Predicting Proficiency on the New Mexico Measures of Student Success and Achievement (NM-MSSA) in Grades 3–8 based on NWEA MAP Growth Scores

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NWEA Psychometric Solutions

nwea

Linking Study Updates

Date	Description
2023-09	Initial study conducted for New Mexico in ELA and Mathematics in Grades 3–8 using Spring 2022 data.

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Executive Summary

Linking studies allow partners to use MAP® Growth™ Rasch Unit (RIT) scores throughout the year to predict their students' likely performance levels on the state summative assessment. This is accomplished through statistical analyses that produce RIT cut scores corresponding to the state summative performance levels. A *cut score* is the minimum score a student must get on a test to be placed at a certain performance level. The linking study for the New Mexico Measures of Student Success and Achievement (NM-MSSA) described in this report provides RIT cut scores for the fall, winter, and spring MAP Growth administrations that correspond to the NM-MSSA performance levels for Mathematics and English Language Arts (ELA)/Reading in Grades 3–8.

The linking study is based on test scores from students who took both the MAP Growth and NM-MSSA assessments using Spring 2022 data for the targeted grades. The linking study sample included 10,309 students across 13 districts and 33 schools in New Mexico. Scores from both tests were used as the basis for linking the two assessments.

Before the linking analyses began, NWEA confirmed that the MAP Growth and NM-MSSA assessments are aligned based on the same or similar set of content standards to warrant a connection. The test links were further investigated by calculating the Pearson correlation coefficients that relate the relationship between the specific MAP Growth and NM-MSSA test scores. At NWEA, a correlation of $r \geq 0.70$ is considered a "high" correlation and acceptable for publishing. This indicates that students who perform well on one assessment also tend to perform well on the other, and vice versa. A perfect positive correlation is 1.00. The correlations between the MAP Growth and NM-MSSA test scores from Spring 2022, shown below, are consistent with our expectations that MAP Growth is a good assessment for predicting performance on the NM-MSSA.

Figure E.1. Correlations between MAP Growth and NM-MSSA Scores
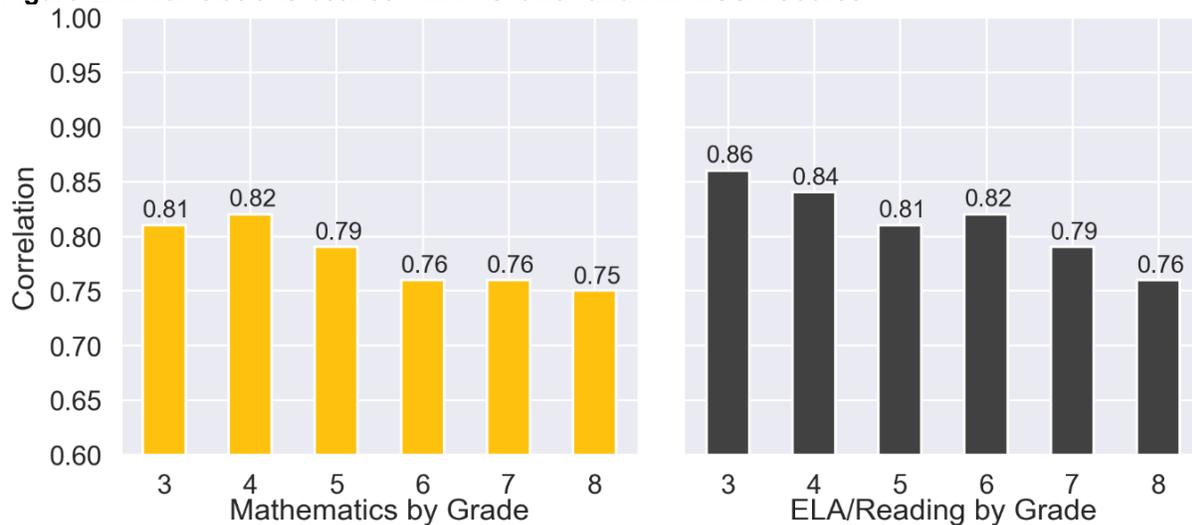
The equipercentile linking method (Kolen & Brennan, 2004) and the 2020 MAP Growth norms (Thum & Kuhfeld, 2020) were then used to produce the RIT cut scores that correspond to performance on the NM-MSSA assessment for every subject and grade. While RIT cut scores were generated for every performance level on the NM-MSSA assessment, Table E.1 presents the *Proficient* cut scores that indicate the minimum score a student must get to be considered proficient (reaching *Proficient* or higher).

Table E.1. MAP Growth RIT Cut Scores for NM-MSSA Proficiency

Assessment		*Proficient* Cut Scores by Grade						
		2	3	4	5	6	7	8
Mathematics								
NM-MSSA Spring		–	360	460	560	660	760	860
MAP Growth	Fall	183	196	205	209	215	221	234
	Winter	192	203	212	215	220	225	237
	Spring	197	208	216	219	223	228	239
ELA/Reading								
NM-MSSA Spring		–	360	460	560	660	760	860
MAP Growth	Fall	174	188	196	204	212	214	219
	Winter	183	195	202	209	216	217	222
	Spring	187	198	204	211	217	218	223

Educators can use these cut scores to determine whether students are on track for proficiency on the state assessment. For example, the *Proficient* cut score on the Grade 3 NM-MSSA Mathematics test is 360. A Grade 3 student with a MAP Growth Mathematics RIT score of 196 in the fall is likely to meet expectations on the NM-MSSA Mathematics test in the spring, whereas a Grade 3 student with a RIT score lower than 196 in the fall is in jeopardy of not meeting proficiency. MAP Growth cut scores for Grade 2 are also provided so educators can track early learners' progress toward expectations on the NM-MSSA assessment by Grade 3.

As further evidence that MAP Growth scores can be used to predict students' proficiency on the state test, NWEA calculated classification accuracy statistics that show how well the RIT scores can correctly classify, or predict, students as proficient on the state tests. For example, the Grade 3 MAP Growth Mathematics cut score correctly classified students' proficiency (*Proficient* or higher) on the NM-MSSA Mathematics test 88% of the time. A high statistic indicates high accuracy. Overall, MAP Growth scores have a high accuracy rate of identifying student proficiency on the NM-MSSA tests, as illustrated below.

Figure E.2. Accuracy of MAP Growth Classifications
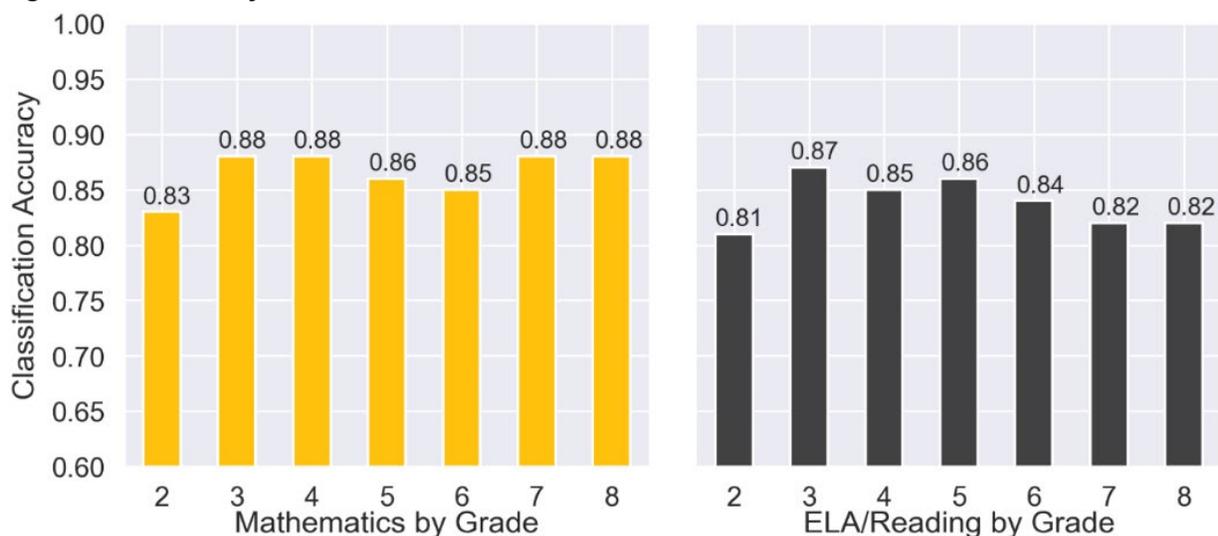
Please note that the purpose of this report is to explain NWEA's linking study methodology. It is not meant as the main reference for determining a student's likely performance on the state summative assessment. The cut scores in this report are based on the default instructional weeks most encountered for each term (i.e., Weeks 4, 20, and 32 for fall, winter, and spring), whereas instructional weeks often vary by district. The cut scores in this report may therefore differ from the results in the NWEA reporting system that reflect the specific instructional weeks set by partners. Partners should therefore reference their MAP Growth score reports instead.

