Predicting Proficiency on the Kentucky Summative Assessment (KSA) based on NWEA MAP Growth Scores

March 2023

NWEA Psychometric Solutions

Linking Study Updates

Date	Description
2016-02-01	Initial linking study conducted for Kentucky in Mathematics & Reading 3–8 using Spring 2015 data.
2020-07-20	Updated since the previous version published in February 2016 to incorporate the 2020 MAP Growth norms.
2023-03-24	Updated with new cuts for Mathematics & Reading 3–8 & 10, Editing & Mechanics 5 & 8, and Science 4 & 7. Added projected proficiency for Grade 2 using Grade 3 scores and Grade 9 using Grade 10 scores.

Acknowledgements: This report benefited from the project management and editorial assistance of Debbie Bauman, the data analysis of Sarah-Truclinh Tran, psychometric analysis of Yuhong Ji, and the psychometric leadership of Ann Hu. We appreciate our colleagues at NWEA who assisted in partner recruitment and are grateful to all our partners who provided data for the study.

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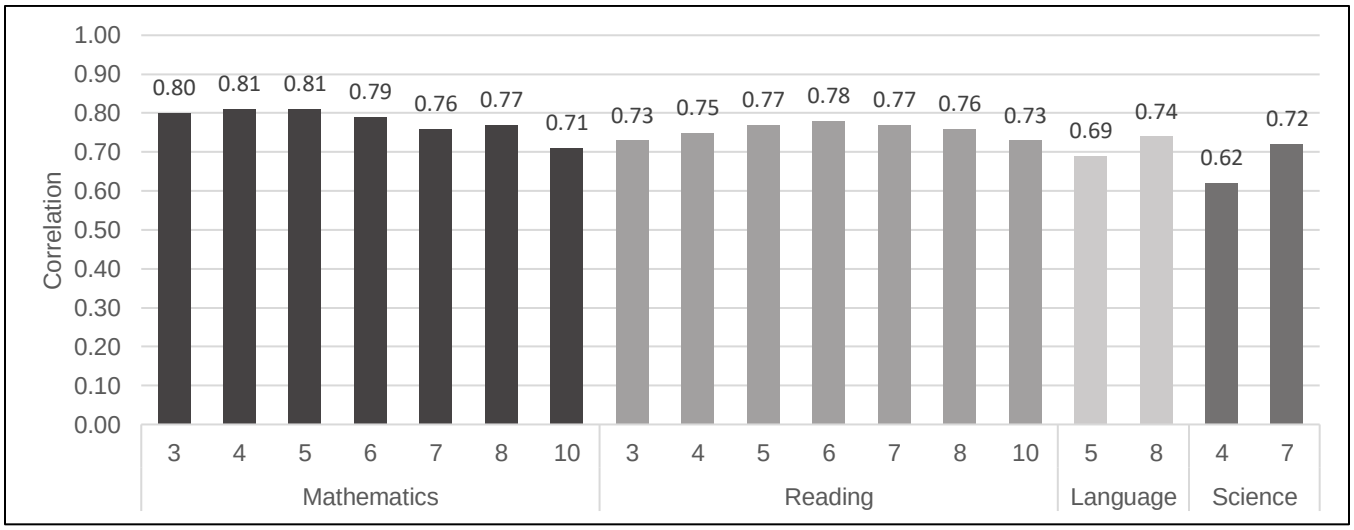
Executive Summary

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 that correspond to the state summative performance levels. A *cut score* is the minimum score a student must get on a test to be placed in a certain performance level. The linking study for the Kentucky Summative Assessment (KSA) described in this report provides RIT cut scores for the fall, winter, and spring MAP Growth administrations that correspond to the KSA performance levels for Mathematics and Reading in Grades 3–8 and 10, Editing and Mechanics in Grade 5 and 8, and Science in Grade 4 and 7.

The linking study is based on test scores from students in Grades 3–10 who took both the MAP Growth and KSA assessments in Spring 2022. The linking study sample included 162,281 students across 92 districts and 647 schools in Kentucky. Scores from both tests were used as the basis for linking the two assessments together.

Before the linking analyses began, NWEA confirmed that the MAP Growth and KSA assessments are aligned on the same or similar set of content standards to warrant a connection. The link between the two tests was further investigated by calculating the Pearson correlation coefficients that relate the relationship between the specific MAP Growth and KSA test scores. At NWEA, we consider a positive correlation of $r \geq 0.70$ as "high" correlation. 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 KSA test scores from Spring 2022, shown below, are mostly consistent with our linking study expectations, except for the linkages for MAP Growth Language Grade 5 with KSA Editing and Mechanics Grade 5 (r = 0.69), and for MAP Growth Science Grade 4 with KSA Science Grade 4 (r = 0.62). As such, we suggest readers use the RIT cuts for these tests with caution. The correlations for all other match ups show that MAP Growth is a good assessment for predicting performance on the KSA.

Figure E.1. Correlations between MAP Growth and KSA Test Scores by Grade



The equipercentile linking method and the 2020 MAP Growth norms (Thum & Kuhfeld, 2020) were then used to produce the RIT cut scores that correlate to performance on the KSA assessment for every subject and grade. While RIT cut scores were generated for every performance level on the KSA assessment, Table E.1 presents the *Proficient* cut scores that indicate the minimum score a student must get to be considered proficient.

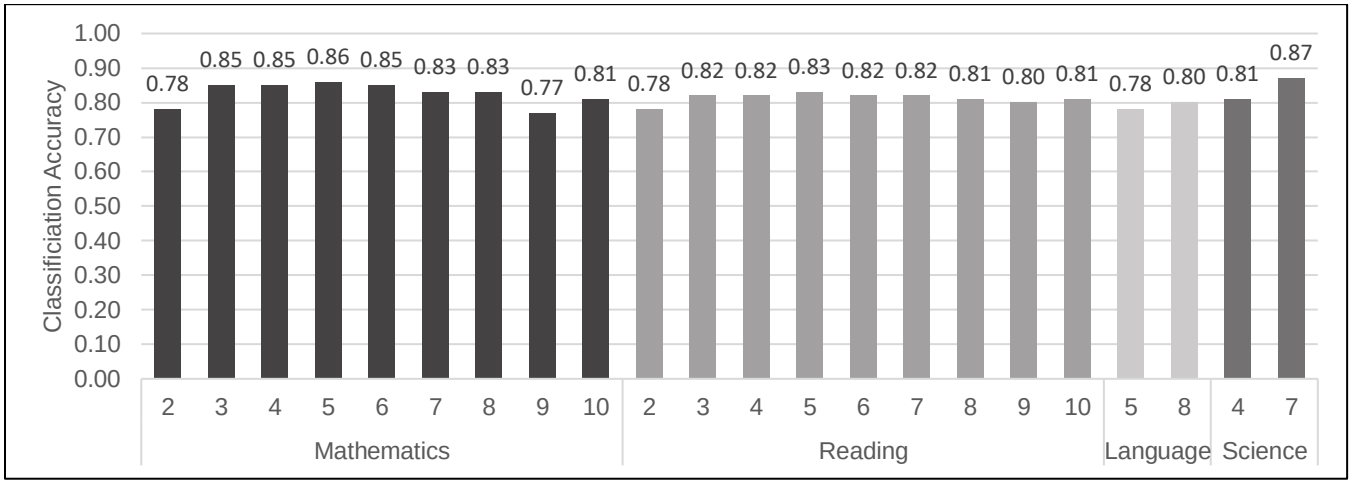
Table E.1. MAP Growth RIT Cut Scores for KSA Proficiency

Assessment		***Proficient* Cut Scores by Grade**								
		2	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Mathematics										
KSA Spring		–	521	521	515	507	505	505	504	504
MAP Growth Mathematics	Fall	179	192	201	209	213	219	226	229	233
	Winter	188	199	208	215	218	223	229	232	235
	Spring	193	204	212	219	221	226	231	233	236
Reading										
KSA Spring		–	513	516	522	518	512	515	513	513
MAP Growth Reading	Fall	176	190	200	208	213	217	222	223	225
	Winter	185	197	206	212	217	220	224	224	226
	Spring	189	200	208	214	218	221	225	225	227
Editing & Mechanics										
KSA Spring		–	–	–	522	–	–	517	–	–
MAP Growth Language	Fall	–	–	–	204	–	–	217	–	–
	Winter	–	–	–	208	–	–	219	–	–
	Spring	–	–	–	210	–	–	220	–	–
Science										
KSA Spring		–	–	515	–	–	510	–	–	–
MAP Growth Science	Fall	–	–	204	–	–	219	–	–	–
	Winter	–	–	208	–	–	221	–	–	–
	Spring	–	–	209	–	–	222	–	–	–

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 KSA Mathematics test is 521. A Grade 3 student with a MAP Growth Mathematics RIT score of 192 in the fall is likely to meet proficiency on the KSA Mathematics test in the spring, whereas a Grade 3 student with a RIT score lower than 192 in the fall is in jeopardy of not meeting proficiency. MAP Growth cut scores for Grade 2 and Grade 9 are also provided so educators can track progress toward proficiency on the KSA assessment by Grade 3 and Grade 10, respectively.

