A Study of the Alignment of the NWEA RIT Scale with the Oregon Assessment of Knowledge and Skills (OAKS)

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Recently, NWEA completed a project to connect the scale of the Oregon Assessment of Knowledge and Skills (OAKS) used for mathematics and reading assessments with NWEA's RIT scale. Information from OAKS was used in a study to establish performance-level scores on the RIT scale that would indicate a good chance of success on these tests.

To perform the analysis, we linked aggregate state test results with NWEA test results for all schools whose NWEA test count for a grade and subject was between 90% and 110% of the count tested on the state assessment. This provided assurance that only schools that had tested a very similar population on both tests were included.

The Oregon state test is administered in spring. For the spring season, an equipercentile method was used to estimate the RIT score equivalent to each state performance level. For spring, we determined the percentage of the population within the selected study group that performed at each level on the state test and found the equivalent percentile ranges within the NWEA dataset to estimate the cut scores. For example, if 40% of the study group population in grade 3 mathematics performed below the proficient level on the state test, we would find the RIT score that would be equivalent to the 40^{th} percentile for the study population (this would not be the same as the 40^{th} percentile in the NWEA norms). This RIT score would be the estimated point on the NWEA RIT scale that would be equivalent to the minimum score for proficiency on the state test.

The analyses for this report used data collected during the spring 2008 testing season from 35 schools in eight school districts. The total sample used data from about 7000 students.

More complete documentation about this method can be found on our website.

Tables 1 through 4 show the best estimate of the minimum RIT equivalent to each OAKS performance level for same-season (spring) and prior-season (fall) RIT scores. These tables can be used to identify students who may need additional help to perform well on these tests.

Tables 5 through 8 show the estimated probability of a student receiving a proficient score on the state assessment, based on that student's RIT score. These tables can be used to assist in identifying students who are not likely to pass these assessments, thereby increasing the probability that intervention strategies will be planned and implemented. These tables can also be useful for identifying target RIT-score objectives likely to correspond to successful or "proficient" performance on the state test.

Table 1 – Minimum Estimated Same-Season (Spring) RIT Cut Scores Corresponding to OAKS Performance Levels – Mathematics

Grade	Very Low	Low		Nearly Meets		Meets		Exceeds	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile
2	*<168*	*168*	*2*	*180*	*18*	*183*	*27*	*201*	*80*
3	<177	177	2	191	18	195	27	212	80
4	<184	184	3	199	18	203	27	225	84
5	<190	190	3	205	18	211	30	231	78
6	<196	196	5	213	24	219	37	237	80
7	<189	189	1	211	16	219	28	245	84
8	<193	193	2	217	18	227	35	246	78

*Note: the cut scores shown in this table are the **minimum** estimated scores. Meeting the minimum MAP cut score corresponds to roughly a 50% probability of achieving that performance level. Use the probabilities in Tables 5-8 to determine the appropriate "target" scores for a desired level of certainty. ***Bolded, italicized text denotes extrapolated cut score***

Table 2 – Minimum Estimated Same-Season (Spring) RIT Cut Scores Corresponding to OAKS Performance Levels – Reading

Grade	Very Low	Low		Nearly Meets		Meets		Exceeds	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile
2	*<156*	*156*	*1*	*169*	*7*	*175*	*14*	*195*	*63*
3	<156	156	1	178	7	184	14	204	63
4	<171	171	1	185	8	194	18	211	64
5	<184	184	4	195	12	206	32	222	80
6	<184	184	3	199	13	210	33	226	79
7	<180	180	1	200	11	212	30	230	81
8	<188	188	2	210	19	220	43	235	85

*Note: the cut scores shown in this table are the **minimum** estimated scores. Meeting the minimum MAP cut score corresponds to roughly a 50% probability of achieving that performance level. Use the probabilities in Tables 5-8 to determine the appropriate "target" scores for a desired level of certainty. ***Bolded, italicized text denotes extrapolated cut score***

Table 3 – Minimum Estimated Prior-Season (Fall) RIT Cut Scores Corresponding to OAKS Performance Levels – Mathematics

