

ILLINOIS STATE BOARD OF EDUCATION: ASSESSMENT DIVISION

**REPORT ON THE ISAT/SAT-10 BRIDGE STUDY AND
DEVELOPMENT OF THE 2006 ISAT REPORTING
SCALES**

Report Date: March 17, 2006

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The decision to report ISAT results for 2006 and beyond on a single vertical (i.e., continuous) scale for each subject area and to introduce testing in reading and mathematics at grades four, six, and seven required (a) that the performance level cut scores for accountability reporting of ISAT results be translated to the new scales for grades at which cut scores existed and (b) that cut scores be determined for grades 4, 7, and 8. The introduction of the SAT-10, which is reported on an already-developed vertical scale, into the 2006 ISAT assessments provided an opportunity for achieving both objectives reliably and validly with minimal demands for additional student testing time.

The Bridge Study

In conjunction with the administration of the 2005 ISAT, SAT-10 data were collected on samples of Illinois students in grades 3¹ through 8. The SAT-10 test administration took place within a few weeks of the ISAT test administration so that the test scores were minimally affected by learning that took place in the interval.

A total of 9,793 SAT-10 data records were obtained from 47 schools located in nine participating districts. The SAT-10 and ISAT data records were matched using a combination of within-district identification numbers and student names. Table 1² summarizes the matching process. Table 2 presents a summary of the demographic characteristics of the bridge study sample.

Tables 3 through 5 present descriptive statistics for the reading, mathematics, and science tests, respectively. Table 6 provides a statistical comparison between the matched samples and the population norms.

Table 7 presents the correlations between the SAT-10 and ISAT scores. Two sets of results are shown, one including all cases in the matched samples and a second set which excludes statistical outliers from the calculations. On average, correlations are highest for the mathematics tests and lowest for the science tests with a median uncorrected correlation of .74 and a median corrected correlation of .82. The values suggest a high degree of correspondence between the knowledge and skills measured by the two instruments.

The primary set of analyses consisted of joint calibrations of the ISAT and Stanford data sets, which had the effect of locating all of the items—SAT-10 and ISAT items—on a single scale. Two calibrations were carried out for each test. In the first, the SAT-10 items were anchored at their known positions on the SAT-10 vertical scale. In the second, the ISAT items were anchored at their known positions on the ISAT scales.

At the suggestion of the State Testing Review Committee several approaches were taken to determine the equating functions. The primary approach was to use Rasch equating, which is the

¹ Although there was no need to obtain SAT-10 test data on grade 6 students, several districts chose to test those students as well.

² For convenience, all tables are presented following the narrative.

method that has been used to scale and equate both the Illinois tests and the SAT-10. Equipercentile equating, which is a well-regarded model-free approach, was used as a check on the Rasch results. In addition, the effect of excluding statistical outliers from each analysis was also studied.

Results of the Rasch and equipercentile results were very comparable. On average across the seven tests and all score points the SAT-10 scale score corresponding to each ISAT score differed by one SAT-10 scale score point. Since Rasch equating was consistent with past ISAT practice, the decision was made to use the Rasch equating solutions.

In order to study the effects of outliers a second set of Rasch analyses was conducted in which cases for which the SAT-10 and ISAT scores differed by more than 2.58 times the standard error of the between-scores difference ($p = .01$ level). Because the removal of outliers tended to eliminate higher ISAT scores and lower SAT-10 scores systematically and because statistical outliers had not been previously eliminated in any ISAT equating, the decision was made to include outliers.

Each calibration run produced a set of student scores, one on the SAT-10 scale, the second on the ISAT scale. The slopes and intercepts of the linear equations that relate the two sets of scores are shown in Table 8 and the results of applying these equations to ISAT scores are shown in Table 9.

Adjusting the Grade 8 Mathematics Cutoff Scores

At this point a table of correspondence existed (Table 9) between ISAT and SAT-10 scale scores from which it was possible to identify SAT-10 scale scores that represented the proficiency levels corresponding to the existing cut scores. One set of cuts, however, merited additional research.

The appropriateness of the 8th-grade cutoffs for mathematics has been questioned for some time. This arises first from the large discrepancies across grades in the percent of students above the meet cut point. In 2005, for example, the percentages of students meeting or exceeding state standards was 70% at grade three, 73% at grade five, and 54% at grade 8.

While the grade 8 mathematics cutoffs were derived following the same approach (modified Angoff) used at other grades and in other subject areas, there were some additional steps taken at the time (1999) with respect to the mathematics cutoffs. Following a review of the results produced by the initial grade 8 panel, ISBE requested that a second panel be convened as a check on the first group's results. The second panel's meet standards cut score was considerably below the first panel's. When the second panel's results are applied to the 2005 test data, the percentage of students meeting (or exceeding) state would be in excess of 70%, which is more in line with the other grades. The cut scores that are currently used, however, correspond to the values produced by the first (higher) panel.

