.6	12.2	11.7	12.5	13.1	13.0
42.3	43.1	45.7	47.3	45.3	45.7
9.9	10.2	9.7	8.3	8.6	8.0
64.7	63.7	63	57.5	57.3	57.4
9.8	7.2	7.2	7.4	7.9	7.8
16.3	17.1	16.2	13.9	12.5	12.4
57.6	53.0	46.8	42.9	37.2	34.2
42.4	47.0	53.2	57.1	62.8	65.8
	50.5 35.2 12.6 42.3 9.9 64.7 9.8 16.3	50.5 50.9 35.2 34.5 12.6 12.2 42.3 43.1 9.9 10.2 64.7 63.7 9.8 7.2 16.3 17.1 57.6 53.0	50.5 50.9 51.1 35.2 34.5 32.9 12.6 12.2 11.7 42.3 43.1 45.7 9.9 10.2 9.7 64.7 63.7 63 9.8 7.2 7.2 16.3 17.1 16.2 57.6 53.0 46.8	50.5 50.9 51.1 50.5 35.2 34.5 32.9 31.9 12.6 12.2 11.7 12.5 42.3 43.1 45.7 47.3 9.9 10.2 9.7 8.3 64.7 63.7 63 57.5 9.8 7.2 7.2 7.4 16.3 17.1 16.2 13.9 57.6 53.0 46.8 42.9	50.5 50.9 51.1 50.5 50.1 35.2 34.5 32.9 31.9 33 12.6 12.2 11.7 12.5 13.1 42.3 43.1 45.7 47.3 45.3 9.9 10.2 9.7 8.3 8.6 64.7 63.7 63 57.5 57.3 9.8 7.2 7.2 7.4 7.9 16.3 17.1 16.2 13.9 12.5 57.6 53.0 46.8 42.9 37.2

Table 3. Unweighted Linking Study Sample Characteristics: ELA (Spring)

Culadina	Percent of Students by Grade							
Subgroup	3	4	5	6	7	8		
Female	49.3	49.1	48.9	49.0	49.4	48.6		
Male	50.7	50.9	51.1	51.0	50.6	51.4		
Black	34.1	34.1	32.9	33.2	34.2	34.5		
Hispanic	15.7	12.2	11.2	13.2	13.9	13.7		
White	41.1	43.5	46.2	45.3	43.3	43.8		
Other	9.1	10.2	9.7	8.4	8.6	8.0		
Pupil in Poverty	66.0	63.5	62.7	58.8	58.4	58.7		
English Learner	12.7	7.2	6.9	8.2	8.4	8.3		
Student with Disabilities	16.2	17.3	16.2	16.3	14.4	13.8		
SC READY: Meets Expectations or Exceeds Expectations	58.1	63.2	61.7	56.8	59.4	55.0		
SC READY: Does Not Meet Expectations or Approaches Expectations	41.9	36.8	38.3	43.2	40.6	45.0		

Distributions of the weighting variables in the South Carolina student population are listed in Table 4. After adjusting for post-stratification weights, the sample characteristics were recalculated. They are shown in Tables 5 and 6 at each grade level for mathematics and ELA, respectively. After weighting, the sample distributions are almost identical to the population distributions.

Table 4. South Carolina Student Population Characteristics

Cultura	Percent of Students by Grade							
Subgroup	3	4	5	6	7	8		
Female	48.9	49.5	48.8	49.0	49.1	49.1		
Male	51.1	50.5	51.2	51.0	50.9	50.9		
Black	29.2	29.4	29.6	30.1	30.5	30.5		
Hispanic	15.1	14.8	14.2	14.3	14.5	14.5		
White	46.8	46.8	47.4	46.9	46.5	46.9		
Others	9.0	9.0	8.8	8.7	8.5	8.1		
Pupil in Poverty	62.9	62.3	61.8	61.7	61.1	60.2		
English Learner	13.5	10.6	10.1	10.1	10.0	9.9		
Student with Disabilities	15.3	15.5	15.2	14.2	13.4	13.1		
SC READY Math: Meets								
Expectations or Exceeds	56.3	53.7	48.1	39.4	34.0	32.4		
Expectations								
SC READY Math: Does Not Meet								
Expectations or Approaches	43.7	46.3	51.9	60.6	66.0	67.6		
Expectations								
SC READY ELA: Meets								
Expectations or Exceeds	61.7	63.5	62.5	56	58.2	55.7		
Expectations								
SC READY ELA: Does Not Meet								
Expectations or Approaches	38.3	36.5	37.5	44	41.8	44.3		
Expectations								