1. Introduction

1.1. Purpose of the Study

NWEA® is committed to providing partners with useful tools to help make inferences about student learning from MAP® Growth™ test scores. One important use of MAP Growth results is to predict a student's performance on the state summative assessment at different times throughout the year. This allows educators and parents to determine if a student is on track in their learning to meet state standards by the end of the year or, given a student's learning profile, is on track to obtain rigorous, realistic growth in their content knowledge and skills.

This document presents results from a linking study conducted by NWEA to statistically connect Rasch Unit (RIT) scores from the MAP Growth assessments with scores from the New Mexico Measures of Student Success and Achievement (NM-MSSA) Mathematics and English Language Arts (ELA)/Reading in Grades 3–8 taken during the Spring 2022 term.[1] MAP Growth cut scores are also included for Grade 2 so educators can track early learners' progress toward proficiency on the NM-MSSA test by Grade 3. Specifically, this report presents the following results:

1. Student sample demographics
2. Descriptive statistics of test scores
3. MAP Growth cut scores from fall, winter, and spring that correspond to the performance levels on the spring NM-MSSA
4. Classification accuracy statistics to determine the degree to which MAP Growth accurately predicts student proficiency status on the NM-MSSA
5. The probability of achieving grade-level proficiency on the NM-MSSA assessment based on MAP Growth RIT scores from fall, winter, and spring

1.2. Assessment Overview

The NM-MSSA Grades 3–8 Mathematics and ELA tests are New Mexico's state summative assessments aligned to the New Mexico's Learning Standards. Based on their test scores, students are placed into one of four performance levels: *Novice*, *Nearing Proficiency*, *Proficient*, and *Advanced*. The *Proficient* cut score demarks the minimum level of achievement considered to be proficient for accountability purposes.

MAP Growth tests are adaptive interim assessments aligned to state-specific content standards and administered in the fall, winter, and spring. Scores are reported on the RIT vertical scale with a range of 100 to 350. NWEA conducts norming studies of student and school performance on MAP Growth assessments to aid the interpretation of scores. Growth norms provide expected score gains for a test from term to term, such as from fall to spring terms. The most recent norms study was conducted in 2020.

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[1] This study provides MAP Growth cut scores that predict proficiency on the NM-MSSA for Grades 2–8 only. They represent a higher level of achievement than universal screening cut scores designed to identify students with the most severe learning difficulties who may need intensive intervention. MAP Growth universal screening cut scores for Grades K–8 in reading and mathematics are available in a separate report (He & Meyer, 2021).

2. Methods

2.1. Data Collection

This linking study is based on data from the Spring 2022 administrations of the MAP Growth and NM-MSSA assessments. NWEA recruited New Mexico districts to participate in the study by sharing their student and score data for the target term. Districts also gave NWEA permission to use their students' MAP Growth scores from the NWEA in-house database. Once state score information was received by NWEA, each student's state testing record was matched to their MAP Growth score based on the student's first and last names, date of birth, student ID, and other available identifying information. Only students who took both the MAP Growth and NM-MSSA assessments were included in the study sample.

2.2. Post-Stratification Weighting

Post-stratification weights were applied to the calculations to ensure that the linking study sample represented the state's test-taking student population in terms of race, sex, and performance level. These variables were selected because they are known to be correlated with students' academic achievement and are often available in state summative assessment reports. The weighted sample will match the target population as closely as possible on the key demographics and performance characteristics as defined by the state.

A raking procedure was used to calculate the post-stratification weights that either compensate for the underrepresentation of certain groups or attenuate the overrepresentation of certain groups. Raking uses iterative procedures to obtain weights that match sample marginal distributions to known population margins. The following steps were taken during this process:

1. Calculate marginal distributions of race, sex, and performance level for the sample and population.
2. Calculate post-stratification weights with the rake function from the survey package in R (Lumley, 2019).
3. Trim the weights that are outside the range of 0.3 to 3.0.
4. Apply the weights to the sample before conducting the linking study analyses.

2.3. Descriptive Statistics

Descriptive statistics are provided to summarize the test scores for both the MAP Growth and NM-MSSA assessments, including the test score mean, standard deviation (SD), minimum, and maximum. The mean presents the average test scores across all students in the study sample, and the SD indicates the variability of test scores, revealing how students' scores are distributed around the average score, or mean. Correlation coefficients between the MAP Growth RIT scores and NM-MSSA scores are also provided to answer the question, "How well do the test scores from MAP Growth that reference the RIT scale correlate to the scores obtained from the NM-MSSA test that references some other scale in the same subject?" The correlations were calculated as follows:

$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}} \tag{1}$$

where r is the correlation coefficient, x_i and y_i are the values of the x- and y-variables in a sample, and $\bar{x}$ and $\bar{y}$ are the mean of the values of the x- and y-variables.

2.4. MAP Growth Cut Scores

MAP Growth cut scores that predict student achievement on the NM-MSSA assessments are reported for Grades 3–8, as well as for Grade 2 so educators can track early learners' progress toward proficiency on the NM-MSSA test by Grade 3. Percentile ranks based on the 2020 NWEA norms are also provided. These are useful for understanding how students' scores compare to peers nationwide and the relative rigor of a state's performance level designations for its summative assessment.

The equipercentile linking method was used to identify the spring MAP Growth RIT scores for Grades 3–8 that correspond to the spring NM-MSSA performance level cut scores. The equipercentile linking procedure matches scores on the two scales that have the same percentile rank (i.e., the proportion of tests at or below each score). For example, let x represent a score on Test X (e.g., NM-MSSA). Its equipercentile equivalent score on Test Y (e.g., MAP Growth), $e_y(x)$, can be obtained through a cumulative-distribution-based linking function defined in Equation 2:

$$e_y(x) = G^{-1}[P(x)] \tag{2}$$

where $e_y(x)$ is the equipercentile equivalent of score x on NM-MSSA on the scale of MAP Growth, $P(x)$ is the percentile rank of a given score on NM-MSSA and G^{-1} is the inverse of the percentile rank function for MAP Growth that indicates the score on MAP Growth corresponding to a given percentile. Polynomial loglinear pre-smoothing was applied to reduce irregularities of the score distributions and equipercentile linking curve.

The MAP Growth conditional growth norms provide students' expected score gains across terms, such as growth from fall to spring within the same grade or from spring of a lower grade to spring of the adjacent higher grade. This information was used to calculate the fall and winter cut scores for Grades 3–8. Equation 3 was used to determine the previous terms MAP Growth score needed to reach the spring cut score, considering the expected growth associated with the previous RIT score:

$$RIT_{PredSpring} = RIT_{previous} + g \tag{3}$$

where:
- $RIT_{PredSpring}$ is the predicted MAP Growth spring score.
- $RIT_{previous}$ is the previous terms RIT score.
- g is the expected growth from the previous fall or winter RIT to the spring RIT score.

