

A Study of the Alignment of the NWEA RIT Scale with the New Hampshire Assessment System

John Cronin, Ph.D.

March, 2007



Copyright © 2007 Northwest Evaluation Association

All rights reserved. No part of this document may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without written permission from NWEA.



Northwest Evaluation Association
5885 SW Meadows Road, Suite 200
Lake Oswego, OR 97035-3526

www.nwea.org
Tel 503-624-1951
Fax 503-639-7873

A Study of the Alignment of the NWEA RIT Scale with the New Hampshire Assessment System

John Cronin, Ph.D. – Northwest Evaluation Association

March, 2007

Recently, NWEA completed a project to connect the scale of the tests used for New Hampshire mathematics and reading assessments with NWEA's RIT scale. Information from the New Hampshire assessments 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 95% and 105% 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 New Hampshire state test is administered in fall. For the fall season, an equipercentile method was used to estimate the RIT score equivalent to each state performance level. For fall, 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 40th percentile for the study population (this would not be the same as the 40th 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.

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

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

Tables 5 through 8 show the proportion of students achieving various RIT score ranges whom we estimate would achieve a proficient score on the state assessment. 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.

Table 1 - Recommended same-season (fall) RIT cut scores for New Hampshire performance levels - Reading

Grade	Substantially Below Proficient		Partially Proficient		Proficient		Distinction	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile	
3	<169	169	9	185	33	205	85	
4	<185	185	16	195	34	215	89	
5	<187	187	10	202	34	221	89	
6	<200	200	19	210	43	229	92	
7	<199	199	13	213	40	232	91	
8	<204	204	14	219	48	236	92	

Table 2 - Recommended same-season (fall) RIT cut scores for New Hampshire performance levels - Mathematics

Grade	Substantially Below Proficient		Partially Proficient		Proficient		Distinction	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile	
3	<179	179	14	190	41	204	85	
4	<191	191	16	199	35	213	82	
5	<199	199	17	206	34	224	84	
6	<208	208	25	216	44	233	87	
7	<211	211	21	222	44	239	84	
8	<221	221	30	231	53	247	87	

Table 3 - Recommended prior-season (spring) RIT cut scores for New Hampshire performance levels - Reading

Grade	Substantially Below Proficient		Partially Proficient		Proficient		Distinction	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile	
3	<166	166	9	183	33	203	86	
4	<184	184	16	194	35	214	90	
5	<186	186	10	201	34	221	90	
6	<200	200	19	210	44	228	93	
7	<199	199	13	213	40	232	91	
8	<203	203	14	219	49	237	93	

Table 4 - Recommended prior-season (spring) RIT cut scores for New Hampshire performance levels - Mathematics

Grade	Substantially Below Proficient		Partially Proficient		Proficient		Distinction	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile	
3	<178	178	15	188	41	202	85	
4	<190	190	16	198	36	212	82	
5	<198	198	17	205	34	224	85	
6	<209	209	26	217	46	235	88	
7	<211	211	22	222	45	239	84	
8	<220	220	30	231	54	248	88	

Table 5 - Proportion of students passing the New Hampshire state reading assessment based on same-season (fall) reading RIT range

RIT Range	Percent in this range who pass					
	3	4	5	6	7	8
155	6%	2%	1%	1%	0%	0%
160	9%	4%	2%	1%	1%	0%
165	14%	6%	3%	1%	1%	1%
170	22%	9%	5%	2%	2%	1%
175	31%	14%	8%	4%	3%	1%
180	43%	22%	12%	6%	4%	2%
185	55%	31%	18%	9%	7%	4%
190	67%	43%	27%	14%	11%	6%
195	77%	55%	38%	22%	17%	10%
200	84%	67%	50%	31%	25%	16%
205	90%	77%	62%	43%	36%	23%
210	94%	84%	73%	55%	48%	33%
215	96%	90%	82%	67%	60%	45%
220	98%	94%	88%	77%	71%	57%
225	99%	96%	92%	84%	80%	69%
230	99%	98%	95%	90%	87%	78%
235	99%	99%	97%	94%	92%	86%
240	100%	99%	98%	96%	95%	91%
245	100%	99%	99%	98%	97%	94%
250	100%	100%	99%	99%	98%	96%