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 correctly classified, or predicted, students as proficient on the KSA tests. For example, the Grade 3 MAP Growth Mathematics *Proficient* cut score has a 0.85 accuracy rate, meaning it accurately predicted student achievement on the state test for 85% of the sample. A high statistic indicates high accuracy. Overall, MAP Growth scores have a high accuracy rate of identifying student proficiency on the KSA tests, as illustrated below.

Figure E.2. Accuracy of MAP Growth Classifications by Grade



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 likely 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 Kentucky Summative Assessment (KSA) for the following tests: Mathematics and Reading in Grades 3–8 and 10, KSA Editing and Mechanics in Grades 5 and 8 with MAP Growth Language in Grades 5 and 8, and Science in Grades 4 and 7 assessments taken during the Spring 2022 term.[1] MAP Growth cut scores are also included for Grade 2 and Grade 9 so educators can track students' progress toward proficiency on the KSA test by Grade 3 and Grade 10, respectively. 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 KSA assessment
4. Classification accuracy statistics to determine the degree to which MAP Growth accurately predicts student proficiency status on the KSA tests
5. The probability of achieving grade-level proficiency on the KSA assessment based on MAP Growth RIT scores from fall, winter, and spring

The linking study has been updated since the previous version published in July 2020 to provide updated cuts as well as projected proficiency for Grade 2 and Grade 9.

1.2. Assessment Overview

The KSA tests are Kentucky's state summative assessments aligned to the academic content standards. Based on their test scores, students are placed into one of four performance levels: *Novice*, *Apprentice*, *Proficient*, and *Distinguished*. 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 (Thum & Kuhfeld, 2020).

[1] This study provides MAP Growth cut scores that predict proficiency on the KSA for Grades 2–10 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 KSA assessments. The Kentucky Department of Education (KDE) shared their student and score data from the target term for all Kentucky students with NWEA gave 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 KSA assessments in Spring 2022 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 KSA 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 KSA 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 KSA test that references some other scale in the same subject?" The correlations were calculated as follows:

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

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 KSA assessment are reported for Grades 3–8 & 10, as well as for Grade 2 and Grade 9 so educators can track students' progress toward proficiency on the KSA test by Grade 3 and Grade 10, respectively. 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 (Kolen & Brennan, 2004) was used to identify the spring MAP Growth RIT scores for Grades 3–8 & 10 that correspond to the spring KSA 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., KSA). 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:

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

where $e_y(x)$ is the equipercentile equivalent of score x on KSA on the scale of MAP Growth, $P(x)$ is the percentile rank of a given score on KSA, 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 & 10. Equation 3 was used to determine the previous term's MAP Growth score needed to reach the spring cut score, considering the expected growth associated with the previous RIT score:

$$RIT_{PredSpring} = RIT_{previous} + g \quad (3)$$

where:

- $RIT_{PredSpring}$ is the predicted MAP Growth spring score.
- $RIT_{previous}$ is the previous term's RIT score.
- g is the expected growth from the previous RIT (e.g., fall or winter) to the spring RIT score.

Students do not take the KSA assessment in Grades 2 and 9. Therefore, the MAP Growth conditional growth norms were also used to estimate the fall, winter, and spring cuts in Grades 2 and 9 that are needed to meet KSA proficiency in Grades 3 and 10, respectively. To derive the spring cut scores for these grades, 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 & 10. For example, the growth score 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 KSA 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 KSA test. The classification accuracy statistics for Grades 2 and 9 were calculated by obtaining current Grade 3 and 10 students' MAP Growth scores from the previous year. Thus, the classification accuracy statistics for Grades 2 and 9 represent how well these estimated RIT cuts predict proficiency in the KSA assessments in Grades 3 and 10, respectively, in our study sample. Table 2.1 describes the classification accuracy statistics provided 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 Grades 2 and Grade 9 cut scores), the MAP Growth conditional growth norms data were also used to calculate the probability of reaching proficiency on the KSA 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 RIT (e.g., fall or winter) to the spring RIT.
- $RIT_{SpringCut}$ is the MAP Growth *Proficient* cut score for 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 KSA test based on their spring RIT score (RIT_{Spring}):

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

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 KSA assessments in Spring 2022 for the target subjects were included in the sample. Data were provided by the KDE from 92 districts and 647 schools in Kentucky. 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 KSA tests. Since the original study sample is different from the target KSA population, post-stratification weights were applied to the study sample to improve its representativeness. Table 3.3 presents the demographic distributions of the sample after weighting, which are almost identical to the KSA student population distributions. The analyses in this study were conducted using the weighted sample.

Table 3.1. Linking Study Sample Demographics (Unweighted)

Linking Study Sample (Unweighted)								
		%Students by Grade						
Demographic Subgroup		3	4	5	6	7	8	10
KSA Mathematics to MAP Growth Mathematics								
	Total N	25,732	23,696	25,892	25,686	26,733	26,602	5,147
Race*	Asian, NHPI	2.7	2.8	2.4	2.4	2.2	2.1	1.6
	Black	14.4	14.0	14.9	14.8	14.9	15.1	12.7
	Hispanic	9.5	9.6	10.2	10.1	9.6	10.3	7.1
	Other	5.7	5.5	5.3	5.1	5.0	4.7	4.0
	White	67.6	68.1	67.1	67.6	68.3	67.9	74.5
Sex	Female	48.5	48.3	48.6	48.6	48.9	48.9	48.4
	Male	51.5	51.7	51.4	51.4	51.1	51.1	51.6
Performance Level	*Novice*	32.8	33.2	31.8	34.1	33.9	38.2	36.1
	Apprentice	29.2	27.5	30.7	28.9	28.2	25.7	31.6
	Proficient	27.4	29.4	27.7	27.2	28.3	26.5	25.1
	Distinguished	10.6	9.9	9.9	9.8	9.5	9.6	7.3
KSA Reading to MAP Growth Reading								
	Total N	25,850	23,785	26,023	25,622	26,627	26,486	5,817
Race*	Asian, NHPI	2.7	2.7	2.4	2.4	2.2	2.1	1.5
	Black	14.4	14.0	14.9	14.8	14.8	14.9	11.2
	Hispanic	9.5	9.6	10.2	9.9	9.4	10.1	6.0
	Other	5.8	5.6	5.4	5.2	5.0	4.7	3.6
	White	67.7	68.1	67.1	67.7	68.5	68.1	77.7
Sex	Female	48.4	48.3	48.5	48.6	48.9	49.0	47.6
	Male	51.6	51.7	51.5	51.4	51.1	51.0	52.4
Performance Level	*Novice*	28.2	30.2	28.6	27.9	32.7	31.5	30.0
	Apprentice	27.0	24.6	27.9	29.1	24.0	24.7	26.5
	Proficient	27.0	28.6	27.4	26.2	27.5	28.4	28.5
	Distinguished	17.8	16.5	16.2	16.8	15.8	15.4	14.9

Linking Study Sample (Unweighted)								
		%Students by Grade						
Demographic Subgroup		3	4	5	6	7	8	10
KSA Editing & Mechanics to MAP Growth Language								
	Total N	–	–	6,243	–	–	5,961	–
Race*	Asian, NHPI	–	–	1.7	–	–	1.5	–
	Black	–	–	8.0	–	–	4.9	–
	Hispanic	–	–	8.2	–	–	7.1	–
	Other	–	–	4.2	–	–	4.1	–
	White	–	–	77.9	–	–	82.4	–
Sex	Female	–	–	47.5	–	–	47.4	–
	Male	–	–	52.5	–	–	52.6	–
Performance Level	*Novice*	–	–	23.2	–	–	22.6	–
	Apprentice	–	–	29.8	–	–	29.7	–
	Proficient	–	–	26.8	–	–	31.5	–
	Distinguished	–	–	20.1	–	–	16.2	–
KSA Science to MAP Growth Science								
	Total N	–	5,349	–	–	6,101	–	–
Race*	Asian, NH/PI	–	0.7	–	–	1.0	–	–
	Black	–	2.7	–	–	7.8	–	–
	Hispanic	–	4.6	–	–	5.7	–	–
	Other	–	3.6	–	–	4.7	–	–
	White	–	88.5	–	–	80.9	–	–
Sex	Female	–	48.3	–	–	49.4	–	–
	Male	–	51.7	–	–	50.6	–	–
Performance Level	*Novice*	–	14.2	–	–	36.5	–	–
	Apprentice	–	54.8	–	–	42.9	–	–
	Proficient	–	25.3	–	–	18.8	–	–
	Distinguished	–	5.7	–	–	1.8	–	–

*Asian, NHPI = Asian and Native Hawaiian and Other Pacific Islander. The race categories reflect the KSA performance reports from each testing term.

