



**An Analysis and Recommendation on the  
Setting of Grading Thresholds in  
READI – Readiness for Education At a Distance  
Indicator**

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One of the useful features of READI is that school leaders (faculty and/or administrators) can view READI scores through a dashboard which allows them to at-a-glance identify students who might be at risk of not doing well in an online course based on their READI scores. Then based on these findings the school can provide remediation and support as appropriate. This serves as a valuable student service which can increase the retention rates among online learners.

Figure 1 below illustrates how that through the use of green, red or black icons schools can tell at a glance which students are classified as “failed,” “questionable,” or “passed” on the sections of READI.

The screenshot shows the READI Administrative Dashboard. The main content area displays a table titled "Tests Taken (Showing 1 thru 44 of 44 tests found)". The table has columns for Student Name, READI PIN, Date Taken, and five performance metrics: Technical Competency, Technical Knowledge, Individual Attributes, Reading Comprehension, and Typing Speed. Each metric cell contains a colored circle icon: green for "passed", red for "failed", and black for "questionable". The table also includes columns for Primary Learning Style, Printing Options, and Select Student.

Student Name	READI PIN	Date Taken	Technical Competency	Technical Knowledge	Individual Attributes	Reading Comprehension	Typing Speed	Primary Learning Style	Printing Options	Select Student
1) <b>cristy frazier</b> Sample School - cristy@alib.net	Y4827NvvdJ	07/28/08	Green	Black	Black	Red	49 wpm / 80.1%	Social	Print	Select
2) <b>cristy frazier</b> Sample School - cristy@alib.net	FRqKpKc3	07/28/08	Green	Black	Black	Red	52 wpm / 79.1%	Visual	Print	Select
3) <b>cristy frazier</b> Sample School - cristy@alib.net	ABuuAnan32	07/28/08	Green	Black	Black	Red	52 wpm / 76.7%	Visual / Social / Verbal / Logical	Print	Select
4) <b>Doug Hyche</b> Sample School - doug.hyche@usg.edu	gDvWwQJS	07/23/08	Green	Green	Green	Green	49 wpm / 97.7%	Aural	Print	Select
5) <b>JoAnn Roemer</b> Sample School - jroemer2@clarian.org	h4Dq52	07/25/08	Green	Black	Green	Black	42 wpm / 97.7%	Social	Print	Select
6) <b>bing B</b> Sample School - beerbowusan@gcsmi.edu	BEq97UdT	07/28/08	Red	Red	Red	Red	Not Completed	Not Completed	Print	Select

Figure 1 – READI Administrative Dashboard

Because the student population of each school is unique, one of the features of READI is that schools can set the grading thresholds to determine what level of READI scores should classify their students as “failed,” “questionable,” or “passed.”

The image below is the dialogue box through which schools can set these grading thresholds to set these colors on the administrative dashboard.

Grading Thresholds - Windows Internet Explorer  
http://admin.readi.info/administration/reporting/index.cfm?fuseaction=ThresholdForm

**Technical Competency**  
If a students score is below  they will be flagged as "Failed",  
if they are above the "Failed" threshold and below  they will  
be flagged as "Questionable", any grade over the "Questionable"  
threshold will be flagged as "Passed".

**Technical Knowledge**  
If a students score is below  they will be flagged as "Failed",  
if they are above the "Failed" threshold and below  they will  
be flagged as "Questionable", any grade over the "Questionable"  
threshold will be flagged as "Passed".

**Individual Attributes**  
If a students score is below  they will be flagged as "Failed",  
if they are above the "Failed" threshold and below  they will  
be flagged as "Questionable", any grade over the "Questionable"  
threshold will be flagged as "Passed".

**Reading Comprehension**  
If a students score is below  they will be flagged as "Failed",  
if they are above the "Failed" threshold and below  they will  
be flagged as "Questionable", any grade over the "Questionable"  
threshold will be flagged as "Passed".