Students do not take the NM-MSSA assessment in Grade 2. Therefore, the MAP Growth conditional growth norms were also used to estimate the fall, winter, and spring cuts in Grade 2 that are needed to meet NM-MSSA proficiency in Grade 3. To derive the Grade 2 spring cut scores, the growth score from spring of one year to the next was used (i.e., the growth score from spring of Grade 2 to spring of Grade 3). The estimations of fall and winter cuts followed the same process as above for Grades 3–8. For example, the projected growth from fall to spring in Grade 2 was used to calculate the fall cuts for Grade 2.

2.5. Classification Accuracy

The degree to which MAP Growth predicts student proficiency status on the NM-MSSA tests can be described using classification accuracy statistics based on the MAP Growth spring RIT cut scores. The results show the proportion of students correctly classified by their RIT scores as proficient or not proficient on the NM-MSSA test. The classification accuracy statistics for Grade 2 were calculated by obtaining current Grade 3 students' MAP Growth scores from the previous year. Thus, the classification accuracy statistics for Grade 2 represent how well these estimated RIT cuts predict proficiency in the NM-MSSA assessments in Grades 3, respectively, in our study sample. Table 2.1 describes the classification accuracy statistics in this report (Pommerich et al., 2004).

Table 2.1. Description of Classification Accuracy Summary Statistics

Statistic	Description*	Interpretation
Overall Classification Accuracy Rate	(TP + TN) / (total sample size)	Proportion of the study sample whose proficiency classification on the state test was correctly predicted by MAP Growth cut scores
False Negative (FN) Rate	FN / (FN + TP)	Proportion of not-proficient students identified by MAP Growth in those observed as proficient on the state test
False Positive (FP) Rate	FP / (FP + TN)	Proportion of proficient students identified by MAP Growth in those observed as not proficient on the state test
Sensitivity	TP / (TP + FN)	Proportion of proficient students identified by MAP Growth in those observed as such on the state test
Specificity	TN / (TN + FP)	Proportion of not-proficient students identified by MAP Growth in those observed as such on the state test
Precision	TP / (TP + FP)	Proportion of observed proficient students on the state test in those identified as such by the MAP Growth test
Area Under the Curve (AUC)	Area under the receiver operating characteristics (ROC) curve	How well MAP Growth cut scores separate the study sample into proficiency categories that match those from the state test cut scores. An AUC at or above 0.80 is considered "good" accuracy.

*FP = false positives. FN = false negatives. TP = true positives. TN = true negatives.

2.6. Proficiency Projections

Given that all test scores contain measurement errors, reaching the *Proficient* RIT cut does not guarantee that the student is proficient at the state test. Instead, we can claim that a student with the RIT cut score has a 50% chance of reaching proficiency on the state test, with their chances increasing the greater their score is from the cut. The proficiency projections indicate these probabilities for various RIT scores throughout the year.

In addition to calculating the MAP Growth fall and winter cut scores (and the projected Grade 2 cut scores), the MAP Growth conditional growth norms data were also used to calculate the probability of reaching proficiency on the NM-MSSA test in the spring based on a student's RIT scores from fall and winter (see Equation 4).

$$Pr(Achieving\ Proficient\ in\ spring|\ starting\ RIT) = \Phi\left(\frac{RIT_{previous} + g - RIT_{SpringCut}}{SD}\right) \qquad (4)$$

where:

- Φ is the standard normal cumulative distribution function.
- $RIT_{previous}$ is the student's RIT score in fall or winter (or in spring of Grade 2).
- g is the expected growth from the previous fall or winter RIT to the spring RIT.
- $RIT_{SpringCut}$ is the MAP Growth cut score associated with state proficiency in spring. For Grade 2, this is the Grade 3 cut score for spring.
- SD is the conditional standard deviation of the expected growth, g.

Equation 5 was used to estimate the probability of a student achieving *Proficient* performance on the NM-MSSA test based on their spring RIT score (RIT_{Spring}):

$$Pr(Achieving\ Proficient\ in\ spring \mid spring\ RIT) = \Phi\left(\frac{RIT_{Spring} - RIT_{SpringCut}}{SE}\right) \qquad (5)$$

where SE is the standard error of measurement for MAP Growth.

3. Results

3.1. Study Sample

Only students who took both the MAP Growth and NM-MSSA assessments in Spring 2022 for the target subjects were included in the sample. Data were collected from 13 districts and 33 schools in New Mexico. Table 3.1 presents the distributions of student race, sex, and performance level in the original unweighted study sample. Table 3.2 presents the distributions of the target population of students who took the NM-MSSA tests. Since the original study sample is different from the target NM-MSSA population, post-stratification weights were applied. Table 3.3 presents the demographic distributions of the sample after weighting, which are almost identical to the NM-MSSA student population distributions.

Table 3.1. Linking Study Sample Demographics (Unweighted)

Linking Study Samples (Unweighted)							
		%Students by Grade					
Demographic Subgroup		3	4	5	6	7	8
Mathematics							
	Total N	**1,503**	**1,579**	**1,627**	**1,762**	**1,847**	**1,934**
Race	American Indian/Alaskan Native	8.3	6.7	7.4	9.1	11.5	12.9
	Asian	3.4	3.9	3.1	3.1	2.5	2.4
	Black	4.1	5.9	5.7	5.2	5.9	4.9
	Hawaiian Native/Other Pacific Islander	0.7	0.7	0.6	0.9	0.8	1.0
	Multirace	0.3	0.4	0.1	0.9	1.0	0.9
	White	83.2	82.3	83.1	80.8	78.3	77.9
Sex	Female	48.6	47.4	48.2	50.0	48.8	50.2
	Male	51.4	52.6	51.8	50.0	51.2	49.8
Performance Level	*Novice*	34.7	40.0	32.0	25.1	32.6	23.5
	Nearing Proficiency	35.3	29.2	25.8	25.4	25.9	43.5
	Proficient	24.3	25.0	27.5	38.0	21.8	28.6
	Advanced	5.8	5.8	14.6	11.5	19.8	4.4
ELA/Reading							
	Total N	**1,500**	**1,575**	**1,630**	**1,748**	**1,838**	**1,872**
Race*	American Indian/Alaskan Native	8.2	6.7	7.4	8.9	11.5	13.1
	Asian	3.4	3.9	3.1	3.1	2.6	2.5
	Black	4.1	5.9	5.7	5.0	6.0	5.0
	Hawaiian Native/Other Pacific Islander	0.7	0.7	0.6	0.9	0.8	1.0
	Multirace	0.3	0.4	0.1	0.9	1.0	1.0
	White	83.3	82.3	83.1	81.1	78.1	77.4
Sex	Female	48.5	47.2	48.2	50.2	48.7	50.0
	Male	51.5	52.8	51.8	49.8	51.3	50.0
Performance Level	*Novice*	19.4	22.7	26.0	12.1	10.4	21.6
	Nearing Proficiency	40.7	35.4	30.4	43.4	40.9	30.0
	Proficient	19.3	25.0	26.7	28.6	25.4	21.9

Linking Study Samples (Unweighted)						
	%Students by Grade					
Demographic Subgroup	**3**	**4**	**5**	**6**	**7**	**8**
Advanced	20.7	16.9	16.9	16.0	23.3	26.4