Table 3.2. Spring 2022 KSA Student Population Demographics

Spring 2022 KSA Student Population								
		%Students by Grade						
Demographic Subgroup		3	4	5	6	7	8	10
Mathematics								
	Total N	45,583	42,129	45,817	46,169	48,268	49,314	45,814
Race*	Asian, NHPI	2.4	2.3	2.1	2.1	1.9	1.9	2.2
	Black	10.8	10.2	11.0	11.0	11.0	11.2	10.0
	Hispanic	8.3	8.3	8.7	8.7	8.5	8.7	8.1
	Other	5.5	5.4	5.3	5.2	5.0	4.7	4.2
	White	73.0	73.7	72.9	73.1	73.6	73.5	75.6

Spring 2022 KSA Student Population								
Demographic Subgroup		%Students by Grade						
		3	4	5	6	7	8	10
Sex	Female	48.7	48.1	48.6	48.3	48.8	48.9	48.8
	Male	51.3	51.9	51.4	51.7	51.2	51.1	51.2
Performance Level	*Novice*	32.0	32.0	31.0	32.0	33.0	37.0	32.0
	Apprentice	30.0	28.0	31.0	30.0	29.0	26.0	31.0
	Proficient	28.0	29.0	28.0	28.0	29.0	27.0	28.0
	Distinguished	11.0	10.0	10.0	10.0	9.0	10.0	10.0
Reading								
	Total N	45,522	42,086	45,773	46,071	48,171	49,200	45,809
Race*	Asian, NHPI	2.3	2.3	2.1	2.1	1.9	1.9	2.1
	Black	10.8	10.3	11.0	11.0	11.0	11.2	10.0
	Hispanic	8.3	8.2	8.7	8.5	8.4	8.6	7.9
	Other	5.5	5.4	5.3	5.2	5.1	4.7	4.2
	White	73.1	73.8	72.9	73.2	73.7	73.7	75.7
Sex	Female	48.7	48.1	48.6	48.3	48.8	48.8	48.8
	Male	51.3	51.9	51.4	51.7	51.2	51.2	51.2
Performance Level	*Novice*	28.0	29.0	27.0	26.0	32.0	31.0	29.0
	Apprentice	27.0	25.0	28.0	29.0	24.0	25.0	26.0
	Proficient	27.0	29.0	28.0	27.0	28.0	29.0	29.0
	Distinguished	18.0	17.0	17.0	17.0	16.0	15.0	16.0
Editing & Mechanics								
	Total N	–	–	42,113	–	–	48,207	–
Race*	Asian, NHPI	–	–	2.3	–	–	1.9	–
	Black	–	–	10.3	–	–	10.9	–
	Hispanic	–	–	8.2	–	–	8.5	–
	Other	–	–	5.4	–	–	5.0	–
	White	–	–	73.7	–	–	73.6	–
Sex	Female	–	–	48.1	–	–	48.8	–
	Male	–	–	51.9	–	–	51.2	–
Performance Level	*Novice*	–	–	16.0	–	–	35.0	–
	Apprentice	–	–	55.0	–	–	42.0	–
	Proficient	–	–	23.0	–	–	20.0	–
	Distinguished	–	–	6.0	–	–	2.0	–
Science								
	Total N	–	45,747	–	–	49,107	–	–
Race*	Asian, NHPI	–	2.1	–	–	1.9	–	–
	Black	–	11.0	–	–	11.1	–	–
	Hispanic	–	8.7	–	–	8.6	–	–
	Other	–	5.3	–	–	4.7	–	–
	White	–	72.9	–	–	73.7	–	–

Spring 2022 KSA Student Population								
Demographic Subgroup		%Students by Grade						
		3	4	5	6	7	8	10
Sex	Female	–	48.6	–	–	48.9	–	–
	Male	–	51.4	–	–	51.1	–	–
Performance Level	*Novice*	–	23.0	–	–	25.0	–	–
	Apprentice	–	30.0	–	–	30.0	–	–
	Proficient	–	27.0	–	–	31.0	–	–
	Distinguished	–	20.0	–	–	15.0	–	–

*Asian, NHPI = Asian and Native Hawaiian or Other Pacific Islander. The race categories reflect the KSA performance reports from each testing term.

Table 3.3. Linking Study Sample Demographics (Weighted)

Linking Study Sample (Weighted)								
Demographic Subgroup		%Students by Grade						
		3	4	5	6	7	8	10
KSA Mathematics to MAP Growth Mathematics								
	Total N	25,989	23,459	25,892	25,686	26,733	26,602	5,198
Race*	Asian, NHPI	2.4	2.3	2.1	2.1	1.9	1.9	2.2
	Black	10.8	10.2	11.0	11.0	11.0	11.2	10.0
	Hispanic	8.3	8.3	8.7	8.7	8.5	8.7	8.1
	Other	5.5	5.4	5.3	5.2	5.0	4.7	4.2
	White	73.0	73.7	72.9	73.1	73.6	73.5	75.6
Sex	Female	48.7	48.1	48.6	48.3	48.8	48.9	48.9
	Male	51.3	51.9	51.4	51.7	51.2	51.1	51.1
Performance Level	*Novice*	31.7	32.3	31.0	32.0	33.0	37.0	31.7
	Apprentice	29.7	28.3	31.0	30.0	29.0	26.0	30.7
	Proficient	27.7	29.3	28.0	28.0	29.0	27.0	27.7
	Distinguished	10.9	10.1	10.0	10.0	9.0	10.0	9.9
KSA Reading to MAP Growth Reading								
	Total N	25,850	23,785	26,023	25,366	26,627	26,486	5,817
Race*	Asian, NHPI	2.3	2.3	2.1	2.1	1.9	1.9	2.1
	Black	10.8	10.3	11.0	11.0	11.0	11.2	10.0
	Hispanic	8.3	8.2	8.7	8.5	8.4	8.6	7.9
	Other	5.5	5.4	5.3	5.2	5.1	4.7	4.2
	White	73.1	73.8	72.9	73.2	73.7	73.7	75.7
Sex	Female	48.7	48.1	48.6	48.3	48.8	48.8	48.8
	Male	51.3	51.9	51.4	51.7	51.2	51.2	51.2
Performance Level	*Novice*	28.0	29.0	27.0	26.3	32.0	31.0	29.0
	Apprentice	27.0	25.0	28.0	29.3	24.0	25.0	26.0
	Proficient	27.0	29.0	28.0	27.3	28.0	29.0	29.0
	Distinguished	18.0	17.0	17.0	17.2	16.0	15.0	16.0

Linking Study Sample (Weighted)								
		%Students by Grade						
Demographic Subgroup		3	4	5	6	7	8	10
KSA Editing & Mechanics to MAP Growth Language								
	Total N	–	–	6,243	–	–	6,021	–
Race*	Asian, NHPI	–	–	2.1	–	–	1.9	–
	Black	–	–	11.0	–	–	11.1	–
	Hispanic	–	–	8.7	–	–	8.6	–
	Other	–	–	5.3	–	–	4.7	–
	White	–	–	72.9	–	–	73.7	–
Sex	Female	–	–	48.6	–	–	48.9	–
	Male	–	–	51.4	–	–	51.1	–
Performance Level	*Novice*	–	–	23.0	–	–	24.8	–
	Apprentice	–	–	30.0	–	–	29.7	–
	Proficient	–	–	27.0	–	–	30.7	–
	Distinguished	–	–	20.0	–	–	14.9	–
KSA Science to MAP Growth Science								
	Total N	–	5,349	–	–	6,040	–	–
Race*	Asian, NHPI	–	2.3	–	–	1.9	–	–
	Black	–	10.3	–	–	10.9	–	–
	Hispanic	–	8.2	–	–	8.5	–	–
	Other	–	5.4	–	–	5.0	–	–
	White	–	73.7	–	–	73.6	–	–
Sex	Female	–	48.1	–	–	48.8	–	–
	Male	–	51.9	–	–	51.2	–	–
Performance Level	*Novice*	–	16.0	–	–	35.4	–	–
	Apprentice	–	55.0	–	–	42.4	–	–
	Proficient	–	23.0	–	–	20.2	–	–
	Distinguished	–	6.0	–	–	2.0	–	–

*Asian, NHPI = Asian and Native Hawaiian or Other Pacific Islander. The race categories reflect the KSA performance reports from each testing term.

3.2. Descriptive Statistics

Table 3.4 presents descriptive statistics of the MAP Growth and KSA test scores from Spring 2022, including the correlation coefficient (*r*) between them. The correlations between the scores range from 0.71 to 0.81 for Mathematics, 0.73 to 0.78 for Reading, 0.69 to 0.74 for Language, and 0.62 to 0.72 for Science. These values mostly 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 KSA assessments except for KSA Editing and Mechanics Grade 5 and KSA Science Grade 4.