--- Save ---      Cancel

Figure 2 – Grading Threshold Dialogue Box

It is important to note that these grading thresholds only change the indicating colors on the administrative dashboard, NOT on the score report which the student sees.

The grading thresholds which are standard when a school first begins using READI are indicated above in Figure 2. Schools are urged to re-set these grading thresholds to more appropriately match their student population. For example, one school is using READI in their College of Technology. They would expect the students entering this program to have higher technology related scores. So they increased the grading thresholds in this area. Others schools may have many students who request remediation in reading. If this is the case this school may choose to lower the expected grading threshold in reading. Recommendations for more appropriate settings based on recent research will be provided below. However, **schools are encouraged to set the grading thresholds as they consider best represents their student population.**

The grading thresholds that are standard when a school begins using READI were determined very early in the development of READI. Most of these numbers were determined by roughly dividing the range of scores from 0 – 100 into thirds. There was nothing strongly scientific about this method. However, the company which provides READI (DECADE Consulting, LLC) is resistant to changing these pre-sets for existing accounts because they have been set this way and the hundreds of READI administrators who are accustomed to seeing these values would be confused if the company automatically imposed a change.

#### ANALYSIS OF GRADING THRESHOLD VALUES

In July, 2008 DECADE Consulting, LLC conducted an analysis of READI scores to determine a more appropriate guideline for grading thresholds. During the one-year period from July 28<sup>th</sup>, 2007 to July 28<sup>th</sup>, 2008 a total of 108,423 persons took the READI assessment. For the purposes of this analysis 35,111 of these cases were randomly selected. When a student did not complete a section of READI a zero value existed in the database. For the purposes of this analysis zero values were deleted resulting in the number of valid cases indicated in Table 1 below. Zero values were not considered in the calculation of the means.

There are four sections of READI for which a grading threshold can be modified by the school: Overall Technical Competency, Technical Knowledge, Individual Attributes, and Reading Competency. Each of these four constructs is measured on a scale of 0 – 100. The mean scores and standard deviations are indicated in Table 1 below.

<b>Statistics</b>				
	Overall Tech. Comp	Tech. Knowledge	Indiv. Attributes	Reading Comp
N Valid	21330	20827	28863	26694
Missing	13781	14284	6248	8417
Mean	94.32	58.11	79.80	72.65
Std. Deviation	9.082	9.457	7.877	18.322

*Table 1: Measures of Central Tendency*

The scores for Technical Knowledge, Individual Attributes, and Reading Competency were more normally distributed than those for Technical Competency which were skewed toward a grade of 100. This finding is congruent with the plans to revise the Technical Competency section to make it more difficult in an upcoming version of READI. See Figures 3, 4, 5 and 6 below for a visual representation of the distribution of READI scores for these categories.

RECOMMENDATIONS FOR FUTURE PRACTICE

1. **DECADE Consulting, LLC is not going to modify the pre-set grading threshold values for existing schools.** However we do suggest based on the data in this analysis the following values if a school would like to modify the scores to more accurately represent the normal distribution of scores:

**Recommended Grading Threshold Values:**

Category	Failed	Questionable	Passed
Overall Technical Competency	Below 80	80 - 90	90+
Technical Knowledge	Below 50	50 - 75	75+
Individual Attributes	Below 70	70 - 85	85+
Reading Competency	Below 65	65 - 85	85+

It should be noted that these suggested grading threshold values are more stringent than the previous standard values and will result in more students being directed toward support services from the institution.