Table 3.2. NM-MSSA Student Population Demographics

NM-MSSA Student Population							
		Students by Grade					
Demographic Subgroup		**3**	**4**	**5**	**6**	**7**	**8**
Mathematics							
	Total N	**20,872**	**21,080**	**21,995**	**22,145**	**23,383**	**23,859**
Race	American Indian/Alaskan Native	12.2	11.7	11.5	11.9	11.9	12.1
	Asian	1.8	1.8	1.6	1.5	1.5	1.5
	Black	2.7	2.7	2.8	2.7	2.8	2.6
	Hawaiian Native/Other Pacific Islander	0.4	0.3	0.3	0.4	0.4	0.4
	Multi-race	2.2	2.2	2.0	1.9	1.8	2.0
	White	80.6	81.3	81.7	81.6	81.6	81.4
Sex	Female	49.4	48.7	49.4	49.1	49.4	48.9
	Male	50.6	51.3	50.6	50.9	50.6	51.1
Performance Level	*Novice*	46.0	48.0	44.0	41.0	49.0	38.0
	Nearing Proficiency	31.0	27.0	25.0	26.0	26.0	42.0
	Proficient	19.0	20.0	21.0	26.0	14.0	17.0
	Advanced	4.0	5.0	10.0	7.0	11.0	2.0
ELA/Reading							
	Total N	**20,846**	**21,058**	**21,995**	**22,132**	**23,381**	**23,853**
Race	American Indian/Alaskan Native	12.2	11.7	11.5	12.0	11.9	12.1
	Asian	1.8	1.8	1.6	1.5	1.5	1.5
	Black	2.7	2.7	2.8	2.6	2.8	2.6
	Hawaiian Native/Other Pacific Islander	0.4	0.3	0.3	0.4	0.4	0.4
	Multi-race	2.2	2.2	2.1	1.9	1.8	1.9
	White	80.7	81.3	81.7	81.6	81.6	81.4
Sex	Female	49.4	48.7	49.4	49.1	49.5	48.9
	Male	50.6	51.3	50.6	50.9	50.5	51.1
Performance Level	*Novice*	27.0	30.0	34.0	22.0	20.0	33.0
	Nearing Proficiency	41.0	34.0	30.0	45.0	45.0	33.0
	Proficient	16.0	22.0	22.0	20.0	21.0	16.0
	Advanced	16.0	14.0	14.0	13.0	14.0	17.0

Table 3.3. Linking Study Sample Demographics (Weighted)

		Students by Grade					
Demographic Subgroup		**3**	**4**	**5**	**6**	**7**	**8**
Mathematics							
	Total N	**1,503**	**1,579**	**1,627**	**1,762**	**1,847**	**1,915**
Race	American Indian/Alaskan Native	12.2	11.7	11.5	11.9	11.9	12.1
	Asian	1.8	1.8	1.6	1.5	1.5	1.5
	Black	2.7	2.7	2.8	2.7	2.8	2.6
	Hawaiian Native/Other Pacific Islander	0.4	0.3	0.3	0.4	0.4	0.4
	Multi-race	2.2	2.2	2.0	1.9	1.8	2.0
	White	80.6	81.3	81.7	81.6	81.6	81.4
Sex	Female	49.4	48.7	49.4	49.1	49.4	48.9
	Male	50.6	51.3	50.6	50.9	50.6	51.1
Performance Level	*Novice*	46.0	48.0	44.0	41.0	49.0	38.4
	Nearing Proficiency	31.0	27.0	25.0	26.0	26.0	42.4
	Proficient	19.0	20.0	21.0	26.0	14.0	17.2
	Advanced	4.0	5.0	10.0	7.0	11.0	2.0
ELA/Reading							
	Total N	**1,500**	**1,575**	**1,630**	**1,748**	**1,838**	**1,853**
Race	American Indian/Alaskan Native	12.2	11.7	11.5	12.0	11.9	12.1
	Asian	1.8	1.8	1.6	1.5	1.5	1.5
	Black	2.7	2.7	2.8	2.6	2.8	2.6
	Hawaiian Native/Other Pacific Islander	0.4	0.3	0.3	0.4	0.4	0.4
	Multi-race	2.2	2.2	2.1	1.9	1.8	1.9
	White	80.7	81.3	81.7	81.6	81.6	81.4
Sex	Female	49.4	48.7	49.4	49.1	49.5	48.9
	Male	50.6	51.3	50.6	50.9	50.5	51.1
Performance Level	*Novice*	27.0	30.0	34.0	22.0	20.0	33.3
	Nearing Proficiency	41.0	34.0	30.0	45.0	45.0	33.3
	Proficient	16.0	22.0	22.0	20.0	21.0	16.2
	Advanced	16.0	14.0	14.0	13.0	14.0	17.2

3.2. Descriptive Statistics

Table 3.4 presents descriptive statistics of the MAP Growth and NM-MSSA test scores from Spring 2022, including the correlation coefficient (r) between them. The correlations between the scores are 0.75 to 0.82 for Mathematics, and 0.76 to 0.86 for ELA/Reading. These values indicate a high positive correlation among the scores, which is important validity evidence for the claim that MAP Growth scores are good predictors of performance on the NM-MSSA assessments.

Table 3.4. Descriptive Statistics of Test Scores

Grade	N	r	NM-MSSA*				MAP Growth*			
			Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
Mathematics										
3	1,503	0.81	345.2	19.6	300	389	197.3	15.6	145	246
4	1,579	0.82	446.6	20.2	400	489	206.0	16.4	149	247
5	1,627	0.79	549.9	19.5	500	590	212.0	17.2	145	292
6	1,762	0.76	649.4	21.8	600	689	217.5	16.1	170	276
7	1,847	0.76	748.5	18.8	700	789	219.1	17.0	166	279
8	1,915	0.75	845.4	18.1	800	889	224.9	18.2	159	315
ELA/Reading										
3	1,500	0.86	349.1	21.3	300	390	189.3	18.1	144	237
4	1,575	0.84	450.9	21.2	400	490	197.6	17.2	150	243
5	1,630	0.81	551.6	20.4	500	589	204.9	16.0	146	248
6	1,748	0.82	650.7	20.4	600	689	209.8	15.5	168	250
7	1,838	0.79	751.7	21.2	700	790	213.2	15.5	165	263
8	1,853	0.76	850.7	21.4	800	890	217.0	14.6	167	261

*SD = standard deviation. Min. = minimum. Max. = maximum.

3.3. MAP Growth Cut Scores

Table 3.5 and Table 3.6 present the NM-MSSA scale score ranges and the corresponding MAP Growth RIT cut scores and percentile ranges by content area and grade. Bolded numbers highlight the cut scores considered to be proficient for accountability purposes. These tables can be used to gauge a student's likely performance level on the NM-MSSA spring assessment when MAP Growth is taken in the fall, winter, or spring. For example, a Grade 3 student who obtained a MAP Growth Mathematics RIT score of 196 in the fall is likely to achieve *Proficient* performance on the NM-MSSA Mathematics test. The same is true for a Grade 3 student who obtained a MAP Growth Mathematics RIT score of 208 in the spring. The spring cut score is higher than the fall cut score because of expected growth during the school year as students receive more instruction.

Within this report, the cut scores for fall and winter are derived from the spring cuts and the typical growth scores from fall-to-spring or winter-to-spring. The typical growth scores are based on the default instructional weeks most encountered for each term (Weeks 4, 20, and 32 for fall, winter, and spring, respectively). Since instructional weeks often vary by district, the cut scores in this report may differ slightly from the MAP Growth score reports that reflect instructional weeks set by partners. If the actual instructional weeks deviate substantially from the default ones, a student's expected performance level could be different from the projections presented in this report. Partners are therefore encouraged to use the projected performance level in students' score reports since they reflect the specific instructional weeks set by partners.

Table 3.5. MAP Growth Cut Scores—Mathematics

Grade	Novice	Nearing Proficiency	Proficient	Advanced
NM-MSSA Mathematics				
3	300-340	341-359	**360**-376	377-390
4	400-443	444-459	**460**-479	480-490
5	500-547	548-559	**560**-572	573-590
6	600-645	646-659	**660**-678	679-690
7	700-747	748-759	**760**-769	770-790
8	800-840	841-859	**860**-877	878-890

