Aligning the NWEA RIT Scale with the Maine Educational Assessments (MEA)

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Recently NWEA completed a project to connect the scale of the MEA with NWEA's RIT scale. Six Maine school systems participated in the study, using test information from a group of over 800 students enrolled in fourth and eighth grade who took both the MEA and NWEA reading and mathematics tests in the spring of 2004. Information from these tests was used in a comprehensive study to identify the capacity of the RIT scale to predict success on the MEA and to identify performance level scores on the RIT scale that would indicate a good chance of success on this test.

Three methodologies, linear regression, second order regression, and Rasch status on standards (called Rasch SOS) were used to derive estimates of cut scores. In each case the most accurate of the three estimates was used to arrive at the recommended cut score you see in this report. We estimated cut scores for each of the performance levels at grades four and eight for reading and mathematics.

The primary findings of the study are as follows.

- MEA and RIT scores generally correlate well. Pearson correlations were .69 and .84 in grade 4 and grade 8 mathematics respectively. They were .77 and .74 for the same grades in reading.
- MEA "meets standard" performance was predicted from RIT scores with approximately 83% to 87% accuracy in mathematics and 74% to 79% accuracy in reading depending on grade and methodology employed.

Tables 1 & 2 summarize the RIT equivalent to each MEA performance level. Please note that we did not produce estimates for the "exceeds" level of performance because there were not enough students in the sample who performed at this level to allow generating a reasonably accurate estimate. The table may be used to identify students who may need additional help to pass this assessment. We also estimated the minimum RIT scores students should achieve in the off-grades to be "on-track" to meet the same performance level in the next MEA tested grade. These estimates were made using the appropriate RIT range growth norms.

We would also highlight two phenomenon observed in this study that reflect findings from several other state studies. First, the mathematics performance standards for Maine are consistently more difficult the reading standards. Second, the reading standard for grade 4 is considerably lower in terms of difficulty than the standard for grade 8. This lack of calibration means that many students who are identified as "meets standards" in grade 4 would, if they grew normally, fall to the "partially meets standards" level in grade 8. When using information from this study, teachers should be aware that students may need to score well above the grades 3, 4, and 5 reading standard cut scores to project to remain proficient at grade 8.

The remaining tables and graphs show the proportion of students achieving various RIT score ranges who also achieved "proficient" performance on the MEA. These tables can be used to assist in identifying students who are not likely to pass MEA, thereby increasing the probability that intervention strategies will be planned and implemented.

Contact John Cronin (503) 624-1951 at Northwest Evaluation Association if you wish further information or have questions about this study.

Table 1 – Best estimate of spring RIT scores linked to the performance levels on the MEA – Reading (estimated cut scores for years not evaluated are in blue)

Reading to MEA Reading				
Grade	Did mot partially meet	Partially meets	Meets	Exceeds
3	<174	174 (8)	199 (50)	
4	<186	186 (12)	208 (56)	x
5	<193	193 (13)	216 (62)	
6	<199	199 (13)	222 (66)	
7	<204	204 (15)	227 (70)	
8	<208	208 (15)	231 (71)	x

* associated spring percentile score from NWEA norms is in parentheses

x insufficient students available to generate estimate

Table 2 – Best estimate of spring RIT scores linked to the performance levels on the MEA mathematics – Meathematics (estimated cut scores for years not evaluated are in blue)

Mathematics to MEA Mathematics				
Grade	Did not partially meet	Partially meets	Meets	Exceeds
3	<190	190 (22)	214 (88)	
4	<201	201 (28)	222 (84)	x
5	<209	209 (31)	231 (83)	
6	<214	214 (32)	238 (83)	
7	<221	221 (35)	244 (81)	
8	<228	228 (36)	250 (79)	x

* associated spring percentile score from NWEA norms is in parentheses

x insufficient students available to generate estimate

Table 3 – Proportion of students passing the MEA Reading based on spring RIT score - Reading