Sources: https://ed.sc.gov/data/test-scores/state-assessments/sc-ready/2025/state-scores-by-grade-level-and-demographic/?districtCode=9999&schoolCode=1001

Note: Information in this table is based on students who took the 2025 SC READY Mathematics and ELA statewide tests. In the few cases where students' race/ethnicity and poverty status differ by 0.1%, numbers shown are the average of percentages from mathematics and ELA.

Table 5. Weighted Linking Study Sample Characteristics: Mathematics (Spring)

Cubanaun	Percent of Students by Grade							
Subgroup	3	4	5	6	7	8		
Female	48.9	49.5	48.8	49.0	49.1	49.0		
Male	51.1	50.5	51.2	51.0	50.9	51.0		
Black	29.1	29.4	29.6	30.1	30.5	30.5		
Hispanic	15.1	14.8	14.2	14.3	14.5	14.5		
White	46.8	46.8	47.4	46.8	46.5	46.9		
Other	9.0	9.0	8.8	8.7	8.5	8.1		
Pupil in Poverty	62.9	62.3	61.8	61.8	61.1	60.3		
English Learner	13.5	10.6	10.1	10.1	10.0	9.9		
Student with Disabilities	15.3	15.5	15.2	14.2	13.4	13.1		
SC READY: Meets Expectations or Exceeds Expectations	56.3	53.7	48.1	39.4	34.0	32.4		
SC READY: Does Not Meet								
Expectations or Approaches	43.7	46.3	51.9	60.6	66.0	67.6		
Expectations								

Table 6. Weighted Linking Study Sample Characteristics: ELA (Spring)

Culadrana	Percent of Students by Grade							
Subgroup	3	4	5	6	7	8		
Female	48.9	49.5	48.8	49.0	49.1	49.1		
Male	51.1	50.5	51.2	51.0	50.9	50.9		
Black	29.1	29.4	29.6	30.1	30.5	30.5		
Hispanic	15.1	14.8	14.2	14.3	14.5	14.5		
White	46.8	46.8	47.4	46.8	46.5	46.9		
Other	9.0	9.0	8.8	8.7	8.5	8.1		
Pupil in Poverty	62.9	62.3	61.8	61.7	61.1	60.2		
English Learner	13.5	10.6	10.1	10.1	10.0	9.9		
Student with Disabilities	15.3	15.5	15.2	14.2	13.4	13.1		
SC READY: Meets Expectations or	61.7	63.5	60 E	56.0	58.2	55.7		
Exceeds Expectations	01.7	03.5	62.5	56.0	56.2	55.7		
SC READY: Does Not Meet								
Expectations or Approaches	38.3	36.5	37.5	44.0	41.8	44.3		
Expectations								

Descriptive Statistics of Test Scores

Table 7 presents summary statistics of the SC READY and MAP Mathematics and ELA/Reading scores using the unweighted linking sample, which include the sample size, mean and standard deviation, and correlation (r) between the tests at each grade level. The correlations range from 0.77 (grade 8, Mathematics) to 0.87 (grade 3, ELA) which indicate moderate to strong associations between the two tests. This provides a good foundation for conducting a linking study between the SC Ready and MAP Mathematics and ELA/Reading tests.