Table 3.4. Descriptive Statistics of Test Scores

Grade	N	*r*	KSA*				MAP Growth*			
			Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
KSA Mathematics to MAP Growth Mathematics										
3	25,989	0.80	515.9	20.3	400	600	197.9	14.7	122	273
4	23,459	0.81	516.4	19.9	400	600	206.6	15.6	121	275
5	25,892	0.81	510.3	19.5	400	600	212.7	16.4	137	284
6	25,686	0.79	503.2	16.7	400	599	216.3	16.3	152	290
7	26,733	0.76	502.5	14.1	400	600	221.3	17.4	154	304
8	26,602	0.77	502.0	16.4	400	600	226.1	18.5	150	327
10	5,198	0.71	500.5	14.8	400	573	230.5	19.9	159	306
KSA Reading to MAP Growth Reading										
3	25,850	0.73	511.0	17.3	400	600	195.7	17.2	140	242
4	23,785	0.75	513.7	17.3	443	598	204.2	16.4	143	276
5	26,023	0.77	518.9	18.5	440	600	210.1	15.7	142	262
6	25,366	0.78	514.5	16.7	400	600	213.3	15.6	155	262
7	26,627	0.77	509.3	16.1	400	600	217.1	15.6	156	272
8	26,486	0.76	512.0	15.1	440	580	220.7	15.7	152	278
10	5,817	0.73	510.8	16.8	444	600	222.2	17.4	153	272
KSA Editing & Mechanics to MAP Growth Language										
5	6,243	0.69	520.1	16.4	471	600	206.7	14.8	145	257
8	6,021	0.74	515.5	17.4	455	600	216.3	14.7	148	279
KSA Science to MAP Growth Science										
4	5,349	0.62	507.9	13.2	459	559	202.0	11.8	157	237
7	6,040	0.72	498.0	14.0	446	562	211.0	12.9	161	254

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

3.3. MAP Growth Cut Scores

Table 3.5 – Table 3.8 present the KSA 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 predict a student's likely performance level on the KSA 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 192 in the fall is likely to achieve *Proficient* performance on the KSA Mathematics test. The same is true for a Grade 3 student who obtained a MAP Growth Mathematics RIT score of 204 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

KSA Mathematics				
Grade	***Novice***	***Apprentice***	***Proficient***	***Distinguished***
3	400–504	505–520	**521**–541	542–600
4	400–506	507–520	**521**–542	543–600
5	400–498	499–514	**515**–536	537–600
6	400–494	495–506	**507**–525	526–600
7	400–495	496–504	**505**–521	522–600
8	400–494	495–504	**505**–523	524–600
10	400–493	494–503	**504**–520	521–600

MAP Growth Mathematics								
	Novice		***Apprentice***		***Proficient***		***Distinguished***	
Grade	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100–164	1–21	165–178	22–61	**179**–192	62–91	193–350	92–99
3	100–178	1–23	179–191	24–59	**192**–203	60–87	204–350	88–99
4	100–189	1–24	190–200	25–53	**201**–214	54–85	215–350	86–99
5	100–194	1–17	195–208	18–49	**209**–223	50–83	224–350	84–99
6	100–200	1–19	201–212	20–45	**213**–229	46–82	230–350	83–99
7	100–207	1–23	208–218	24–46	**219**–237	47–84	238–350	85–99
8	100–212	1–25	213–225	26–51	**226**–245	52–86	246–350	87–99
9	100–215	1–29	216–228	30–54	**229**–251	55–89	252–350	90–99
10	100–218	1–30	219–232	31–57	**233**–253	58–88	254–350	89–99
Winter								
2	100–173	1–21	174–187	22–61	**188**–200	62–89	201–350	90–99
3	100–186	1–24	187–198	25–57	**199**–211	58–87	212–350	88–99
4	100–196	1–26	197–207	27–54	**208**–221	55–85	222–350	86–99
5	100–199	1–17	200–214	18–50	**215**–229	51–82	230–350	83–99
6	100–205	1–20	206–217	21–45	**218**–234	46–81	235–350	82–99
7	100–210	1–22	211–222	23–47	**223**–241	48–83	242–350	84–99
8	100–216	1–27	217–228	28–51	**229**–248	52–85	249–350	86–99
9	100–218	1–30	219–231	31–56	**232**–253	57–89	254–350	90–99
10	100–221	1–32	222–234	33–56	**235**–255	57–88	256–350	89–99
Spring								
2	100–179	1–23	180–192	24–60	**193**–205	61–88	206–350	89–99
3	100–191	1–25	192–203	26–57	**204**–215	58–84	216–350	85–99
4	100–200	1–26	201–211	27–53	**212**–225	54–83	226–350	84–99
5	100–203	1–18	204–218	19–50	**219**–233	51–81	234–350	82–99
6	100–208	1–20	209–220	21–45	**221**–237	46–80	238–350	81–99
7	100–213	1–24	214–225	25–47	**226**–244	48–83	245–350	84–99
8	100–218	1–28	219–230	29–50	**231**–250	51–84	251–350	85–99
9	100–219	1–30	220–232	31–55	**233**–254	56–88	255–350	89–99
10	100–222	1–32	223–235	33–56	**236**–256	57–87	257–350	88–99

Table 3.6. MAP Growth Cut Scores—Reading

KSA Reading								
Grade	***Novice***		***Apprentice***		***Proficient***		***Distinguished***	
3	400–499		500–512		**513**–527		528–600	
4	400–502		503–515		**516**–530		531–600	
5	400–506		507–521		**522**–537		538–600	
6	400–503		504–517		**518**–531		532–600	
7	400–500		501–511		**512**–525		526–600	
8	400–503		504–514		**515**–527		528–600	
9	400–500		501–512		**513**–528		529–600	
10	400–499		500–512		**513**–527		528–600	
MAP Growth Reading								
	Novice		***Apprentice***		***Proficient***		***Distinguished***	
Grade	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100–158	1–18	159–175	19–58	**176**–192	59–90	193–350	91–99
3	100–174	1–23	175–189	24–57	**190**–203	58–84	204–350	85–99
4	100–185	1–25	186–199	26–57	**200**–213	58–84	214–350	85–99
5	100–193	1–25	194–207	26–58	**208**–220	59–83	221–350	84–99
6	100–197	1–22	198–212	23–56	**213**–225	57–82	226–350	83–99
7	100–205	1–30	206–216	31–56	**217**–228	57–80	229–350	81–99
8	100–208	1–29	209–221	30–58	**222**–233	59–82	234–350	83–99
9	100–206	1–26	207–222	27–58	**223**–235	59–81	236–350	82–99
10	100–211	1–29	212–224	30–57	**225**–237	58–81	238–350	82–99
Winter								
2	100–168	1–20	169–184	21–59	**185**–199	60–88	200–350	89–99
3	100–182	1–24	183–196	25–57	**197**–208	58–82	209–350	83–99
4	100–192	1–27	193–205	28–58	**206**–217	59–82	218–350	83–99
5	100–199	1–27	200–211	28–56	**212**–223	57–82	224–350	83–99
6	100–202	1–24	203–216	25–57	**217**–227	58–80	228–350	81–99
7	100–208	1–30	209–219	31–56	**220**–230	57–79	231–350	80–99
8	100–212	1–32	213–223	33–57	**224**–234	58–80	235–350	81–99
9	100–209	1–28	210–223	29–56	**224**–236	57–80	237–350	81–99
10	100–213	1–30	214–225	31–56	**226**–238	57–81	239–350	82–99
Spring								
2	100–173	1–22	174–188	23–58	**189**–203	59–87	204–350	88–99
3	100–186	1–26	187–199	27–56	**200**–211	57–81	212–350	82–99
4	100–195	1–28	196–207	29–57	**208**–219	58–81	220–350	82–99
5	100–201	1–28	202–213	29–56	**214**–224	57–80	225–350	81–99
6	100–204	1–25	205–217	26–56	**218**–228	57–79	229–350	80–99
7	100–210	1–32	211–220	33–55	**221**–231	56–79	232–350	80–99
8	100–213	1–31	214–224	32–57	**225**–235	58–79	236–350	80–99
9	100–210	1–28	211–224	29–56	**225**–237	57–80	238–350	81–99
10	100–214	1–31	215–226	32–57	**227**–239	58–81	240–350	82–99

Table 3.7. MAP Growth Cut Scores—Language, Editing & Mechanics

KSA Editing & Mechanics								
Grade	***Novice***		***Apprentice***		***Proficient***		***Distinguished***	
5	400–507		508–521		**522**–533		534–600	
8	400–503		504–516		**517**–532		533–600	
MAP Growth Language								
	Novice		***Apprentice***		***Proficient***		***Distinguished***	
Grade	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
5	100-189	1-15	190-203	16-49	**204**-213	50-74	214-350	75-99
8	100–202	1–19	203–216	20–53	**217**–228	54–81	229–350	82–99
Winter								
5	100-194	1-16	195–207	17–48	**208**–217	49–74	218–350	75–99
8	100–205	1–20	206–218	21–53	**219**–229	54–79	230–350	80–99
Spring								
5	100–197	1–18	198–209	19–48	**210**–218	49–73	219–350	74–99
8	100–207	1–22	208–219	23–52	**220**–230	53–79	231–350	80–99

Table 3.8. MAP Growth Cut Scores—Science

KSA Science								
Grade	***Novice***		***Apprentice***		***Proficient***		***Distinguished***	
4	400–494		495–514		**515**–530		531–600	
7	400–491		492–509		**510**–528		529–600	
MAP Growth Science								
	Novice		***Apprentice***		***Proficient***		***Distinguished***	
Grade	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
4	100–181	1–13	182–203	14–78	**204**–216	79–96	217–350	97–99
7	100–200	1–32	201–218	33–83	**219**–232	84–97	233–350	98–99
Winter								
4	100–187	1–16	188–207	17–77	**208**-–218	78–95	219–350	96–99
7	100–204	1–35	205–220	36–81	**221**–233	82–96	234–350	97–99
Spring								
4	100–190	1–18	191–208	19–74	**209**–219	75–94	220–350	95–99
7	100–205	1–35	206–221	36–80	**222**–234	81–96	235–350	97–99

3.4. Classification Accuracy

Table 3.9 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 KSA tests, providing insight into the predictive validity of MAP Growth. The overall classification accuracy rates range from 0.77 to 0.86 for Mathematics, 0.78 to 0.83 for Reading, 0.78 and 0.80 for Language, and 0.81 and 0.87 for Science. These values suggest that most of the RIT cut scores are good at classifying students as proficient or not proficient on

the KSA assessment. For Grades 2 and 9, the classification accuracy rate refers to how well the MAP Growth cuts can predict students' proficiency status on KSA in Grade 3 and 10, respectively.