Grade	Very Low	Low		Nearly Meets		Meets		Exceeds	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile
2	***<163***	***163***	***2***	***170***	***18***	***173***	***27***	***188***	***80***
3	<169	169	2	181	18	185	27	202	80
4	<178	178	3	192	18	196	27	215	84
5	<184	184	3	200	18	205	30	222	78
6	<193	193	5	208	24	214	37	231	80
7	<182	182	1	208	16	215	28	240	84
8	<191	191	2	214	18	224	35	243	78

*Note: the cut scores shown in this table are the **minimum** estimated scores. Meeting the minimum MAP cut score corresponds to roughly a 50% probability of achieving that performance level. Use the probabilities in Tables 5-8 to determine the appropriate "target" scores for a desired level of certainty. ***Bolded, italicized text denotes extrapolated cut score***

Table 4 – Minimum Estimated Prior-Season (Fall) RIT Cut Scores Corresponding to OAKS Performance Levels – Reading

Grade	Very Low	Low		Nearly Meets		Meets		Exceeds	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile
2	***<156***	***156***	***1***	***161***	***7***	***165***	***14***	***184***	***63***
3	<162	162	1	171	7	177	14	197	63
4	<166	166	1	180	8	188	18	206	64
5	<180	180	4	190	12	202	32	218	80
6	<181	181	3	196	13	207	33	223	79
7	<174	174	1	198	11	210	30	228	81
8	<183	183	2	208	19	218	43	233	85

*Note: the cut scores shown in this table are the **minimum** estimated scores. Meeting the minimum MAP cut score corresponds to roughly a 50% probability of achieving that performance level. Use the probabilities in Tables 5-8 to determine the appropriate "target" scores for a desired level of certainty. ***Bolded, italicized text denotes extrapolated cut score***

Table 5 –Estimated Probability of scoring as Proficient ("Meets Standards") or Higher on the OAKS Mathematics Test in Same Season (Spring), by Student Grade and RIT Score Range on MAP Mathematics

	Estimated Probability of Passing State Test for Student with Given RIT Score						
RIT Range	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
130	1%	0%	0%	0%	0%	0%	0%
135	1%	0%	0%	0%	0%	0%	0%
140	2%	1%	0%	0%	0%	0%	0%
145	3%	1%	0%	0%	0%	0%	0%
150	4%	1%	1%	0%	0%	0%	0%
155	7%	2%	1%	0%	0%	0%	0%
160	11%	4%	2%	1%	0%	0%	0%
165	17%	6%	3%	1%	1%	1%	0%
170	25%	9%	4%	2%	1%	1%	0%
175	36%	14%	7%	3%	1%	1%	1%
180	48%	22%	11%	5%	2%	2%	1%
185	60%	31%	17%	8%	4%	4%	2%
190	71%	43%	25%	13%	6%	6%	3%
195	80%	55%	36%	20%	10%	10%	5%
200	87%	67%	48%	29%	16%	16%	8%
205	92%	77%	60%	40%	23%	23%	12%
210	95%	84%	71%	52%	33%	33%	18%
215	97%	90%	80%	64%	45%	45%	27%
220	98%	94%	87%	75%	57%	57%	38%
225	99%	96%	92%	83%	69%	69%	50%
230	99%	98%	95%	89%	78%	78%	62%
235	100%	99%	97%	93%	86%	86%	73%
240	100%	99%	98%	96%	91%	91%	82%
245	100%	99%	99%	97%	94%	94%	88%
250	100%	100%	99%	98%	96%	96%	92%
255	100%	100%	100%	99%	98%	98%	95%
260	100%	100%	100%	99%	99%	99%	97%
265	100%	100%	100%	100%	99%	99%	98%
270	100%	100%	100%	100%	99%	99%	99%
275	100%	100%	100%	100%	100%	100%	99%
280	100%	100%	100%	100%	100%	100%	100%
285	100%	100%	100%	100%	100%	100%	100%
290	100%	100%	100%	100%	100%	100%	100%
295	100%	100%	100%	100%	100%	100%	100%
300	100%	100%	100%	100%	100%	100%	100%

Note: This table provides the estimated probability of passing the state test based on a MAP test score taken during that same (spring) season. Example: if a third grade student scored 170 on a MAP test taken during the spring season, her/his estimated probability of passing the state test is 9%.