	Novice		Nearing Proficiency		Proficient		Advanced	
MAP Growth Mathematics								
Grade	RIT	Percentile	RIT	Percentile	RIT	Percentile	RIT	Percentile
Fall								
2	100-166	1-26	167-182	27-72	**183**-199	73-96	200-350	97-99
3	100-180	1-28	181-195	29-70	**196**-210	71-94	211-350	95-99
4	100-192	1-31	193-204	32-64	**205**-221	65-93	222-350	94-99
5	100-198	1-24	199-208	25-49	**209**-223	50-83	224-350	84-99
6	100-204	1-26	205-214	27-50	**215**-234	51-89	235-350	90-99
7	100-210	1-29	211-220	30-51	**221**-236	52-82	237-350	83-99
8	100-212	1-25	213-233	26-67	**234**-258	68-95	259-350	96-99
Winter								
2	100-175	1-26	176-191	27-72	**192**-206	73-95	207-350	96-99
3	100-188	1-29	189-202	30-68	**203**-217	69-93	218-350	94-99
4	100-199	1-33	200-211	34-65	**212**-228	66-93	229-350	94-99
5	100-203	1-24	204-214	25-50	**215**-229	51-82	230-350	83-99
6	100-209	1-27	210-219	28-50	**220**-239	51-88	240-350	89-99
7	100-213	1-28	214-224	29-51	**225**-240	52-82	241-350	83-99
8	100-216	1-27	217-236	28-67	**237**-261	68-95	262-350	96-99
Spring								
2	100-181	1-28	182-196	29-70	**197**-211	71-94	212-350	95-99
3	100-193	1-30	194-207	31-68	**208**-221	69-92	222-350	93-99
4	100-203	1-33	204-215	34-63	**216**-232	64-92	233-350	93-99
5	100-207	1-25	208-218	26-50	**219**-233	51-81	234-350	82-99
6	100-212	1-28	213-222	29-49	**223**-242	50-87	243-350	88-99
7	100-216	1-29	217-227	30-52	**228**-243	53-81	244-350	82-99
8	100-218	1-28	219-238	29-66	**239**-263	67-94	264-350	95-99

Table 3.6. MAP Growth Cut Scores—ELA/Reading

NM-MSSA ELA							
Grade	Novice		Nearing Proficiency		Proficient		Advanced
3	300-335		336-359		**360**-369		370-390
4	400-439		440-459		**460**-472		473-490
5	500-542		543-559		**560**-572		573-590
6	600-631		632-659		**660**-672		673-690
7	700-730		731-759		**760**-774		775-790
8	800-839		840-859		**860**-870		871-890

MAP Growth Reading								
	Novice		Nearing Proficiency		Proficient		Advanced	
Grade	RIT	Percentile	RIT	Percentile	RIT	Percentile	RIT	Percentile
Fall								
2	100-146	1-4	147-173	5-53	**174**-183	54-77	184-350	78-99
3	100-164	1-9	165-187	10-52	**188**-196	53-72	197-350	73-99
4	100-177	1-12	178-195	13-47	**196**-207	48-74	208-350	75-99
5	100-191	1-21	192-203	22-48	**204**-214	49-73	215-350	74-99
6	100-193	1-15	194-211	16-53	**212**-221	54-75	222-350	76-99
7	100-195	1-13	196-213	14-49	**214**-225	50-75	226-350	76-99
8	100-205	1-23	206-218	24-51	**219**-226	52-69	227-350	70-99
Winter								
2	100-157	1-5	158-182	6-54	**183**-191	55-75	192-350	76-99
3	100-173	1-10	174-194	11-52	**195**-202	53-70	203-350	71-99
4	100-185	1-15	186-201	16-48	**202**-212	49-73	213-350	74-99
5	100-197	1-23	198-208	24-49	**209**-218	50-72	219-350	73-99
6	100-198	1-17	199-215	18-54	**216**-224	55-75	225-350	76-99
7	100-199	1-14	200-216	15-49	**217**-227	50-74	228-350	75-99
8	100-208	1-24	209-221	25-53	**222**-228	54-68	229-350	69-99
Spring								
2	100-162	1-6	163-186	7-53	**187**-195	54-74	196-350	75-99
3	100-177	1-11	178-197	12-51	**198**-205	52-70	206-350	71-99
4	100-188	1-16	189-203	17-47	**204**-214	48-72	215-350	73-99
5	100-199	1-24	200-210	25-49	**211**-219	50-70	220-350	71-99
6	100-200	1-18	201-216	19-53	**217**-225	54-74	226-350	75-99
7	100-201	1-15	202-217	16-48	**218**-228	49-73	229-350	74-99
8	100-210	1-25	211-222	26-52	**223**-229	53-68	230-350	69-99

3.4. Classification Accuracy

Table 3.7 presents the classification accuracy summary statistics, including the overall classification accuracy rate. These results indicate how well MAP Growth spring RIT scores predict proficiency on the NM-MSSA tests, providing insight into the predictive validity of MAP Growth. The overall classification accuracy rate ranges from 0.83 to 0.88 for Mathematics, and 0.81 to 0.87 for ELA/Reading. These values suggest that the RIT cut scores are effective at classifying students as proficient or not proficient on the NM-MSSA assessment. For Grade 2, the classification accuracy rate refers to how well the MAP Growth cuts can predict students' proficiency status on NM-MSSA in Grade 3.

Although the results show that MAP Growth scores can be used to predict student proficiency with relatively high accuracy on the NM-MSSA tests, there is a notable limitation to how these results should be used and interpreted. The NM-MSSA and MAP Growth assessments are designed for different purposes and measure slightly different constructs even within the same content area. Therefore, scores on the two tests cannot be assumed to be interchangeable. MAP Growth may not be used as a substitute for the state tests and vice versa.

Table 3.7. Classification Accuracy Results

| Grade | N | Cut Score | | Class. Accuracy * | Rate* | | Sensitivity | Specificity | Precision | AUC* |
		MAP Growth	NM-MSSA		FP	FN				
Mathematics										
2	607	197	360	0.83	0.10	0.36	0.64	0.90	0.74	0.89
3	1,503	208	360	0.88	0.10	0.19	0.81	0.90	0.70	0.95
4	1,579	216	460	0.88	0.10	0.16	0.84	0.90	0.74	0.95
5	1,627	219	560	0.86	0.14	0.15	0.85	0.86	0.73	0.93
6	1,762	223	660	0.85	0.14	0.17	0.83	0.86	0.75	0.93
7	1,847	228	760	0.88	0.12	0.15	0.85	0.88	0.71	0.94
8	1,915	239	860	0.88	0.10	0.22	0.78	0.90	0.65	0.93
ELA/Reading										
2	461	187	360	0.81	0.10	0.31	0.69	0.90	0.83	0.89
3	1,500	198	360	0.87	0.13	0.13	0.87	0.87	0.76	0.95
4	1,575	204	460	0.85	0.14	0.18	0.82	0.86	0.77	0.93
5	1,630	211	560	0.86	0.13	0.17	0.83	0.87	0.78	0.93
6	1,748	217	660	0.84	0.14	0.20	0.80	0.86	0.74	0.91
7	1,838	218	760	0.82	0.20	0.14	0.86	0.80	0.70	0.92
8	1,853	223	860	0.82	0.16	0.21	0.79	0.84	0.71	0.90

*Class. Accuracy = overall classification accuracy rate. FP = false positives. FN = false negatives. AUC = area under the ROC curve.

3.5. Proficiency Projections

Table 3.8 and Table 3.9 present the estimated probability of achieving *Proficient* performance on the NM-MSSA test based on RIT scores from fall, winter, or spring. Due to measurement error in all test scores, the *Proficient* MAP Growth cuts do not guarantee that a student will reach proficiency on the NM-MSSA. They instead indicate a 50% chance that a student will reach a particular performance level. Therefore, these projections further elucidate the *Proficient*

cut scores by providing the likelihood of reaching proficiency on the NM-MSSA in the spring at a given percentile throughout the year.

For example, the spring Grade 3 *Proficient* RIT cut score for Mathematics is 208, which indicates a 50% chance of achieving proficiency in the spring, as shown in Table 3.8. An educator can also use the table to estimate that a Grade 3 student who obtained a MAP Growth Mathematics score of 196 in the fall has a 50% probability of reaching *Proficient* or higher on the NM-MSSA test in the spring.