Although the results show that MAP Growth scores can be used to predict student proficiency with relatively high accuracy on the KSA tests, there is a notable limitation to how these results should be used and interpreted. The KSA 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 3.9. Classification Accuracy Results

Grade	N	Cut Score		Class. Accuracy*	Rate*		Sensitivity	Specificity	Precision	AUC*
		MAP Growth	KSA		FP	FN				
Mathematics										
2	15,268	193	521	0.78	0.11	0.37	0.63	0.89	0.81	0.81
3	25,989	204	521	0.85	0.12	0.19	0.81	0.88	0.64	0.81
4	23,459	212	521	0.85	0.13	0.17	0.83	0.87	0.81	0.80
5	25,892	219	515	0.86	0.11	0.18	0.82	0.89	0.80	0.82
6	25,686	221	507	0.85	0.14	0.17	0.83	0.86	0.82	0.78
7	26,733	226	505	0.83	0.16	0.19	0.81	0.84	0.78	0.76
8	26,602	231	505	0.83	0.15	0.19	0.81	0.85	0.76	0.76
9	1,558	233	504	0.77	0.25	0.20	0.80	0.75	0.76	0.64
10	5,198	236	504	0.81	0.18	0.21	0.79	0.82	0.73	0.73
Reading										
2	15,305	189	513	0.78	0.18	0.27	0.73	0.82	0.79	0.79
3	25,850	200	513	0.82	0.18	0.19	0.81	0.82	0.76	0.79
4	23,785	208	516	0.82	0.18	0.18	0.82	0.82	0.79	0.80
5	26,023	214	522	0.83	0.18	0.17	0.83	0.82	0.80	0.79
6	25,366	218	518	0.82	0.16	0.21	0.79	0.84	0.79	0.80
7	26,627	221	512	0.82	0.18	0.19	0.81	0.82	0.80	0.78
8	26,486	225	515	0.81	0.17	0.21	0.79	0.83	0.78	0.78
9	1,616	225	513	0.80	0.21	0.20	0.80	0.79	0.78	0.76
10	5,817	227	513	0.81	0.16	0.21	0.79	0.84	0.80	0.80
Language										
5	6,243	210	522	0.78	0.21	0.24	0.76	0.79	0.76	0.85
8	6,021	220	517	0.80	0.17	0.23	0.77	0.83	0.79	0.79
Science										
4	5,349	209	515	0.81	0.14	0.31	0.69	0.86	0.66	0.85
7	6,040	222	510	0.87	0.08	0.32	0.68	0.92	0.72	0.72

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

3.5. Proficiency Projections

Table 3.10 – Table 3.13 present the estimated probability of achieving *Proficient* performance on the KSA 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 KSA. 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 KSA in the spring at a given percentile throughout the year.

For example, the spring Grade 3 *Proficient* RIT cut score for Mathematics is 204, which indicates a 50% chance of achieving proficiency in the spring, as shown in Table 3.10. An educator can also use the table to estimate that a Grade 3 student who obtained a MAP Growth Mathematics score of 188 in the fall has a 31% probability of reaching *Proficient* or higher on the KSA test in the spring.