Table 6 –Probability of scoring as Proficient ("Meets Standards") or Higher on the OAKS Reading Test in Same Season (Spring), by Student Grade and RIT Score Range on MAP Reading

	Estimated Probability of Passing State Test for Student with Given RIT Score						
RIT Range	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**
130	1%	1%	0%	0%	0%	0%	0%
135	2%	1%	0%	0%	0%	0%	0%
140	4%	1%	1%	0%	0%	0%	0%
145	6%	2%	1%	0%	0%	0%	0%
150	9%	4%	1%	0%	0%	0%	0%
155	14%	6%	2%	1%	1%	0%	0%
160	22%	10%	4%	1%	1%	1%	0%
165	31%	16%	6%	2%	1%	1%	1%
170	43%	23%	10%	3%	2%	2%	1%
175	55%	33%	16%	5%	4%	3%	1%
180	67%	45%	23%	8%	6%	5%	2%
185	77%	57%	33%	13%	9%	8%	4%
190	84%	69%	45%	20%	14%	12%	6%
195	90%	78%	57%	29%	22%	18%	9%
200	94%	86%	69%	40%	31%	27%	14%
205	96%	91%	78%	52%	43%	38%	22%
210	98%	94%	86%	64%	55%	50%	31%
215	99%	96%	91%	75%	67%	62%	43%
220	99%	98%	94%	83%	77%	73%	55%
225	99%	99%	96%	89%	84%	82%	67%
230	100%	99%	98%	93%	90%	88%	77%
235	100%	99%	99%	96%	94%	92%	84%
240	100%	100%	99%	97%	96%	95%	90%
245	100%	100%	99%	98%	98%	97%	94%
250	100%	100%	100%	99%	99%	98%	96%
255	100%	100%	100%	99%	99%	99%	98%
260	100%	100%	100%	100%	99%	99%	99%
265	100%	100%	100%	100%	100%	100%	99%
270	100%	100%	100%	100%	100%	100%	99%
275	100%	100%	100%	100%	100%	100%	100%
280	100%	100%	100%	100%	100%	100%	100%
285	100%	100%	100%	100%	100%	100%	100%
290	100%	100%	100%	100%	100%	100%	100%
295	100%	100%	100%	100%	100%	100%	100%
300	100%	100%	100%	100%	100%	100%	100%

Note: This table provides the estimated probability of passing the state test based on a MAP test score taken during that same (spring) season. Example: if a third grade student scored 190 on a MAP test taken during the spring season, her/his estimated probability of passing the state test is 69%.

Table 7 – Estimated Probability of scoring as Proficient ("Meets Standards") or Higher on the OAKS Mathematics Test Based on Prior Season (Fall) MAP Score, by Student Grade and RIT Score Range on MAP Mathematics