Table 7. Descriptive Statistics of SC READY and MAP Mathematics and ELA/Reading Scores (Spring)

				Grad	le		
	•	3	4	5	6	7	8
			Mathema	atics			
	N	9,755	9,382	9,107	12,961	13,155	13,013
	r	0.84	0.85	0.86	0.83	0.81	0.77
	Mean	464.8	497.5	538.7	538.4	554.6	583.9
SC READY	S.D.	113.6	114.8	107.0	109.6	105.1	100.7
SC READ I	Min.	100	100	274	277	282	313
	Max.	825	850	875	900	925	950
	Mean	200.1	208.7	216.3	220.9	225.7	228.9
MAP	S.D.	14.8	16.4	18.3	18.4	20.4	21.9
MAC	Min.	125	127	132	150	150	146
	Max.	260	283	281	298	310	311
			ELA				
	N	11,601	9,298	8,958	12,766	12,655	12,641
	r	0.87	0.84	0.83	0.84	0.82	0.80
	Mean	473.5	533.4	552.3	572.3	587.4	606.7
SC READY	S.D.	103.3	109.4	94.8	105.1	88.8	95.6
SC READT	Min.	163	265	296	243	322	343
	Max.	825	850	875	900	925	950
	Mean	194.7	203.5	209.3	213.4	217.0	219.9
MAP	S.D.	18.0	17.3	17.2	17.1	16.9	17.2
MAF	Min.	140	142	141	152	156	157
	Max.	241	265	258	266	268	267

SC READY and MAP Cut-Score Equivalents

The section below summarizes the linking results by subject, grade level, and term. Table 8 summarizes the SC READY cut score equivalents for the "Meets Expectations" proficiency level on MAP. Tables 9 and 10 present the linking results between SC READY summative assessment and MAP fall, winter, and spring tests for mathematics and ELA, respectively. The top panel shows the ranges of SC READY scale scores at each proficiency level and each grade in 2024-25. The bottom panel shows the corresponding MAP scores.

Table 8. MAP "Meets Expectations" Cut Score Equivalents Summary

Cuada		Mathematics			ELA	
Grade —	Fall	Winter	Spring	Fall	Winter	Spring
3	185	193	200	180	189	194
4	199	204	209	192	198	201
5	209	214	218	201	205	208
6	217	221	225	209	211	214
7	225	229	232	210	213	216
8	231	235	238	215	218	220

Table 9. SC READY and MAP Cut Score Equivalents: Mathematics

			SC READY					
	Grade	Does Not Meet	Approaches	Meets	Exceeds			
		Expectations	Expectations	Expectations	Expectations			
	3	100-359	360-437	438-542	543-825			
	4	100-400	401-480	481-562	563-850			
	5	100-447	448-534	535-621	622-875			
	6	100-452	453-542	543-626	627-900			
	7	100-487	488-576	577-648	649-925			
	8	100-526	527-614	615-682	683-950			
			M	AP				
Season	Grade	Does Not Meet	Approaches	Meets	Exceeds			
		Expectations	Expectations	Expectations	Expectations			
	3	100-175	176-184	185-195	196-350			
	4	100-187	188-198	199-206	207-350			
Fall	5	100-194	195-208	209-219	220-350			
rall	6	100-203	204-216	217-225	226-350			
	7	100-209	210-224	225-234	235-350			
	8	100-213	214-230	231-241	242-350			
	3	100-182	183-192	193-203	204-350			
	4	100-193	194-203	204-212	213-350			
Winter	5	100-199	200-213	214-224	225-350			
willer	6	100-206	207-220	221-230	231-350			
	7	100-212	213-228	229-239	240-350			
	8	100-216	217-234	235-246	247-350			
	3	100-188	189-199	200-210	211-350			
	4	100-197	198-208	209-218	219-350			
Corios	5	100-202	203-217	218-230	231-350			
Spring	6	100-208	209-224	225-235	236-350			
	7	100-215	216-231	232-243	244-350			
	8	100-218	219-237	238-250	251-350			