Table 3.10. Proficiency Projections based on RIT Scores—Mathematics

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.
2	5	193	154	No	<0.01	163	No	<0.01	167	No	<0.01
	10	193	158	No	<0.01	167	No	<0.01	172	No	<0.01
	15	193	162	No	0.01	171	No	<0.01	175	No	<0.01
	20	193	164	No	0.01	173	No	<0.01	178	No	<0.01
	25	193	166	No	0.03	175	No	0.01	180	No	<0.01
	30	193	168	No	0.06	177	No	0.02	182	No	<0.01
	35	193	170	No	0.11	179	No	0.05	184	No	<0.01
	40	193	172	No	0.18	181	No	0.07	186	No	0.01
	45	193	173	No	0.22	182	No	0.10	188	No	0.04
	50	193	175	No	0.27	184	No	0.2	189	No	0.08
	55	193	177	No	0.38	186	No	0.34	191	No	0.25
	60	193	178	No	0.44	187	No	0.42	193	Yes	0.50
	65	193	180	Yes	0.56	189	Yes	0.58	195	Yes	0.75
	70	193	182	Yes	0.68	191	Yes	0.74	196	Yes	0.85
	75	193	184	Yes	0.78	193	Yes	0.85	198	Yes	0.96
	80	193	186	Yes	0.82	195	Yes	0.93	201	Yes	>0.99
	85	193	188	Yes	0.89	198	Yes	0.98	203	Yes	>0.99
	90	193	192	Yes	0.97	201	Yes	>0.99	207	Yes	>0.99
	95	193	196	Yes	0.99	205	Yes	>0.99	212	Yes	>0.99
3	5	204	166	No	<0.01	174	No	<0.01	178	No	<0.01
	10	204	171	No	<0.01	179	No	<0.01	183	No	<0.01
	15	204	175	No	<0.01	182	No	<0.01	186	No	<0.01
	20	204	177	No	0.01	185	No	<0.01	189	No	<0.01
	25	204	179	No	0.03	187	No	0.01	192	No	<0.01
	30	204	181	No	0.05	189	No	0.02	194	No	<0.01
	35	204	183	No	0.10	191	No	0.04	196	No	<0.01
	40	204	185	No	0.17	193	No	0.10	198	No	0.02
	45	204	187	No	0.26	195	No	0.20	199	No	0.04
	50	204	188	No	0.31	196	No	0.26	201	No	0.15
	55	204	190	No	0.44	198	No	0.42	203	No	0.37
	60	204	192	Yes	0.50	200	Yes	0.58	205	Yes	0.63
	65	204	194	Yes	0.63	201	Yes	0.67	207	Yes	0.85
	70	204	196	Yes	0.74	203	Yes	0.80	208	Yes	0.92
	75	204	198	Yes	0.83	205	Yes	0.90	211	Yes	0.99
	80	204	200	Yes	0.90	208	Yes	0.97	213	Yes	>0.99
	85	204	202	Yes	0.95	210	Yes	0.99	216	Yes	>0.99
	90	204	206	Yes	0.99	214	Yes	>0.99	219	Yes	>0.99
	95	204	211	Yes	>0.99	219	Yes	>0.99	224	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.
4	5	212	176	No	<0.01	182	No	<0.01	185	No	<0.01
	10	212	181	No	<0.01	187	No	<0.01	191	No	<0.01
	15	212	185	No	0.01	191	No	<0.01	194	No	<0.01
	20	212	187	No	0.01	194	No	<0.01	197	No	<0.01
	25	212	190	No	0.04	196	No	0.01	200	No	<0.01
	30	212	192	No	0.07	198	No	0.02	202	No	<0.01
	35	212	194	No	0.13	200	No	0.04	205	No	0.01
	40	212	196	No	0.21	202	No	0.10	207	No	0.04
	45	212	198	No	0.32	204	No	0.20	209	No	0.15
	50	212	200	No	0.44	206	No	0.33	211	No	0.37
	55	212	201	Yes	0.50	208	Yes	0.50	212	Yes	0.50
	60	212	203	Yes	0.63	210	Yes	0.67	214	Yes	0.75
	65	212	205	Yes	0.74	212	Yes	0.80	217	Yes	0.96
	70	212	207	Yes	0.83	214	Yes	0.90	219	Yes	0.99
	75	212	209	Yes	0.90	216	Yes	0.96	221	Yes	>0.99
	80	212	212	Yes	0.96	219	Yes	0.99	224	Yes	>0.99
	85	212	214	Yes	0.98	221	Yes	>0.99	227	Yes	>0.99
	90	212	218	Yes	>0.99	225	Yes	>0.99	230	Yes	>0.99
	95	212	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	0.10	212	No	0.01
	40	219	205	No	0.27	211	No	0.20	215	No	0.08
	45	219	207	No	0.38	213	No	0.34	217	No	0.25
	50	219	209	Yes	0.50	215	Yes	0.50	219	Yes	0.50
	55	219	211	Yes	0.62	217	Yes	0.66	221	Yes	0.75
	60	219	213	Yes	0.73	219	Yes	0.80	223	Yes	0.92
	65	219	215	Yes	0.82	221	Yes	0.90	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.
6	5	221	188	No	<0.01	192	No	<0.01	194	No	<0.01
	10	221	194	No	<0.01	198	No	<0.01	200	No	<0.01
	15	221	198	No	0.01	202	No	<0.01	205	No	<0.01
	20	221	201	No	0.03	205	No	<0.01	208	No	<0.01
	25	221	204	No	0.08	208	No	0.02	211	No	<0.01
	30	221	206	No	0.14	211	No	0.07	214	No	0.01
	35	221	209	No	0.27	213	No	0.14	216	No	0.04
	40	221	211	No	0.38	215	No	0.26	218	No	0.15
	45	221	213	Yes	0.50	217	No	0.42	221	Yes	0.50
	50	221	215	Yes	0.62	220	Yes	0.66	223	Yes	0.75
	55	221	217	Yes	0.73	222	Yes	0.80	225	Yes	0.92
	60	221	219	Yes	0.83	224	Yes	0.90	227	Yes	0.98
	65	221	221	Yes	0.90	226	Yes	0.96	230	Yes	>0.99
	70	221	223	Yes	0.94	228	Yes	0.98	232	Yes	>0.99
	75	221	226	Yes	0.98	231	Yes	>0.99	235	Yes	>0.99
	80	221	228	Yes	0.99	234	Yes	>0.99	238	Yes	>0.99
	85	221	231	Yes	>0.99	237	Yes	>0.99	241	Yes	>0.99
	90	221	235	Yes	>0.99	241	Yes	>0.99	245	Yes	>0.99
	95	221	241	Yes	>0.99	247	Yes	>0.99	252	Yes	>0.99
7	5	226	192	No	<0.01	194	No	<0.01	196	No	<0.01
	10	226	198	No	<0.01	201	No	<0.01	203	No	<0.01
	15	226	202	No	<0.01	205	No	<0.01	207	No	<0.01
	20	226	206	No	0.01	209	No	<0.01	211	No	<0.01
	25	226	208	No	0.03	212	No	0.01	214	No	<0.01
	30	226	211	No	0.07	215	No	0.04	217	No	<0.01
	35	226	213	No	0.13	217	No	0.10	220	No	0.02
	40	226	216	No	0.26	219	No	0.20	222	No	0.08
	45	226	218	No	0.44	222	No	0.42	224	No	0.25
	50	226	220	Yes	0.56	224	Yes	0.58	227	Yes	0.63
	55	226	222	Yes	0.69	226	Yes	0.74	229	Yes	0.85
	60	226	225	Yes	0.83	229	Yes	0.90	231	Yes	0.96
	65	226	227	Yes	0.90	231	Yes	0.96	234	Yes	>0.99
	70	226	229	Yes	0.95	233	Yes	0.98	236	Yes	>0.99
	75	226	232	Yes	0.98	236	Yes	>0.99	239	Yes	>0.99
	80	226	235	Yes	>0.99	239	Yes	>0.99	242	Yes	>0.99
	85	226	238	Yes	>0.99	243	Yes	>0.99	246	Yes	>0.99
	90	226	243	Yes	>0.99	247	Yes	>0.99	251	Yes	>0.99
	95	226	249	Yes	>0.99	254	Yes	>0.99	257	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.	
8	5	231	194	No	<0.01	196	No	<0.01	197	No	<0.01	
	10	231	201	No	<0.01	203	No	<0.01	205	No	<0.01	
	15	231	205	No	<0.01	208	No	<0.01	210	No	<0.01	
	20	231	209	No	0.01	212	No	<0.01	214	No	<0.01	
	25	231	212	No	0.03	215	No	<0.01	217	No	<0.01	
	30	231	215	No	0.07	218	No	0.01	220	No	<0.01	
	35	231	218	No	0.12	221	No	0.05	223	No	<0.01	
	40	231	220	No	0.19	223	No	0.11	225	No	0.02	
	45	231	223	No	0.33	226	No	0.27	228	No	0.15	
	50	231	225	No	0.44	228	No	0.42	230	No	0.37	
	55	231	227	Yes	0.56	231	Yes	0.66	233	Yes	0.75	
	60	231	230	Yes	0.72	233	Yes	0.80	235	Yes	0.92	
	65	231	232	Yes	0.81	236	Yes	0.93	238	Yes	0.99	
	70	231	235	Yes	0.90	238	Yes	0.97	241	Yes	>0.99	
	75	231	238	Yes	0.96	241	Yes	0.99	244	Yes	>0.99	
	80	231	241	Yes	0.98	244	Yes	>0.99	247	Yes	>0.99	
	85	231	245	Yes	>0.99	248	Yes	>0.99	251	Yes	>0.99	
	90	231	249	Yes	>0.99	253	Yes	>0.99	256	Yes	>0.99	
	95	231	256	Yes	>0.99	260	Yes	>0.99	263	Yes	>0.99	
9	5	233	194	No	<0.01	196	No	<0.01	196	No	<0.01	
	10	233	201	No	<0.01	203	No	<0.01	204	No	<0.01	
	15	233	206	No	<0.01	208	No	<0.01	209	No	<0.01	
	20	233	210	No	0.01	212	No	<0.01	213	No	<0.01	
	25	233	213	No	0.02	215	No	<0.01	216	No	<0.01	
	30	233	216	No	0.04	218	No	<0.01	219	No	<0.01	
	35	233	219	No	0.09	221	No	0.01	222	No	<0.01	
	40	233	221	No	0.14	224	No	0.05	225	No	<0.01	
	45	233	224	No	0.25	226	No	0.11	227	No	0.02	
	50	233	226	No	0.34	229	No	0.27	230	No	0.15	
	55	233	229	Yes	0.50	231	No	0.42	233	Yes	0.50	
	60	233	231	Yes	0.55	234	Yes	0.66	235	Yes	0.75	
	65	233	234	Yes	0.71	236	Yes	0.79	238	Yes	0.96	
	70	233	237	Yes	0.83	239	Yes	0.92	241	Yes	>0.99	
	75	233	240	Yes	0.91	242	Yes	0.98	244	Yes	>0.99	
	80	233	243	Yes	0.96	246	Yes	>0.99	247	Yes	>0.99	
	85	233	247	Yes	0.99	249	Yes	>0.99	251	Yes	>0.99	
	90	233	252	Yes	>0.99	254	Yes	>0.99	256	Yes	>0.99	
	95	233	259	Yes	>0.99	262	Yes	>0.99	264	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.	
10	5	236	196	No	<0.01	197	No	<0.01	197	No	<0.01	
	10	236	203	No	<0.01	205	No	<0.01	205	No	<0.01	
	15	236	208	No	<0.01	210	No	<0.01	210	No	<0.01	
	20	236	212	No	<0.01	214	No	<0.01	215	No	<0.01	
	25	236	215	No	0.01	217	No	<0.01	218	No	<0.01	
	30	236	218	No	0.03	220	No	<0.01	221	No	<0.01	
	35	236	221	No	0.05	223	No	0.01	224	No	<0.01	
	40	236	224	No	0.11	226	No	0.03	227	No	<0.01	
	45	236	227	No	0.21	229	No	0.11	230	No	0.02	
	50	236	229	No	0.29	231	No	0.21	232	No	0.08	
	55	236	232	No	0.45	234	No	0.42	235	No	0.37	
	60	236	234	Yes	0.55	236	Yes	0.58	238	Yes	0.75	
	65	236	237	Yes	0.71	239	Yes	0.79	241	Yes	0.96	
	70	236	240	Yes	0.83	242	Yes	0.92	244	Yes	>0.99	
	75	236	243	Yes	0.91	245	Yes	0.98	247	Yes	>0.99	
	80	236	246	Yes	0.96	249	Yes	>0.99	250	Yes	>0.99	
	85	236	250	Yes	0.99	253	Yes	>0.99	254	Yes	>0.99	
	90	236	255	Yes	>0.99	258	Yes	>0.99	260	Yes	>0.99	
	95	236	262	Yes	>0.99	265	Yes	>0.99	267	Yes	>0.99	

*%tile = Percentile.

Table 3.11. Proficiency Projections based on RIT Scores—Reading

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.
2	5	189	147	No	<0.01	156	No	<0.01	160	No	<0.01
	10	189	153	No	<0.01	162	No	<0.01	166	No	<0.01
	15	189	157	No	0.01	166	No	<0.01	170	No	<0.01
	20	189	160	No	0.03	169	No	<0.01	173	No	<0.01
	25	189	162	No	0.04	171	No	0.01	175	No	<0.01
	30	189	164	No	0.07	173	No	0.02	177	No	<0.01
	35	189	166	No	0.12	175	No	0.05	180	No	<0.01
	40	189	168	No	0.18	177	No	0.10	182	No	0.01
	45	189	170	No	0.21	179	No	0.13	184	No	0.06
	50	189	172	No	0.30	181	No	0.23	186	No	0.17
	55	189	174	No	0.40	183	No	0.35	188	No	0.38
	60	189	176	Yes	0.50	185	Yes	0.50	189	Yes	0.50
	65	189	178	Yes	0.60	187	Yes	0.65	192	Yes	0.83
	70	189	180	Yes	0.65	189	Yes	0.77	194	Yes	0.94
	75	189	183	Yes	0.79	191	Yes	0.87	196	Yes	0.99
	80	189	185	Yes	0.85	194	Yes	0.95	199	Yes	>0.99
	85	189	188	Yes	0.91	197	Yes	0.99	202	Yes	>0.99
	90	189	192	Yes	0.97	200	Yes	>0.99	205	Yes	>0.99
	95	189	197	Yes	0.99	206	Yes	>0.99	211	Yes	>0.99
3	5	200	159	No	<0.01	167	No	<0.01	170	No	<0.01
	10	200	165	No	<0.01	173	No	<0.01	176	No	<0.01
	15	200	169	No	0.01	177	No	<0.01	180	No	<0.01
	20	200	173	No	0.02	180	No	<0.01	183	No	<0.01
	25	200	175	No	0.04	183	No	0.01	186	No	<0.01
	30	200	178	No	0.09	185	No	0.02	189	No	<0.01
	35	200	180	No	0.11	188	No	0.07	191	No	<0.01
	40	200	182	No	0.17	190	No	0.09	193	No	0.01
	45	200	185	No	0.30	192	No	0.17	195	No	0.06
	50	200	187	No	0.34	194	No	0.29	197	No	0.17
	55	200	189	No	0.45	196	No	0.43	199	No	0.38
	60	200	191	Yes	0.55	198	Yes	0.57	201	Yes	0.62
	65	200	193	Yes	0.66	200	Yes	0.71	203	Yes	0.83
	70	200	195	Yes	0.70	202	Yes	0.83	206	Yes	0.97
	75	200	198	Yes	0.83	205	Yes	0.93	208	Yes	0.99
	80	200	201	Yes	0.91	207	Yes	0.97	211	Yes	>0.99
	85	200	204	Yes	0.95	211	Yes	0.99	214	Yes	>0.99
	90	200	208	Yes	0.98	215	Yes	>0.99	218	Yes	>0.99
	95	200	214	Yes	>0.99	220	Yes	>0.99	224	Yes	>0.99