Table 6 - Proportion of students passing the New Hampshire state mathematics assessment based on same-season (fall) mathematics RIT range

RIT Range	Percent in this range who pass					
	3	4	5	6	7	8
160	6%	2%	1%	0%	0%	0%
165	9%	4%	2%	1%	0%	0%
170	14%	6%	3%	1%	1%	0%
175	22%	10%	5%	2%	1%	0%
180	31%	16%	8%	3%	2%	1%
185	43%	23%	13%	5%	3%	1%
190	55%	33%	20%	8%	5%	2%
195	67%	45%	29%	13%	8%	3%
200	77%	57%	40%	20%	12%	5%
205	84%	69%	52%	29%	18%	8%
210	90%	78%	64%	40%	27%	13%
215	94%	86%	75%	52%	38%	20%
220	96%	91%	83%	64%	50%	29%
225	98%	94%	89%	75%	62%	40%
230	99%	96%	93%	83%	73%	52%
235	99%	98%	96%	89%	82%	64%
240	99%	99%	97%	93%	88%	75%
245	100%	99%	98%	96%	92%	83%
250	100%	99%	99%	97%	95%	89%
255	100%	100%	99%	98%	97%	93%
260	100%	100%	100%	99%	98%	96%

Table 7 - Proportion of students passing the New Hampshire state reading assessment based on prior-season (spring) reading RIT range

RIT Range	Percent in this range who pass					
	3	4	5	6	7	8
155	7%	2%	1%	1%	0%	0%
160	11%	4%	2%	1%	1%	0%
165	17%	6%	3%	1%	1%	1%
170	25%	10%	5%	2%	2%	1%
175	36%	16%	8%	4%	3%	1%
180	48%	23%	13%	6%	4%	2%
185	60%	33%	20%	9%	7%	4%
190	71%	45%	29%	14%	11%	6%
195	80%	57%	40%	22%	17%	10%
200	87%	69%	52%	31%	25%	16%
205	92%	78%	64%	43%	36%	23%
210	95%	86%	75%	55%	48%	33%
215	97%	91%	83%	67%	60%	45%
220	98%	94%	89%	77%	71%	57%
225	99%	96%	93%	84%	80%	69%
230	99%	98%	96%	90%	87%	78%
235	100%	99%	97%	94%	92%	86%
240	100%	99%	98%	96%	95%	91%
245	100%	99%	99%	98%	97%	94%
250	100%	100%	99%	99%	98%	96%

Table 8 - Proportion of students passing the New Hampshire state mathematics assessment based on prior-season (spring) mathematics RIT range

RIT Range	Percent in this range who pass					
	3	4	5	6	7	8
160	7%	3%	1%	0%	0%	0%
165	11%	4%	2%	1%	0%	0%
170	17%	7%	4%	1%	1%	0%
175	25%	11%	6%	2%	1%	0%
180	36%	17%	9%	3%	2%	1%
185	48%	25%	14%	5%	3%	1%
190	60%	36%	22%	8%	5%	2%
195	71%	48%	31%	12%	8%	3%
200	80%	60%	43%	18%	12%	5%
205	87%	71%	55%	27%	18%	8%
210	92%	80%	67%	38%	27%	13%
215	95%	87%	77%	50%	38%	20%
220	97%	92%	84%	62%	50%	29%
225	98%	95%	90%	73%	62%	40%
230	99%	97%	94%	82%	73%	52%
235	99%	98%	96%	88%	82%	64%
240	100%	99%	98%	92%	88%	75%
245	100%	99%	99%	95%	92%	83%
250	100%	100%	99%	97%	95%	89%
255	100%	100%	99%	98%	97%	93%
260	100%	100%	100%	99%	98%	96%