Table 10. SC READY and MAP Cut Score Equivalents: ELA

		MAP Cut Score Equ		EADY	
	Grade	Does Not Meet	Approaches	Meets	Exceeds
		Expectations	Expectations	Expectations	Expectations
	3	100-359	360-453	454-540	541-825
	4	100-419	420-490	491-602	603-850
	5	100-464	465-524	525-631	632-875
	6	100-470	471-550	551-645	646-900
	7	100-509	510-567	568-663	664-925
	8	100-526	527-593	594-686	687-950
			M	AP	
Season	Grade	Does Not Meet	Approaches	Meets	Exceeds
		Expectations	Expectations	Expectations	Expectations
	3	100-160	161-179	180-194	195-350
	4	100-177	178-191	192-206	207-350
Fall	5	100-187	188-200	201-216	217-350
rall	6	100-194	195-208	209-220	221-350
	7	100-199	200-209	210-225	226-350
	8	100-203	204-214	215-228	229-350
	3	100-168	169-188	189-202	203-350
	4	100-184	185-197	198-211	212-350
Winter	5	100-193	194-204	205-219	220-350
Winter	6	100-197	198-210	211-222	223-350
	7	100-203	204-212	213-228	229-350
	8	100-206	207-217	218-231	232-350
	3	100-175	176-193	194-206	207-350
	4	100-188	189-200	201-214	215-350
Coring	5	100-196	197-207	208-222	223-350
Spring	6	100-198	199-213	214-225	226-350
	7	100-205	206-215	216-230	231-350
	8	100-208	209-219	220-233	234-350

The bootstrap standard errors of each equivalent MAP cut scores are listed in Tables 11 and 12 for Mathematics and ELA, respectively. They are relatively small across all linking studies conducted across grades 3-8, test subjects, and performance levels. This gives us evidence supporting the accuracy of the linking results. However, it is also important to keep in mind that linking is a statistical procedure to estimate the equivalence between two sets of test scores and, therefore, linking results contain estimation error.

Table 11. Equivalent MAP Cut Score Bootstrap Standard Errors: Mathematics

	·		MAP Scores Reaching Performance Level								
Season	Grade	Approaches Expectations		Meets Expe	ectations	Exceeds Exp	Exceeds Expectations				
		Cut Score	S.E.	Cut Score	S.E.	Cut Score	S.E.				
	3	176	0.20	185	0.15	196	0.14				
	4	188	0.21	199	0.15	207	0.14				
Fall	5	195	0.24	209	0.17	220	0.17				
ran	6	204	0.19	217	0.17	226	0.19				
	7	210	0.20	225	0.20	235	0.22				
	8	214	0.22	231	0.21	242	0.25				
	3	183	0.22	193	0.16	204	0.14				
	4	194	0.23	204	0.16	213	0.15				
Winter	5	200	0.24	214	0.18	225	0.19				
VVIIILEI	6	207	0.22	221	0.19	231	0.20				
	7	213	0.23	229	0.23	240	0.26				
	8	217	0.24	235	0.25	247	0.29				
	3	189	0.31	200	0.22	211	0.19				
	4	198	0.36	209	0.25	219	0.22				
Spring	5	203	0.38	218	0.29	231	0.30				
Spring	6	209	0.28	225	0.26	236	0.28				
	7	216	0.28	232	0.28	244	0.34				
	8	219	0.29	238	0.31	251	0.37				

Table 12. Equivalent MAP Cut Score Bootstrap Standard Errors: ELA

	Grade	MAP Scores Reaching Performance Level							
Season		Approaches Expectations		Meets Expectations		Exceeds Expectations			
		Cut Score	S.E.	Cut Score	S.E.	Cut Score	S.E.		
Fall	3	161	0.30	180	0.24	195	0.18		
	4	178	0.40	192	0.23	207	0.17		
	5	188	0.34	201	0.20	217	0.16		
	6	195	0.31	209	0.18	221	0.16		
	7	200	0.27	210	0.20	226	0.16		
	8	204	0.26	215	0.18	229	0.17		
Winter	3	169	0.40	189	0.21	203	0.16		
	4	185	0.37	198	0.21	212	0.16		
	5	194	0.29	205	0.18	220	0.14		
	6	198	0.32	211	0.19	223	0.16		
	7	204	0.28	213	0.19	229	0.17		
	8	207	0.25	218	0.18	232	0.16		
Spring	3	176	0.56	194	0.28	207	0.20		
	4	189	0.51	201	0.29	215	0.23		
	5	197	0.42	208	0.26	223	0.22		
	6	199	0.39	214	0.23	226	0.19		
	7	206	0.34	216	0.24	231	0.20		
	8	209	0.30	220	0.23	234	0.22		