2. The second recommendation for practice is that **when new schools create a READI account the grading threshold values which are set will be based on the newly calculated values above.**

## Histograms

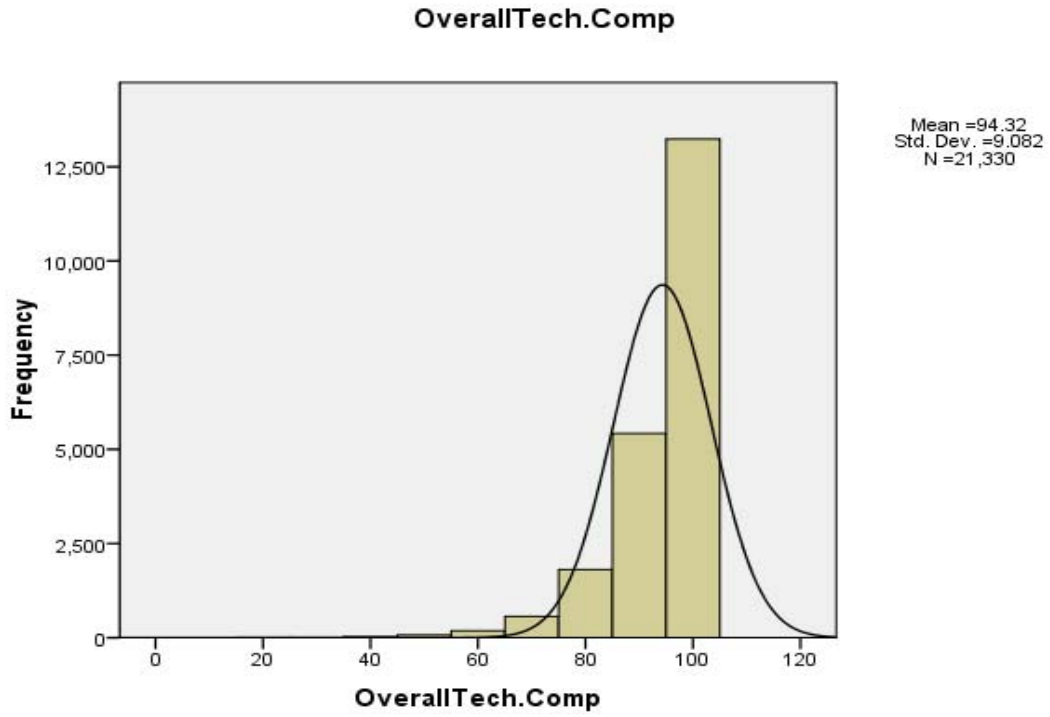


Figure 3 – Overall Technical Competency Scores

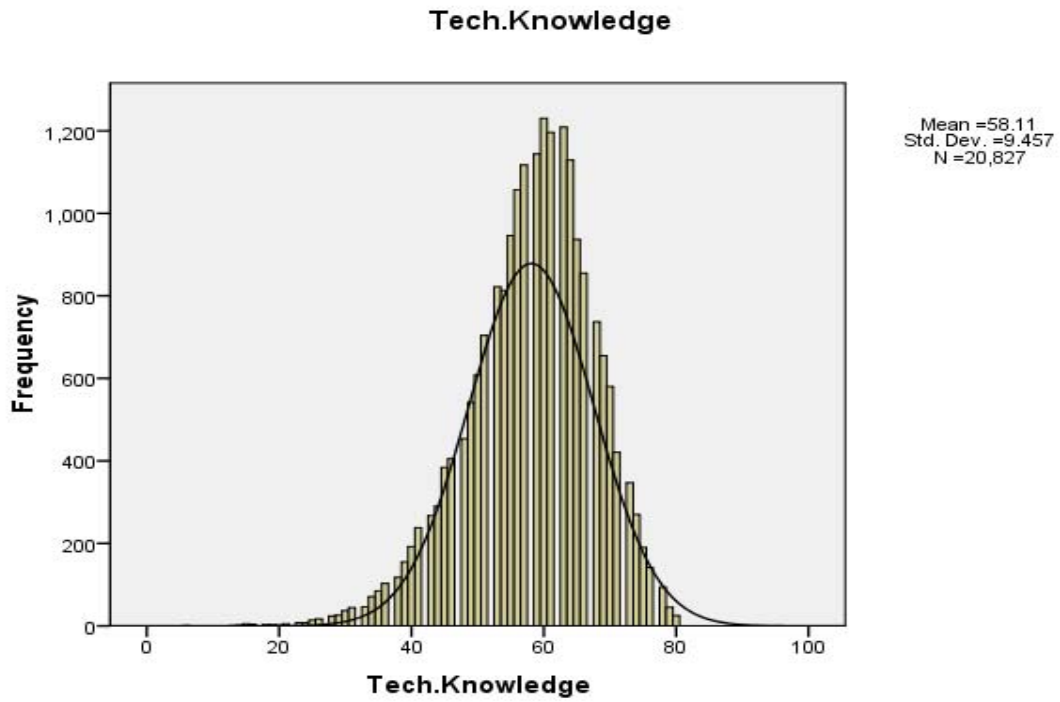


Figure 4 – Technical Knowledge Scores

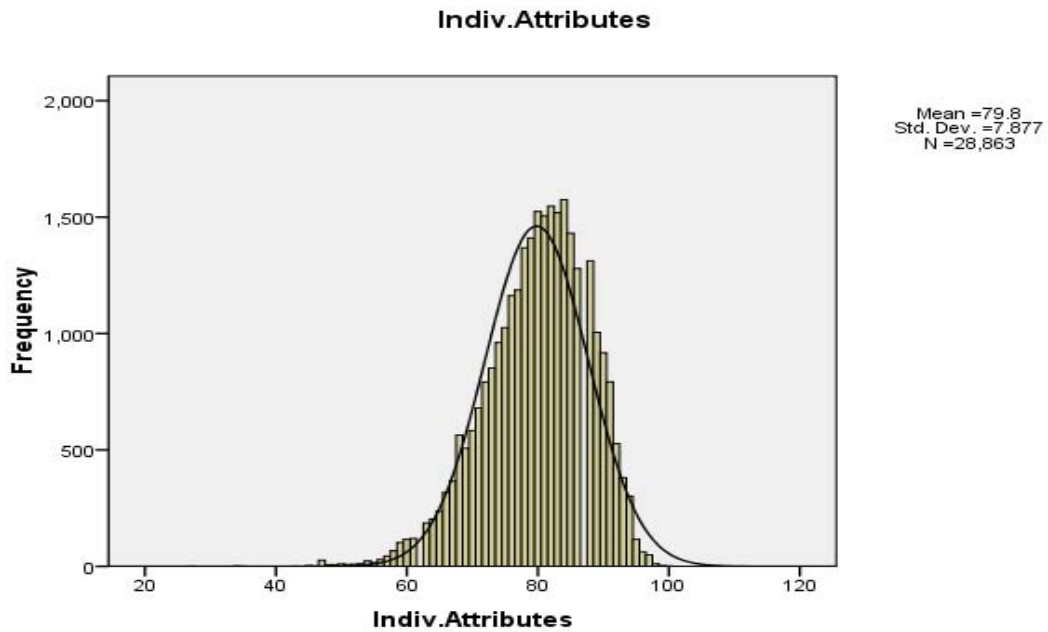


Figure 5 – Individual Attributes Scores

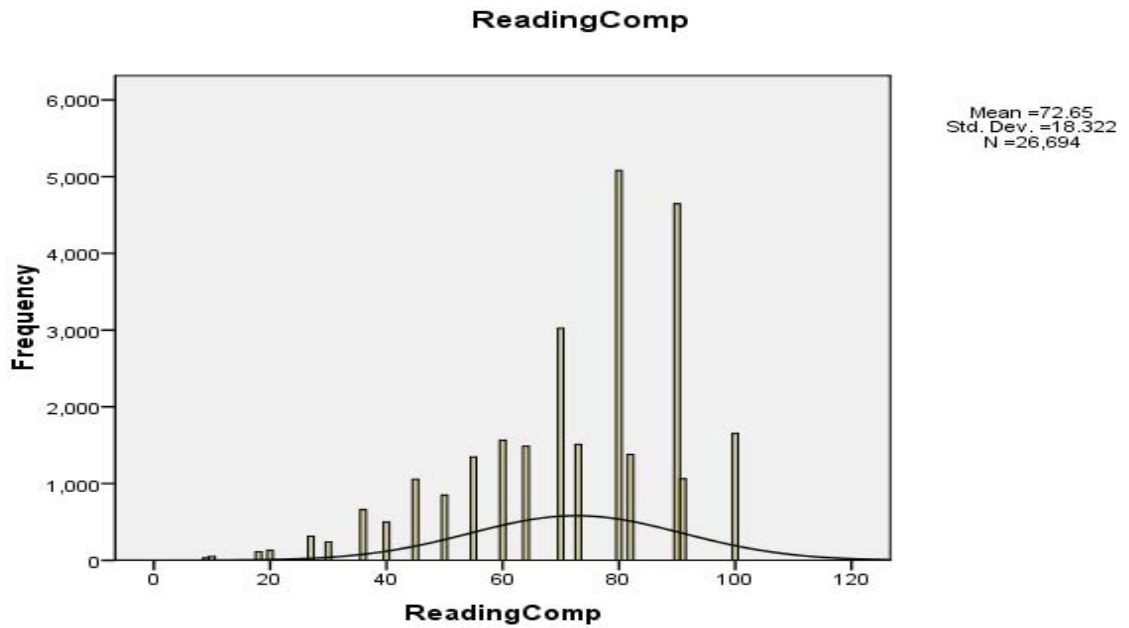


Figure6 – Reading Comprehension Scores

**Note: Because of the way the reading comprehension exam is scored, not all scores in the range of 0 – 100 are possible scores.**

## Frequency Tables

### OverallTech.Comp

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10	2	.0	.0	.0