	Estimated Probability of Passing State Test for Student with Given RIT Score						
RIT Range	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**
130	2%	1%	0%	0%	0%	0%	0%
135	3%	1%	0%	0%	0%	0%	0%
140	4%	1%	0%	0%	0%	0%	0%
145	7%	2%	1%	0%	0%	0%	0%
150	11%	4%	1%	1%	0%	0%	0%
155	17%	6%	2%	1%	0%	0%	0%
160	25%	9%	3%	1%	1%	1%	0%
165	36%	14%	5%	2%	1%	1%	0%
170	48%	22%	8%	4%	1%	1%	1%
175	60%	31%	13%	6%	2%	2%	1%
180	71%	43%	20%	9%	4%	4%	1%
185	80%	55%	29%	14%	6%	6%	2%
190	87%	67%	40%	22%	10%	9%	4%
195	92%	77%	52%	31%	16%	14%	6%
200	95%	84%	64%	43%	23%	22%	10%
205	97%	90%	75%	55%	33%	31%	16%
210	98%	94%	83%	67%	45%	43%	23%
215	99%	96%	89%	77%	57%	55%	33%
220	99%	98%	93%	84%	69%	67%	45%
225	100%	99%	96%	90%	78%	77%	57%
230	100%	99%	97%	94%	86%	84%	69%
235	100%	99%	98%	96%	91%	90%	78%
240	100%	100%	99%	98%	94%	94%	86%
245	100%	100%	99%	99%	96%	96%	91%
250	100%	100%	100%	99%	98%	98%	94%
255	100%	100%	100%	99%	99%	99%	96%
260	100%	100%	100%	100%	99%	99%	98%
265	100%	100%	100%	100%	99%	99%	99%
270	100%	100%	100%	100%	100%	100%	99%
275	100%	100%	100%	100%	100%	100%	99%
280	100%	100%	100%	100%	100%	100%	100%
285	100%	100%	100%	100%	100%	100%	100%
290	100%	100%	100%	100%	100%	100%	100%
295	100%	100%	100%	100%	100%	100%	100%
300	100%	100%	100%	100%	100%	100%	100%

Note: This table provides the estimated probability of passing the state test in spring, based on a MAP test score taken during the previous (fall) season. Example: if a third grade student scored 170 on a MAP test taken during the fall season, her/his estimated probability of passing the state test in spring is 22%.

Table 8 – Estimated Probability of scoring as Proficient ("Meets Standards") or Higher on the OAKS Reading Test Based on Prior Season (Fall) MAP Score, by Student Grade and RIT Score Range on MAP Reading

	Estimated Probability of Passing State Test for Student with Given RIT Score						
RIT Range	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**
125	2%	1%	0%	0%	0%	0%	0%
130	4%	1%	0%	0%	0%	0%	0%
135	6%	2%	1%	0%	0%	0%	0%
140	9%	3%	1%	0%	0%	0%	0%
145	14%	5%	2%	0%	0%	0%	0%
150	22%	8%	3%	1%	0%	0%	0%
155	31%	12%	4%	1%	1%	1%	0%
160	43%	18%	7%	2%	1%	1%	0%
165	55%	27%	11%	3%	2%	1%	1%
170	67%	38%	17%	5%	3%	2%	1%
175	77%	50%	25%	8%	5%	4%	2%
180	84%	62%	36%	12%	8%	6%	3%
185	90%	73%	48%	18%	12%	9%	4%
190	94%	82%	60%	27%	18%	14%	7%
195	96%	88%	71%	38%	27%	22%	11%
200	98%	92%	80%	50%	38%	31%	17%
205	99%	95%	87%	62%	50%	43%	25%
210	99%	97%	92%	73%	62%	55%	36%
215	99%	98%	95%	82%	73%	67%	48%
220	100%	99%	97%	88%	82%	77%	60%
225	100%	99%	98%	92%	88%	84%	71%
230	100%	100%	99%	95%	92%	90%	80%
235	100%	100%	99%	97%	95%	94%	87%
240	100%	100%	100%	98%	97%	96%	92%
245	100%	100%	100%	99%	98%	98%	95%
250	100%	100%	100%	99%	99%	99%	97%
255	100%	100%	100%	100%	99%	99%	98%
260	100%	100%	100%	100%	100%	99%	99%
265	100%	100%	100%	100%	100%	100%	99%
270	100%	100%	100%	100%	100%	100%	100%
275	100%	100%	100%	100%	100%	100%	100%
280	100%	100%	100%	100%	100%	100%	100%
285	100%	100%	100%	100%	100%	100%	100%
290	100%	100%	100%	100%	100%	100%	100%
295	100%	100%	100%	100%	100%	100%	100%
300	100%	100%	100%	100%	100%	100%	100%

*Note: This table provides the estimated probability of passing the state test in spring, based on a MAP test score taken during the previous (fall) season. Example: if a third grade student scored a 190 on a MAP test taken during the fall season, her/his estimated probability of passing the state test in spring is 82%.