Classification Accuracy

Table 13 summarizes results from the classification accuracy statistics described in Table 1 for the spring linking studies. These are diagnostics used to evaluate the accuracy of using the NWEA MAP test scores to classify students as proficient (Meets Expectations and Exceeds Expectations) or not proficient (Does Not Meet Expectations and Approaches Expectations) on the SC READY Mathematics and ELA summative assessments. The overall classification accuracy statistics range from 0.84 to 0.89, and the AUC statistics are above 0.90 at all grade levels. These diagnostics provide convincing evidence of good classification accuracy for using the linked MAP scores to estimate students' proficiency status on the SC READY assessments at grades 3-8.

Table 13. Classification Accuracy Results (Spring)

	Overall	False	False									
Grade	Classification	Positive	Negative	Sensitivity	Specificity	Precision	AUC					
	Accuracy	Rate	Rate									
Mathematics												
3	0.87	0.16	0.10	0.90	0.84	0.88	0.94					
4	0.88	0.16	0.09	0.91	0.84	0.86	0.95					
5	0.86	0.15	0.12	0.88	0.85	0.83	0.94					
6	0.88	0.10	0.14	0.86	0.90	0.86	0.95					
7	0.88	0.11	0.14	0.86	0.89	0.83	0.93					
8	0.86	0.10	0.22	0.78	0.90	0.80	0.90					
ELA												
3	0.89	0.15	0.09	0.91	0.85	0.89	0.95					
4	0.88	0.18	0.09	0.91	0.82	0.90	0.95					
5	0.87	0.18	0.10	0.90	0.82	0.89	0.94					
6	0.86	0.15	0.13	0.87	0.85	0.88	0.94					
7	0.86	0.18	0.12	0.88	0.82	0.88	0.93					
8	0.84	0.18	0.14	0.86	0.82	0.86	0.91					

CONCLUSIONS

Equipercentile linking is a statistical procedure used to facilitate interpretation of scores on the SC READY Mathematics and ELA assessments and the NWEA MAP Growth Mathematics and Reading assessments. Despite good classification accuracy results from this study, there are still important notes of caution to call out when interpreting and using the linked scores.

First, the two tests are constructed differently with regard to test content specifications, test design, and test purpose. For example, the MAP Growth Reading assessment is one of two MAP assessments used to assess students' ELA skills (Language Usage is the other assessment), and focuses on "reading comprehension, understanding of genres and text, and vocabulary" (NWEA, 2019, p.11). The SC READY ELA assessment is composed of two subtests – writing and reading, and measures student performance on Reading Literary Text, Reading Informational Text, Reading (vocabulary) Across Genres, Writing, and Research and Evaluation Ideas (SCDE, 2025). The statistical adjustments in linking do not adjust for differences in content. Therefore, scores on the SC READY and NWEA MAP assessments should not be used interchangeably. The linked scores facilitate comparisons of proficiency status between two assessments, but do not imply equivalence.

Second, while there is a high level of confidence associated with the models, the linked scores are based on a 50% likelihood estimation. This means that not all students who reach a

proficiency cut score on MAP will necessarily reach the associated score on SC READY. For example, as we saw in Figure 1 above, while the SC READY 481 cut score for "Meets Expectations" in grade 4 corresponds to the MAP Mathematics score of 209 on average, there is a wide range of MAP scores among students who reached a 481 on SC READY. The interpretation of the estimated 209 MAP Reading score is that 4th grade students with this MAP score have a 50% probability of scoring 481 or higher (i.e., reaching "Meets Expectations") on the SC READY ELA test. The results are more accurate for students on average than as associated with individual students.

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