	20	7	.0	.0	.0
	30	8	.0	.0	.1
	40	29	.1	.1	.2
	50	70	.2	.3	.5
	60	184	.5	.9	1.4
	70	566	1.6	2.7	4.1
	80	1807	5.1	8.5	12.5
	90	5423	15.4	25.4	38.0
	100	13234	37.7	62.0	100.0
	Total	21330	60.8	100.0	
Missing	System	13781	39.2		
Total		35111	100.0		

**Tech.Knowledge**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6	1	.0	.0	.0
	13	1	.0	.0	.0
	14	2	.0	.0	.0
	15	5	.0	.0	.0
	16	4	.0	.0	.1
	18	3	.0	.0	.1
	19	3	.0	.0	.1
	20	2	.0	.0	.1
	21	5	.0	.0	.1
	23	8	.0	.0	.2
	24	8	.0	.0	.2
	25	14	.0	.1	.3
	26	17	.0	.1	.4
	28	24	.1	.1	.5
	29	26	.1	.1	.6
	30	37	.1	.2	.8
	31	44	.1	.2	1.0
	33	46	.1	.2	1.2
	34	71	.2	.3	1.5
	35	85	.2	.4	1.9
	36	103	.3	.5	2.4
	38	118	.3	.6	3.0
	39	155	.4	.7	3.8
	40	192	.5	.9	4.7
	41	238	.7	1.1	5.8
	43	267	.8	1.3	7.1
	44	290	.8	1.4	8.5

45	384	1.1	1.8	10.3
46	405	1.2	1.9	12.3
48	454	1.3	2.2	14.5
49	542	1.5	2.6	17.1
50	608	1.7	2.9	20.0
51	704	2.0	3.4	23.4
53	822	2.3	3.9	27.3
54	813	2.3	3.9	31.2
55	946	2.7	4.5	35.8
56	1057	3.0	5.1	40.8
57	1117	3.2	5.4	46.2
59	1144	3.3	5.5	51.7
60	1230	3.5	5.9	57.6
61	1196	3.4	5.7	63.3
63	1209	3.4	5.8	69.1
64	1129	3.2	5.4	74.6
65	937	2.7	4.5	79.1
66	855	2.4	4.1	83.2
68	737	2.1	3.5	86.7
69	655	1.9	3.1	89.8
70	580	1.7	2.8	92.6
71	421	1.2	2.0	94.7
73	347	1.0	1.7	96.3
74	270	.8	1.3	97.6
75	190	.5	.9	98.5
76	142	.4	.7	99.2
78	94	.3	.5	99.7
79	45	.1	.2	99.9
80	25	.1	.1	100.0
Total	20827	59.3	100.0	
Missing System	14284	40.7		