	Grade 4	Grade 8
185	0.00%	
190	3.45%	
195	15.79%	
200	29.09%	
205	41.27%	0.00%
210	65.22%	9.38%
215	92.11%	12.50%
220	87.18%	29.76%
225	100.00%	44.21%
230		62.92%
235		77.27%
240		84.21%
245		100.00%

Figure 1 - Proportion of students passing the MEA Reading based on spring RIT score - Reading

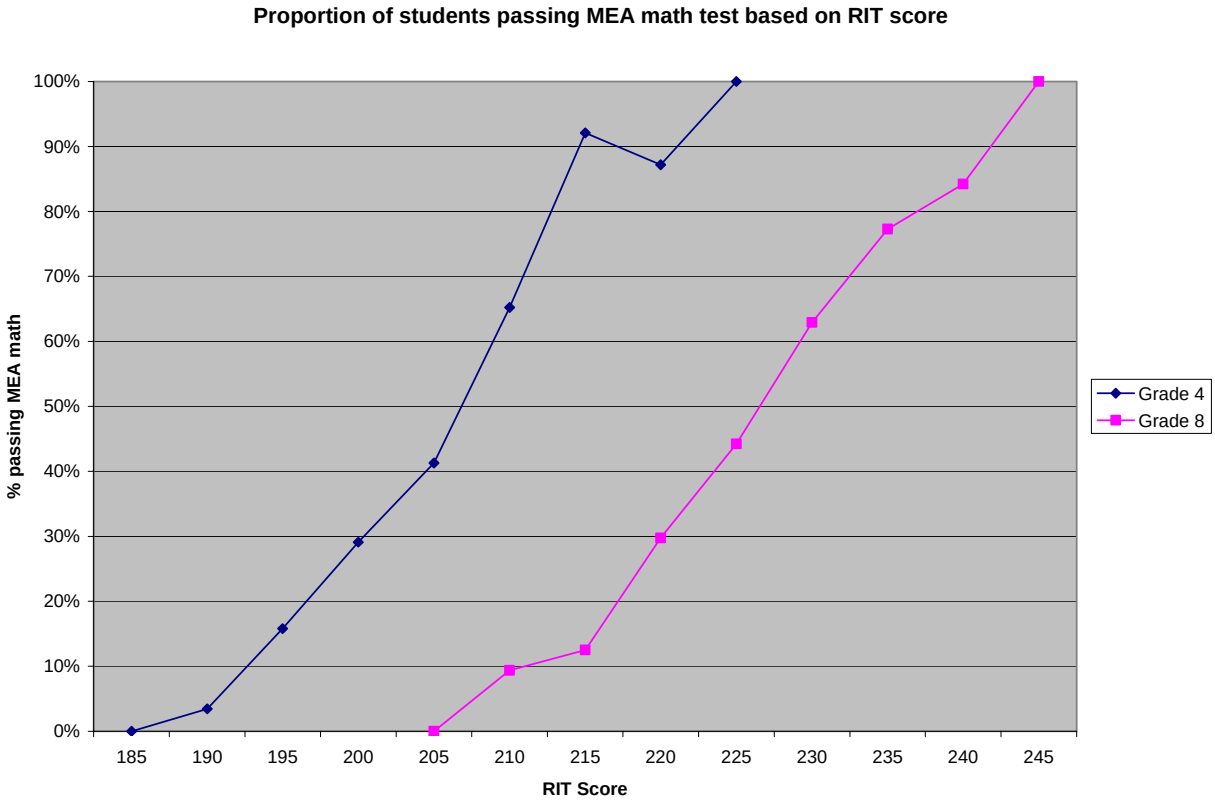

Table 4 – Proportion of students passing the MEA mathematics based on spring RIT score – Mathematics

	Grade 4	Grade 8
185	0.00%	
190	11.11%	
195	5.13%	
200	8.82%	
205	7.35%	
210	16.67%	
215	41.46%	
220	53.13%	0.00%
225	71.43%	2.44%
230	92.31%	5.66%
235	100.00%	9.84%
240		17.19%
245		40.68%
250		70.59%
255		92.86%
260		100.00%

Figure 2 - Proportion of students passing the MEA mathematics based on spring RIT score – Mathematics