Table 3.8. Proficiency Projections based on RIT Scores—Mathematics

Grade	Start %ile*	Spring Cut	Fall RIT	Fall Projected Proficiency Proficient	Fall Projected Proficiency Prob.	Winter RIT	Winter Projected Proficiency Proficient	Winter Projected Proficiency Prob.	Spring RIT	Spring Projected Proficiency Proficient	Spring Projected Proficiency Prob.
	5	197	154	No	<0.01	163	No	<0.01	167	No	<0.01
	10	197	158	No	<0.01	167	No	<0.01	172	No	<0.01
	15	197	162	No	<0.01	171	No	<0.01	175	No	<0.01
	20	197	164	No	<0.01	173	No	<0.01	178	No	<0.01
	25	197	166	No	0.01	175	No	<0.01	180	No	<0.01
	30	197	168	No	0.01	177	No	<0.01	182	No	<0.01
	35	197	170	No	0.03	179	No	0.01	184	No	<0.01
	40	197	172	No	0.06	181	No	0.01	186	No	<0.01
	45	197	173	No	0.08	182	No	0.02	188	No	<0.01
2	50	197	175	No	0.11	184	No	0.05	189	No	<0.01
	55	197	177	No	0.18	186	No	0.1	191	No	0.02
	60	197	178	No	0.22	187	No	0.15	193	No	0.08
	65	197	180	No	0.32	189	No	0.26	195	No	0.25
	70	197	182	No	0.44	191	No	0.42	196	No	0.37
	75	197	184	Yes	0.56	193	Yes	0.58	198	Yes	0.63
	80	197	186	Yes	0.62	195	Yes	0.74	201	Yes	0.92
	85	197	188	Yes	0.73	198	Yes	0.9	203	Yes	0.98
	90	197	192	Yes	0.89	201	Yes	0.97	207	Yes	>0.99
	95	197	196	Yes	0.96	205	Yes	>0.99	212	Yes	>0.99
	5	208	166	No	<0.01	174	No	<0.01	178	No	<0.01
	10	208	171	No	<0.01	179	No	<0.01	183	No	<0.01
	15	208	175	No	<0.01	182	No	<0.01	186	No	<0.01
	20	208	177	No	<0.01	185	No	<0.01	189	No	<0.01
	25	208	179	No	<0.01	187	No	<0.01	192	No	<0.01
	30	208	181	No	0.01	189	No	<0.01	194	No	<0.01
	35	208	183	No	0.03	191	No	0.01	196	No	<0.01
	40	208	185	No	0.05	193	No	0.02	198	No	<0.01
	45	208	187	No	0.1	195	No	0.04	199	No	<0.01
3	50	208	188	No	0.13	196	No	0.07	201	No	0.01
	55	208	190	No	0.21	198	No	0.14	203	No	0.04
	60	208	192	No	0.26	200	No	0.26	205	No	0.15
	65	208	194	No	0.37	201	No	0.33	207	No	0.37
	70	208	196	Yes	0.5	203	Yes	0.5	208	Yes	0.5
	75	208	198	Yes	0.63	205	Yes	0.67	211	Yes	0.85
	80	208	200	Yes	0.74	208	Yes	0.86	213	Yes	0.96
	85	208	202	Yes	0.83	210	Yes	0.93	216	Yes	>0.99
	90	208	206	Yes	0.95	214	Yes	0.98	219	Yes	>0.99
	95	208	211	Yes	0.99	219	Yes	>0.99	224	Yes	>0.99

Mathematics												
			Fall			**Winter**			**Spring**			
			Fall RIT	**Projected Proficiency**		Winter RIT	**Projected Proficiency**		Spring RIT	**Projected Proficiency**		
Grade	Start %ile*	Spring Cut	Fall RIT	*Proficient*	Prob.	Winter RIT	*Proficient*	Prob.	Spring RIT	*Proficient*	Prob.	
4	5	216	176	No	<0.01	182	No	<0.01	185	No	<0.01	
	10	216	181	No	<0.01	187	No	<0.01	191	No	<0.01	
	15	216	185	No	<0.01	191	No	<0.01	194	No	<0.01	
	20	216	187	No	<0.01	194	No	<0.01	197	No	<0.01	
	25	216	190	No	0.01	196	No	<0.01	200	No	<0.01	
	30	216	192	No	0.02	198	No	<0.01	202	No	<0.01	
	35	216	194	No	0.04	200	No	0.01	205	No	<0.01	
	40	216	196	No	0.07	202	No	0.02	207	No	<0.01	
	45	216	198	No	0.13	204	No	0.04	209	No	0.01	
	50	216	200	No	0.21	206	No	0.1	211	No	0.04	
	55	216	201	No	0.26	208	No	0.2	212	No	0.08	
	60	216	203	No	0.37	210	No	0.33	214	No	0.25	
	65	216	205	Yes	0.5	212	Yes	0.5	217	Yes	0.63	
	70	216	207	Yes	0.63	214	Yes	0.67	219	Yes	0.85	
	75	216	209	Yes	0.74	216	Yes	0.8	221	Yes	0.96	
	80	216	212	Yes	0.87	219	Yes	0.93	224	Yes	>0.99	
	85	216	214	Yes	0.93	221	Yes	0.97	227	Yes	>0.99	
	90	216	218	Yes	0.98	225	Yes	>0.99	230	Yes	>0.99	
	95	216	223	Yes	>0.99	231	Yes	>0.99	236	Yes	>0.99	
5	5	219	184	No	<0.01	189	No	<0.01	191	No	<0.01	
	10	219	190	No	<0.01	194	No	<0.01	197	No	<0.01	
	15	219	193	No	<0.01	198	No	<0.01	201	No	<0.01	
	20	219	196	No	0.02	201	No	<0.01	205	No	<0.01	
	25	219	199	No	0.05	204	No	0.01	207	No	<0.01	
	30	219	201	No	0.11	206	No	0.03	210	No	<0.01	
	35	219	203	No	0.18	209	No	0.1	212	No	0.01	
	40	219	205	No	0.27	211	No	0.2	215	No	0.08	
	45	219	207	No	0.38	213	No	0.34	217	No	0.25	
	50	219	209	Yes	0.5	215	Yes	0.5	219	Yes	0.5	
	55	219	211	Yes	0.62	217	Yes	0.66	221	Yes	0.75	
	60	219	213	Yes	0.73	219	Yes	0.8	223	Yes	0.92	
	65	219	215	Yes	0.82	221	Yes	0.9	225	Yes	0.98	
	70	219	217	Yes	0.89	223	Yes	0.95	228	Yes	>0.99	
	75	219	219	Yes	0.94	225	Yes	0.98	230	Yes	>0.99	
	80	219	222	Yes	0.98	228	Yes	>0.99	233	Yes	>0.99	
	85	219	225	Yes	0.99	231	Yes	>0.99	236	Yes	>0.99	
	90	219	229	Yes	>0.99	235	Yes	>0.99	240	Yes	>0.99	
	95	219	234	Yes	>0.99	241	Yes	>0.99	246	Yes	>0.99	