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	208	169	No	<0.01	176	No	<0.01	178	No	<0.01	
	10	208	175	No	<0.01	182	No	<0.01	184	No	<0.01	
	15	208	179	No	<0.01	186	No	<0.01	188	No	<0.01	
	20	208	183	No	0.02	189	No	<0.01	191	No	<0.01	
	25	208	185	No	0.04	192	No	0.01	194	No	<0.01	
	30	208	188	No	0.06	194	No	0.02	196	No	<0.01	
	35	208	190	No	0.11	196	No	0.04	199	No	<0.01	
	40	208	192	No	0.17	198	No	0.09	201	No	0.01	
	45	208	195	No	0.24	200	No	0.13	203	No	0.06	
	50	208	197	No	0.34	202	No	0.22	205	No	0.17	
	55	208	199	No	0.44	205	No	0.42	207	No	0.38	
	60	208	201	Yes	0.56	207	Yes	0.58	209	Yes	0.62	
	65	208	203	Yes	0.61	209	Yes	0.72	211	Yes	0.83	
	70	208	205	Yes	0.71	211	Yes	0.83	213	Yes	0.94	
	75	208	208	Yes	0.83	213	Yes	0.91	216	Yes	0.99	
	80	208	211	Yes	0.89	216	Yes	0.97	219	Yes	>0.99	
	85	208	214	Yes	0.95	219	Yes	0.99	222	Yes	>0.99	
	90	208	218	Yes	0.98	223	Yes	>0.99	226	Yes	>0.99	
	95	208	224	Yes	>0.99	229	Yes	>0.99	232	Yes	>0.99	
5	5	214	178	No	<0.01	183	No	<0.01	185	No	<0.01	
	10	214	183	No	<0.01	189	No	<0.01	191	No	<0.01	
	15	214	187	No	0.01	193	No	<0.01	194	No	<0.01	
	20	214	191	No	0.02	196	No	<0.01	198	No	<0.01	
	25	214	193	No	0.04	198	No	<0.01	200	No	<0.01	
	30	214	196	No	0.08	201	No	0.02	203	No	<0.01	
	35	214	198	No	0.11	203	No	0.04	205	No	<0.01	
	40	214	200	No	0.17	205	No	0.09	207	No	0.01	
	45	214	202	No	0.24	207	No	0.17	209	No	0.06	
	50	214	204	No	0.34	209	No	0.28	211	No	0.17	
	55	214	207	No	0.44	211	No	0.42	213	No	0.38	
	60	214	209	Yes	0.56	213	Yes	0.58	215	Yes	0.62	
	65	214	211	Yes	0.66	215	Yes	0.72	217	Yes	0.83	
	70	214	213	Yes	0.71	217	Yes	0.78	219	Yes	0.94	
	75	214	216	Yes	0.83	220	Yes	0.91	222	Yes	0.99	
	80	214	218	Yes	0.89	222	Yes	0.96	224	Yes	>0.99	
	85	214	221	Yes	0.94	226	Yes	0.99	228	Yes	>0.99	
	90	214	225	Yes	0.98	229	Yes	>0.99	231	Yes	>0.99	
	95	214	231	Yes	>0.99	235	Yes	>0.99	237	Yes	>0.99	

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.
6	5	218	183	No	<0.01	188	No	<0.01	189	No	<0.01
	10	218	189	No	<0.01	193	No	<0.01	195	No	<0.01
	15	218	193	No	<0.01	197	No	<0.01	199	No	<0.01
	20	218	196	No	0.02	200	No	<0.01	202	No	<0.01
	25	218	199	No	0.04	203	No	0.01	205	No	<0.01
	30	218	202	No	0.08	205	No	0.02	207	No	<0.01
	35	218	204	No	0.13	208	No	0.06	209	No	<0.01
	40	218	206	No	0.19	210	No	0.12	211	No	0.01
	45	218	208	No	0.24	212	No	0.22	213	No	0.06
	50	218	210	No	0.33	214	No	0.35	215	No	0.17
	55	218	212	No	0.44	216	No	0.42	217	No	0.38
	60	218	214	Yes	0.56	218	Yes	0.58	219	Yes	0.62
	65	218	217	Yes	0.67	220	Yes	0.72	222	Yes	0.89
	70	218	219	Yes	0.76	222	Yes	0.83	224	Yes	0.97
	75	218	221	Yes	0.84	225	Yes	0.94	226	Yes	0.99
	80	218	224	Yes	0.90	227	Yes	0.97	229	Yes	>0.99
	85	218	227	Yes	0.96	230	Yes	0.99	232	Yes	>0.99
	90	218	231	Yes	0.99	234	Yes	>0.99	236	Yes	>0.99
	95	218	237	Yes	>0.99	240	Yes	>0.99	242	Yes	>0.99
7	5	221	187	No	<0.01	190	No	<0.01	191	No	<0.01
	10	221	193	No	<0.01	196	No	<0.01	197	No	<0.01
	15	221	197	No	<0.01	200	No	<0.01	201	No	<0.01
	20	221	200	No	0.02	203	No	<0.01	205	No	<0.01
	25	221	203	No	0.03	206	No	0.01	207	No	<0.01
	30	221	206	No	0.08	209	No	0.03	210	No	<0.01
	35	221	208	No	0.12	211	No	0.06	212	No	<0.01
	40	221	210	No	0.19	213	No	0.09	214	No	0.01
	45	221	212	No	0.24	215	No	0.17	216	No	0.06
	50	221	214	No	0.33	217	No	0.28	218	No	0.17
	55	221	216	No	0.44	219	No	0.42	220	No	0.38
	60	221	218	Yes	0.56	221	Yes	0.58	223	Yes	0.73
	65	221	221	Yes	0.67	223	Yes	0.72	225	Yes	0.89
	70	221	223	Yes	0.76	226	Yes	0.88	227	Yes	0.97
	75	221	225	Yes	0.84	228	Yes	0.94	229	Yes	0.99
	80	221	228	Yes	0.92	231	Yes	0.98	232	Yes	>0.99
	85	221	231	Yes	0.96	234	Yes	>0.99	235	Yes	>0.99
	90	221	235	Yes	0.99	238	Yes	>0.99	239	Yes	>0.99
	95	221	241	Yes	>0.99	244	Yes	>0.99	245	Yes	>0.99

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.	
8	5	225	190	No	<0.01	193	No	<0.01	194	No	<0.01	
	10	225	196	No	<0.01	199	No	<0.01	200	No	<0.01	
	15	225	200	No	<0.01	203	No	<0.01	204	No	<0.01	
	20	225	204	No	0.01	206	No	<0.01	207	No	<0.01	
	25	225	207	No	0.04	209	No	<0.01	210	No	<0.01	
	30	225	209	No	0.06	212	No	0.01	213	No	<0.01	
	35	225	211	No	0.08	214	No	0.03	215	No	<0.01	
	40	225	214	No	0.17	216	No	0.06	217	No	0.01	
	45	225	216	No	0.24	218	No	0.13	220	No	0.06	
	50	225	218	No	0.34	221	No	0.28	222	No	0.17	
	55	225	220	No	0.39	223	No	0.42	224	No	0.38	
	60	225	222	Yes	0.50	225	Yes	0.58	226	Yes	0.62	
	65	225	225	Yes	0.66	227	Yes	0.72	228	Yes	0.83	
	70	225	227	Yes	0.76	229	Yes	0.83	231	Yes	0.97	
	75	225	230	Yes	0.83	232	Yes	0.94	233	Yes	0.99	
	80	225	232	Yes	0.89	235	Yes	0.98	236	Yes	>0.99	
	85	225	236	Yes	0.96	238	Yes	>0.99	239	Yes	>0.99	
	90	225	240	Yes	0.99	242	Yes	>0.99	243	Yes	>0.99	
	95	225	246	Yes	>0.99	248	Yes	>0.99	249	Yes	>0.99	
9	5	225	188	No	<0.01	190	No	<0.01	190	No	<0.01	
	10	225	195	No	<0.01	197	No	<0.01	197	No	<0.01	
	15	225	199	No	<0.01	201	No	<0.01	202	No	<0.01	
	20	225	203	No	0.01	205	No	<0.01	205	No	<0.01	
	25	225	206	No	0.03	208	No	<0.01	209	No	<0.01	
	30	225	209	No	0.05	211	No	0.01	211	No	<0.01	
	35	225	212	No	0.11	213	No	0.02	214	No	<0.01	
	40	225	214	No	0.16	216	No	0.07	217	No	0.01	
	45	225	217	No	0.27	218	No	0.14	219	No	0.03	
	50	225	219	No	0.31	221	No	0.29	221	No	0.11	
	55	225	221	No	0.40	223	No	0.43	224	No	0.38	
	60	225	224	Yes	0.55	225	Yes	0.57	226	Yes	0.62	
	65	225	226	Yes	0.65	228	Yes	0.77	229	Yes	0.89	
	70	225	229	Yes	0.77	230	Yes	0.86	231	Yes	0.97	
	75	225	232	Yes	0.87	233	Yes	0.95	234	Yes	>0.99	
	80	225	235	Yes	0.93	236	Yes	0.99	237	Yes	>0.99	
	85	225	239	Yes	0.98	240	Yes	>0.99	241	Yes	>0.99	
	90	225	243	Yes	0.99	245	Yes	>0.99	246	Yes	>0.99	
	95	225	250	Yes	>0.99	251	Yes	>0.99	253	Yes	>0.99	