Total	35111	100.0	
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**Indiv.Attributes**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	27	1	.0	.0	.0
	34	2	.0	.0	.0
	35	1	.0	.0	.0
	43	1	.0	.0	.0
	45	3	.0	.0	.0
	46	2	.0	.0	.0
	47	26	.1	.1	.1
	48	7	.0	.0	.1
	49	7	.0	.0	.2
	50	10	.0	.0	.2
	51	8	.0	.0	.2
	52	9	.0	.0	.3
	53	11	.0	.0	.3
	54	23	.1	.1	.4
	55	16	.0	.1	.4
	56	29	.1	.1	.5
	57	44	.1	.2	.7
	58	67	.2	.2	.9
	59	102	.3	.4	1.3
	60	116	.3	.4	1.7
	61	120	.3	.4	2.1
	63	186	.5	.6	2.7
	64	203	.6	.7	3.4
	65	237	.7	.8	4.3
	66	317	.9	1.1	5.4
	67	366	1.0	1.3	6.6
	68	564	1.6	2.0	8.6

69	507	1.4	1.8	10.3
70	583	1.7	2.0	12.4
71	680	1.9	2.4	14.7
72	791	2.3	2.7	17.5
73	852	2.4	3.0	20.4
74	961	2.7	3.3	23.7
75	1025	2.9	3.6	27.3
76	1163	3.3	4.0	31.3
77	1187	3.4	4.1	35.4
78	1368	3.9	4.7	40.2
79	1410	4.0	4.9	45.1
80	1524	4.3	5.3	50.3
81	1505	4.3	5.2	55.6
82	1547	4.4	5.4	60.9
83	1519	4.3	5.3	66.2
84	1575	4.5	5.5	71.6
85	1431	4.1	5.0	76.6
86	1279	3.6	4.4	81.0
88	1312	3.7	4.5	85.6
89	1005	2.9	3.5	89.0
90	917	2.6	3.2	92.2
91	792	2.3	2.7	95.0
92	527	1.5	1.8	96.8
93	381	1.1	1.3	98.1
94	301	.9	1.0	99.2
95	116	.3	.4	99.6
96	62	.2	.2	99.8
97	49	.1	.2	99.9
98	11	.0	.0	100.0
99	3	.0	.0	100.0
100	2	.0	.0	100.0

	Total	28863	82.2	100.0
Missing	System	6248	17.8	
Total		35111	100.0	

**ReadingComp**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	9	33	.1	.1	.1
	10	49	.1	.2	.3
	18	110	.3	.4	.7
	20	131	.4	.5	1.2
	27	314	.9	1.2	2.4
	30	240	.7	.9	3.3
	36	660	1.9	2.5	5.8
	40	499	1.4	1.9	7.6
	45	1055	3.0	4.0	11.6
	50	850	2.4	3.2	14.8
	55	1348	3.8	5.0	19.8
	60	1565	4.5	5.9	25.7
	64	1486	4.2	5.6	31.2
	67	1	.0	.0	31.2
	70	3024	8.6	11.3	42.6
	73	1510	4.3	5.7	48.2
	80	5080	14.5	19.0	67.3
	82	1378	3.9	5.2	72.4
	90	4645	13.2	17.4	89.8
	91	1063	3.0	4.0	93.8
	100	1653	4.7	6.2	100.0
	Total	26694	76.0	100.0	
Missing	System	8417	24.0		
Total		35111	100.0		