			Mathematics								
			Fall			**Winter**			**Spring**		
Grade	**Start %ile***	**Spring Cut**	**Fall RIT**	**Projected Proficiency**		**Winter RIT**	**Projected Proficiency**		**Spring RIT**	**Projected Proficiency**	
				Proficient	**Prob.**		*Proficient*	**Prob.**		*Proficient*	**Prob.**
	5	223	188	No	<0.01	192	No	<0.01	194	No	<0.01
	10	223	194	No	<0.01	198	No	<0.01	200	No	<0.01
	15	223	198	No	<0.01	202	No	<0.01	205	No	<0.01
	20	223	201	No	0.01	205	No	<0.01	208	No	<0.01
	25	223	204	No	0.04	208	No	0.01	211	No	<0.01
	30	223	206	No	0.08	211	No	0.03	214	No	<0.01
	35	223	209	No	0.17	213	No	0.07	216	No	0.01
	40	223	211	No	0.27	215	No	0.14	218	No	0.04
	45	223	213	No	0.38	217	No	0.26	221	No	0.25
6	50	223	215	Yes	0.5	220	Yes	0.5	223	Yes	0.5
	55	223	217	Yes	0.62	222	Yes	0.66	225	Yes	0.75
	60	223	219	Yes	0.73	224	Yes	0.8	227	Yes	0.92
	65	223	221	Yes	0.83	226	Yes	0.9	230	Yes	0.99
	70	223	223	Yes	0.9	228	Yes	0.96	232	Yes	>0.99
	75	223	226	Yes	0.96	231	Yes	0.99	235	Yes	>0.99
	80	223	228	Yes	0.98	234	Yes	>0.99	238	Yes	>0.99
	85	223	231	Yes	0.99	237	Yes	>0.99	241	Yes	>0.99
	90	223	235	Yes	>0.99	241	Yes	>0.99	245	Yes	>0.99
	95	223	241	Yes	>0.99	247	Yes	>0.99	252	Yes	>0.99
	5	228	192	No	<0.01	194	No	<0.01	196	No	<0.01
	10	228	198	No	<0.01	201	No	<0.01	203	No	<0.01
	15	228	202	No	<0.01	205	No	<0.01	207	No	<0.01
	20	228	206	No	<0.01	209	No	<0.01	211	No	<0.01
	25	228	208	No	0.01	212	No	<0.01	214	No	<0.01
	30	228	211	No	0.04	215	No	0.02	217	No	<0.01
	35	228	213	No	0.07	217	No	0.04	220	No	<0.01
	40	228	216	No	0.17	219	No	0.1	222	No	0.02
	45	228	218	No	0.31	222	No	0.26	224	No	0.08
7	50	228	220	No	0.44	224	No	0.42	227	No	0.37
	55	228	222	Yes	0.56	226	Yes	0.58	229	Yes	0.63
	60	228	225	Yes	0.74	229	Yes	0.8	231	Yes	0.85
	65	228	227	Yes	0.83	231	Yes	0.9	234	Yes	0.98
	70	228	229	Yes	0.9	233	Yes	0.96	236	Yes	>0.99
	75	228	232	Yes	0.96	236	Yes	0.99	239	Yes	>0.99
	80	228	235	Yes	0.99	239	Yes	>0.99	242	Yes	>0.99
	85	228	238	Yes	>0.99	243	Yes	>0.99	246	Yes	>0.99
	90	228	243	Yes	>0.99	247	Yes	>0.99	251	Yes	>0.99
	95	228	249	Yes	>0.99	254	Yes	>0.99	257	Yes	>0.99

			Mathematics								
			Fall			Winter			Spring		
				Projected Proficiency			Projected Proficiency			Projected Proficiency	
Grade	Start %ile*	Spring Cut	Fall RIT	Proficient	Prob.	Winter RIT	Proficient	Prob.	Spring RIT	Proficient	Prob.
8	5	239	194	No	<0.01	196	No	<0.01	197	No	<0.01
	10	239	201	No	<0.01	203	No	<0.01	205	No	<0.01
	15	239	205	No	<0.01	208	No	<0.01	210	No	<0.01
	20	239	209	No	<0.01	212	No	<0.01	214	No	<0.01
	25	239	212	No	<0.01	215	No	<0.01	217	No	<0.01
	30	239	215	No	<0.01	218	No	<0.01	220	No	<0.01
	35	239	218	No	0.01	221	No	<0.01	223	No	<0.01
	40	239	220	No	0.02	223	No	<0.01	225	No	<0.01
	45	239	223	No	0.06	226	No	0.01	228	No	<0.01
	50	239	225	No	0.1	228	No	0.03	230	No	<0.01
	55	239	227	No	0.16	231	No	0.11	233	No	0.02
	60	239	230	No	0.28	233	No	0.2	235	No	0.08
	65	239	232	No	0.39	236	No	0.42	238	No	0.37
	70	239	235	Yes	0.56	238	Yes	0.58	241	Yes	0.75
	75	239	238	Yes	0.72	241	Yes	0.8	244	Yes	0.96
	80	239	241	Yes	0.84	244	Yes	0.93	247	Yes	>0.99
	85	239	245	Yes	0.94	248	Yes	0.99	251	Yes	>0.99
	90	239	249	Yes	0.98	253	Yes	>0.99	256	Yes	>0.99
	95	239	256	Yes	>0.99	260	Yes	>0.99	263	Yes	>0.99

*%tile = Percentile.

Table 3.9. Proficiency Projections based on RIT Scores—ELA/Reading

				ELA/Reading								
			Fall			**Winter**			**Spring**			
				Projected Proficiency			**Projected Proficiency**			**Projected Proficiency**		
Grade	**Start %ile***	**Spring Cut**	**Fall RIT**	*Proficient*	**Prob.**	**Winter RIT**	*Proficient*	**Prob.**	**Spring RIT**	*Proficient*	**Prob.**	
2	5	187	147	No	<0.01	156	No	<0.01	160	No	<0.01	
	10	187	153	No	0.01	162	No	<0.01	166	No	<0.01	
	15	187	157	No	0.02	166	No	<0.01	170	No	<0.01	
	20	187	160	No	0.06	169	No	0.01	173	No	<0.01	
	25	187	162	No	0.07	171	No	0.02	175	No	<0.01	
	30	187	164	No	0.12	173	No	0.05	177	No	<0.01	
	35	187	166	No	0.18	175	No	0.1	180	No	0.01	
	40	187	168	No	0.25	177	No	0.17	182	No	0.06	
	45	187	170	No	0.3	179	No	0.23	184	No	0.17	
	50	187	172	No	0.4	181	No	0.35	186	No	0.38	
	55	187	174	Yes	0.5	183	Yes	0.5	188	Yes	0.62	
	60	187	176	Yes	0.6	185	Yes	0.65	189	Yes	0.73	
	65	187	178	Yes	0.7	187	Yes	0.77	192	Yes	0.94	
	70	187	180	Yes	0.75	189	Yes	0.87	194	Yes	0.99	
	75	187	183	Yes	0.85	191	Yes	0.93	196	Yes	>0.99	
	80	187	185	Yes	0.91	194	Yes	0.98	199	Yes	>0.99	
	85	187	188	Yes	0.94	197	Yes	>0.99	202	Yes	>0.99	
	90	187	192	Yes	0.98	200	Yes	>0.99	205	Yes	>0.99	
	95	187	197	Yes	>0.99	206	Yes	>0.99	211	Yes	>0.99	
3	5	198	159	No	<0.01	167	No	<0.01	170	No	<0.01	
	10	198	165	No	<0.01	173	No	<0.01	176	No	<0.01	
	15	198	169	No	0.02	177	No	<0.01	180	No	<0.01	
	20	198	173	No	0.04	180	No	<0.01	183	No	<0.01	
	25	198	175	No	0.07	183	No	0.02	186	No	<0.01	
	30	198	178	No	0.14	185	No	0.05	189	No	<0.01	
	35	198	180	No	0.17	188	No	0.13	191	No	0.01	
	40	198	182	No	0.25	190	No	0.17	193	No	0.06	
	45	198	185	No	0.39	192	No	0.29	195	No	0.17	
	50	198	187	No	0.45	194	No	0.43	197	No	0.38	
	55	198	189	Yes	0.55	196	Yes	0.57	199	Yes	0.62	
	60	198	191	Yes	0.66	198	Yes	0.71	201	Yes	0.83	
	65	198	193	Yes	0.75	200	Yes	0.83	203	Yes	0.94	
	70	198	195	Yes	0.79	202	Yes	0.91	206	Yes	0.99	
	75	198	198	Yes	0.89	205	Yes	0.97	208	Yes	>0.99	
	80	198	201	Yes	0.95	207	Yes	0.99	211	Yes	>0.99	
	85	198	204	Yes	0.97	211	Yes	>0.99	214	Yes	>0.99	
	90	198	208	Yes	0.99	215	Yes	>0.99	218	Yes	>0.99	
	95	198	214	Yes	>0.99	220	Yes	>0.99	224	Yes	>0.99	