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.	
10	5	227	192	No	<0.01	194	No	<0.01	194	No	<0.01	
	10	227	199	No	<0.01	200	No	<0.01	200	No	<0.01	
	15	227	203	No	<0.01	204	No	<0.01	205	No	<0.01	
	20	227	206	No	0.01	208	No	<0.01	208	No	<0.01	
	25	227	209	No	0.03	211	No	<0.01	211	No	<0.01	
	30	227	212	No	0.06	214	No	0.01	214	No	<0.01	
	35	227	215	No	0.12	216	No	0.03	217	No	<0.01	
	40	227	217	No	0.15	218	No	0.07	219	No	0.01	
	45	227	219	No	0.22	221	No	0.18	221	No	0.03	
	50	227	221	No	0.30	223	No	0.29	224	No	0.17	
	55	227	224	No	0.45	225	No	0.43	226	No	0.38	
	60	227	226	Yes	0.55	227	Yes	0.57	228	Yes	0.62	
	65	227	228	Yes	0.65	230	Yes	0.77	231	Yes	0.89	
	70	227	231	Yes	0.78	232	Yes	0.87	233	Yes	0.97	
	75	227	234	Yes	0.88	235	Yes	0.95	236	Yes	>0.99	
	80	227	237	Yes	0.94	238	Yes	0.99	239	Yes	>0.99	
	85	227	240	Yes	0.97	241	Yes	>0.99	242	Yes	>0.99	
	90	227	244	Yes	0.99	246	Yes	>0.99	247	Yes	>0.99	
	95	227	251	Yes	>0.99	252	Yes	>0.99	253	Yes	>0.99	

*%tile = Percentile.

Table 3.12. Proficiency Projections based on RIT Scores—Language, Editing & Mechanics

Language											
			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	5	210	180	No	<0.01	185	No	<0.01	187	No	<0.01
	10	210	186	No	0.01	191	No	<0.01	192	No	<0.01
	15	210	189	No	0.02	194	No	<0.01	196	No	<0.01
	20	210	192	No	0.05	197	No	0.01	198	No	<0.01
	25	210	194	No	0.07	199	No	0.03	201	No	<0.01
	30	210	197	No	0.16	201	No	0.07	203	No	0.01
	35	210	199	No	0.26	203	No	0.14	205	No	0.04
	40	210	200	No	0.31	205	No	0.26	207	No	0.15
	45	210	202	No	0.37	207	No	0.41	208	No	0.25
	50	210	204	Yes	0.50	208	Yes	0.50	210	Yes	0.50
	55	210	206	Yes	0.63	210	Yes	0.67	212	Yes	0.75
	60	210	208	Yes	0.69	212	Yes	0.81	214	Yes	0.92
	65	210	210	Yes	0.79	214	Yes	0.86	216	Yes	0.98
	70	210	212	Yes	0.87	216	Yes	0.93	217	Yes	0.99
	75	210	214	Yes	0.93	218	Yes	0.97	220	Yes	>0.99
	80	210	216	Yes	0.95	220	Yes	0.99	222	Yes	>0.99
	85	210	219	Yes	0.98	223	Yes	>0.99	225	Yes	>0.99
	90	210	223	Yes	>0.99	226	Yes	>0.99	228	Yes	>0.99
	95	210	228	Yes	>0.99	231	Yes	>0.99	233	Yes	>0.99
8	5	220	191	No	<0.01	194	No	<0.01	195	No	<0.01
	10	220	197	No	<0.01	199	No	<0.01	200	No	<0.01
	15	220	200	No	0.01	203	No	<0.01	204	No	<0.01
	20	220	203	No	0.03	206	No	0.01	206	No	<0.01
	25	220	206	No	0.05	208	No	0.01	209	No	<0.01
	30	220	208	No	0.10	210	No	0.03	211	No	<0.01
	35	220	210	No	0.17	212	No	0.07	213	No	0.01
	40	220	212	No	0.26	214	No	0.14	215	No	0.04
	45	220	214	No	0.31	216	No	0.26	217	No	0.15
	50	220	216	No	0.44	218	No	0.42	219	No	0.37
	55	220	217	Yes	0.50	220	Yes	0.58	221	Yes	0.63
	60	220	219	Yes	0.63	221	Yes	0.67	222	Yes	0.75
	65	220	221	Yes	0.74	223	Yes	0.80	224	Yes	0.92
	70	220	223	Yes	0.79	225	Yes	0.90	226	Yes	0.98
	75	220	225	Yes	0.87	227	Yes	0.96	229	Yes	>0.99
	80	220	228	Yes	0.95	230	Yes	0.99	231	Yes	>0.99
	85	220	231	Yes	0.98	233	Yes	>0.99	234	Yes	>0.99
	90	220	234	Yes	>0.99	236	Yes	>0.99	237	Yes	>0.99
	95	220	240	Yes	>0.99	241	Yes	>0.99	243	Yes	>0.99

*%tile = Percentile.

Table 3.13. Proficiency Projections based on RIT Scores—Science

Science											
			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	209	175	No	<0.01	180	No	<0.01	182	No	<0.01
	10	209	180	No	<0.01	184	No	<0.01	186	No	<0.01
	15	209	183	No	0.01	187	No	<0.01	189	No	<0.01
	20	209	185	No	0.01	189	No	<0.01	191	No	<0.01
	25	209	187	No	0.02	191	No	<0.01	193	No	<0.01
	30	209	189	No	0.04	193	No	0.01	195	No	<0.01
	35	209	190	No	0.04	195	No	0.01	197	No	<0.01
	40	209	192	No	0.07	196	No	0.02	198	No	<0.01
	45	209	193	No	0.09	198	No	0.05	200	No	<0.01
	50	209	195	No	0.15	199	No	0.07	201	No	0.01
	55	209	196	No	0.15	201	No	0.14	203	No	0.04
	60	209	198	No	0.23	202	No	0.18	204	No	0.07
	65	209	199	No	0.27	204	No	0.29	206	No	0.19
	70	209	201	No	0.33	205	No	0.36	207	No	0.28
	75	209	203	No	0.44	207	No	0.43	209	Yes	0.50
	80	209	204	Yes	0.50	209	Yes	0.57	211	Yes	0.72
	85	209	207	Yes	0.62	211	Yes	0.71	213	Yes	0.88
	90	209	210	Yes	0.77	214	Yes	0.86	216	Yes	0.98
	95	209	214	Yes	0.89	218	Yes	0.97	221	Yes	>0.99
7	5	222	186	No	<0.01	189	No	<0.01	189	No	<0.01
	10	222	190	No	<0.01	193	No	<0.01	194	No	<0.01
	15	222	193	No	<0.01	196	No	<0.01	197	No	<0.01
	20	222	196	No	<0.01	199	No	<0.01	200	No	<0.01
	25	222	198	No	<0.01	201	No	<0.01	202	No	<0.01
	30	222	200	No	0.01	203	No	<0.01	204	No	<0.01
	35	222	202	No	0.02	205	No	<0.01	206	No	<0.01
	40	222	203	No	0.02	206	No	<0.01	207	No	<0.01
	45	222	205	No	0.03	208	No	0.01	209	No	<0.01
	50	222	207	No	0.06	209	No	0.02	211	No	<0.01
	55	222	208	No	0.08	211	No	0.04	212	No	<0.01
	60	222	210	No	0.13	213	No	0.08	214	No	0.01
	65	222	211	No	0.16	214	No	0.10	216	No	0.04
	70	222	213	No	0.20	216	No	0.18	218	No	0.12
	75	222	215	No	0.28	218	No	0.30	219	No	0.19
	80	222	217	No	0.39	220	No	0.43	222	Yes	0.50
	85	222	220	Yes	0.50	223	Yes	0.64	224	Yes	0.72
	90	222	223	Yes	0.67	226	Yes	0.82	227	Yes	0.93
	95	222	227	Yes	0.84	230	Yes	0.95	232	Yes	>0.99

*%tile = Percentile.

4. References

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