			ELA/Reading								
			Fall			Winter			Spring		
Grade	Start %ile*	Spring Cut	Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
4	5	204	169	No	<0.01	176	No	<0.01	178	No	<0.01
	10	204	175	No	0.01	182	No	<0.01	184	No	<0.01
	15	204	179	No	0.02	186	No	<0.01	188	No	<0.01
	20	204	183	No	0.06	189	No	0.01	191	No	<0.01
	25	204	185	No	0.11	192	No	0.04	194	No	<0.01
	30	204	188	No	0.17	194	No	0.09	196	No	0.01
	35	204	190	No	0.24	196	No	0.17	199	No	0.06
	40	204	192	No	0.34	198	No	0.28	201	No	0.17
	45	204	195	No	0.44	200	No	0.35	203	No	0.38
	50	204	197	Yes	0.56	202	Yes	0.5	205	Yes	0.62
	55	204	199	Yes	0.66	205	Yes	0.72	207	Yes	0.83
	60	204	201	Yes	0.76	207	Yes	0.83	209	Yes	0.94
	65	204	203	Yes	0.8	209	Yes	0.91	211	Yes	0.99
	70	204	205	Yes	0.87	211	Yes	0.96	213	Yes	>0.99
	75	204	208	Yes	0.94	213	Yes	0.98	216	Yes	>0.99
	80	204	211	Yes	0.96	216	Yes	>0.99	219	Yes	>0.99
	85	204	214	Yes	0.99	219	Yes	>0.99	222	Yes	>0.99
	90	204	218	Yes	>0.99	223	Yes	>0.99	226	Yes	>0.99
	95	204	224	Yes	>0.99	229	Yes	>0.99	232	Yes	>0.99
5	5	211	178	No	<0.01	183	No	<0.01	185	No	<0.01
	10	211	183	No	<0.01	189	No	<0.01	191	No	<0.01
	15	211	187	No	0.02	193	No	<0.01	194	No	<0.01
	20	211	191	No	0.05	196	No	0.01	198	No	<0.01
	25	211	193	No	0.08	198	No	0.02	200	No	<0.01
	30	211	196	No	0.17	201	No	0.06	203	No	0.01
	35	211	198	No	0.2	203	No	0.13	205	No	0.03
	40	211	200	No	0.29	205	No	0.22	207	No	0.11
	45	211	202	No	0.39	207	No	0.35	209	No	0.27
	50	211	204	Yes	0.5	209	Yes	0.5	211	Yes	0.5
	55	211	207	Yes	0.61	211	Yes	0.65	213	Yes	0.73
	60	211	209	Yes	0.71	213	Yes	0.78	215	Yes	0.89
	65	211	211	Yes	0.8	215	Yes	0.87	217	Yes	0.97
	70	211	213	Yes	0.83	217	Yes	0.91	219	Yes	0.99
	75	211	216	Yes	0.92	220	Yes	0.97	222	Yes	>0.99
	80	211	218	Yes	0.95	222	Yes	0.99	224	Yes	>0.99
	85	211	221	Yes	0.97	226	Yes	>0.99	228	Yes	>0.99
	90	211	225	Yes	0.99	229	Yes	>0.99	231	Yes	>0.99
	95	211	231	Yes	>0.99	235	Yes	>0.99	237	Yes	>0.99

ELA/Reading											
			Fall			**Winter**			**Spring**		
			Fall RIT	**Projected Proficiency**		**Winter RIT**	**Projected Proficiency**		**Spring RIT**	**Projected Proficiency**	
Grade	**Start %ile***	**Spring Cut**		*Proficient*	**Prob.**		*Proficient*	**Prob.**		*Proficient*	**Prob.**
	5	217	183	No	<0.01	188	No	<0.01	189	No	<0.01
	10	217	189	No	<0.01	193	No	<0.01	195	No	<0.01
	15	217	193	No	0.01	197	No	<0.01	199	No	<0.01
	20	217	196	No	0.02	200	No	<0.01	202	No	<0.01
	25	217	199	No	0.06	203	No	0.01	205	No	<0.01
	30	217	202	No	0.1	205	No	0.03	207	No	<0.01
	35	217	204	No	0.16	208	No	0.09	209	No	0.01
	40	217	206	No	0.24	210	No	0.17	211	No	0.03
	45	217	208	No	0.28	212	No	0.28	213	No	0.11
6	50	217	210	No	0.39	214	No	0.42	215	No	0.27
	55	217	212	Yes	0.5	216	Yes	0.5	217	Yes	0.5
	60	217	214	Yes	0.61	218	Yes	0.65	219	Yes	0.73
	65	217	217	Yes	0.72	220	Yes	0.78	222	Yes	0.94
	70	217	219	Yes	0.81	222	Yes	0.88	224	Yes	0.99
	75	217	221	Yes	0.87	225	Yes	0.96	226	Yes	>0.99
	80	217	224	Yes	0.92	227	Yes	0.98	229	Yes	>0.99
	85	217	227	Yes	0.97	230	Yes	>0.99	232	Yes	>0.99
	90	217	231	Yes	0.99	234	Yes	>0.99	236	Yes	>0.99
	95	217	237	Yes	>0.99	240	Yes	>0.99	242	Yes	>0.99
	5	218	187	No	<0.01	190	No	<0.01	191	No	<0.01
	10	218	193	No	<0.01	196	No	<0.01	197	No	<0.01
	15	218	197	No	0.02	200	No	<0.01	201	No	<0.01
	20	218	200	No	0.04	203	No	0.01	205	No	<0.01
	25	218	203	No	0.08	206	No	0.03	207	No	<0.01
	30	218	206	No	0.16	209	No	0.09	210	No	0.01
	35	218	208	No	0.24	211	No	0.17	212	No	0.03
	40	218	210	No	0.33	213	No	0.22	214	No	0.11
	45	218	212	No	0.39	215	No	0.35	216	No	0.27
7	50	218	214	Yes	0.5	217	Yes	0.5	218	Yes	0.5
	55	218	216	Yes	0.61	219	Yes	0.65	220	Yes	0.73
	60	218	218	Yes	0.72	221	Yes	0.78	223	Yes	0.94
	65	218	221	Yes	0.81	223	Yes	0.88	225	Yes	0.99
	70	218	223	Yes	0.88	226	Yes	0.96	227	Yes	>0.99
	75	218	225	Yes	0.92	228	Yes	0.98	229	Yes	>0.99
	80	218	228	Yes	0.97	231	Yes	>0.99	232	Yes	>0.99
	85	218	231	Yes	0.98	234	Yes	>0.99	235	Yes	>0.99
	90	218	235	Yes	>0.99	238	Yes	>0.99	239	Yes	>0.99
	95	218	241	Yes	>0.99	244	Yes	>0.99	245	Yes	>0.99

			ELA/Reading								
			Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
Grade	Start %ile*	Spring Cut		Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
8	5	223	190	No	<0.01	193	No	<0.01	194	No	<0.01
	10	223	196	No	<0.01	199	No	<0.01	200	No	<0.01
	15	223	200	No	0.01	203	No	<0.01	204	No	<0.01
	20	223	204	No	0.03	206	No	<0.01	207	No	<0.01
	25	223	207	No	0.06	209	No	0.01	210	No	<0.01
	30	223	209	No	0.11	212	No	0.03	213	No	<0.01
	35	223	211	No	0.13	214	No	0.06	215	No	0.01
	40	223	214	No	0.24	216	No	0.13	217	No	0.03
	45	223	216	No	0.34	218	No	0.22	220	No	0.17
	50	223	218	No	0.45	221	No	0.42	222	No	0.38
	55	223	220	Yes	0.5	223	Yes	0.58	224	Yes	0.62
	60	223	222	Yes	0.61	225	Yes	0.72	226	Yes	0.83
	65	223	225	Yes	0.76	227	Yes	0.83	228	Yes	0.94
	70	223	227	Yes	0.83	229	Yes	0.91	231	Yes	0.99
	75	223	230	Yes	0.89	232	Yes	0.97	233	Yes	>0.99
	80	223	232	Yes	0.94	235	Yes	0.99	236	Yes	>0.99
	85	223	236	Yes	0.98	238	Yes	>0.99	239	Yes	>0.99
	90	223	240	Yes	>0.99	242	Yes	>0.99	243	Yes	>0.99
	95	223	246	Yes	>0.99	248	Yes	>0.99	249	Yes	>0.99

*%tile = Percentile.

4. References

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