Equating ISAT scores to SAT-10 scores provided an opportunity to examine the cutoffs from still another perspective: the national percentile ranks (NPRs) corresponding to the cutoff scores. As Table 12 shows the NPR for the meets standards cut at 8th grade is unusually high compared to the other grades and subjects.

Had the 8th-grade cut scores remained as is, they would also have had impact on the cut scores to be used for grades six and seven. Consequently, the NPR information was used to identify a new set of grade 8 cut scores that were more aligned with results at other grades and subjects.

Across all subjects and grades, the median NPR corresponding to each of the cut scores are as follows: Below Standards—7.5%, Meets Standards—37.5%, Exceeds Standards—85.5%. At eighth grade, these NPRs correspond to SAT-10 scale scores of approximately, 633, 666, and 722, respectively. When these scores are mapped back on the existing ISAT scale, they are very close to those produced by the second Angoff panel (137, 149, 177).

Interpolating cutoff scores for intermediate ISAT grades

At the time the ISAT cutoff scores were developed students were not tested in reading and mathematics at grades 4, 6, and 7, as they will be in 2006. Nonetheless, for accountability purposes performance categories will be required, and the proficiency levels will need to be consistent with those already established.

The simplest approach to obtaining cutoff scores for these grades that will produce outcomes consistent with the existing scores is to interpolate between grades using the results obtained so far. That is, grade 4 cut scores are positioned at the midpoint between the grade 3 and grade 5 cut scores. Grades 6 and 7 cut scores are each positioned one-third of the interval between the grade 5 and grade 8 cut scores.

Table 13 presents these results as lower bound values on the SAT-10 scale. As noted, the grade 8 mathematics cut scores shown are those after the adjustment was made.

Review of the Cut Score Transformation and Development Process

At this point, panels of subject matter experts were convened to review and validate the reasonableness of the process and outcomes.³

The reading panel consisted of 22 and the mathematics panel of 24 teachers and curriculum specialists. Both panels met for two days in Champaign between December 13 and December 15.

³ No intermediate grade values were required for science thus eliminating the need for a review at this time. The results of the bridge study and the transformation of scale values were subsequently presented to the ISAT Science Committee at one of their regular meetings.

The task of the panels was to review the cut score transformation process and the values that resulted in relationship to the assessment frameworks, performance definitions, representative item difficulties, and district/school outcome data.

The meetings began with a review of the 1999 ISAT cut score development process in which a few of the participants had also been involved. This was followed by a presentation on the bridge study and the transformation of results from the ISAT scales to the SAT-10 vertical scales. Panel members then began to review the frameworks and performance definitions in relationship to item difficulties and outcome data.

Harcourt Educational Measurement (HEM) psychometricians prepared item booklets for each grade (3 through 8) and subject (reading, mathematics). Each booklet consisted of 30 SAT-10 items, which were ordered by difficulty from easiest to most difficult. Items were identified to the panelists as falling into one of four ranges (Academic Warning through Exceeds Standards) based on their Rasch difficulty values.

Because some grade 6 students were tested in the bridge study, it was possible to present panelists with outcome data on how the cut scores—particularly the intermediate grade cut scores—would have operated in 2005. Sufficient data existed to prepare performance profiles for two districts and one school across grades 3 through 8. Results for grades 3, 5, and 8 were based on the 2005 ISAT. Results for grades 4, 6, and 7 were based on SAT-10 tests. Along with the outcomes panelists were given a demographic profile of the districts/school. The profile for sample district 1 is given in Table 14. Figures 1 and 2 present the reading and mathematics outcomes for this district, and Figure 3 presents a plot of the district means across grades.

At the end of their deliberation, panelists evaluated the reasonableness of the intermediate grade cut scores. For each cut and grade, panelists were asked to rate the reasonableness on a 10-point scale on which 10 represented the highest degree of reasonableness and 1 represented the lowest degree. Panelists shared their ratings with each other and then discussed large differences in perception before making a final rating.

Table 15 presents descriptive statistics for the final ratings made by the panels. As the table shows, despite some variance, the ratings are uniformly high averaging approximately 8.65 across subjects, grades, and levels.

Development of the 2006 Reporting Scales

One final step in the process of moving from the 2005 to the 2006 enhanced ISAT tests: the development of the 2006 reporting scales.

It had already been determined that these would be linear transformations of the SAT-10 scales. Otherwise it would not have been possible to report grade 4, 6, and 7 results without additional studies and student testing.

The two questions remaining were essentially to determine the unit size of the new scales and the general range. A preliminary discussion with the State Testing Review Committee at its September 7, 2005 meeting produced a suggestion to set the student standard deviation of the new scales higher than present scales (approximately 15) but lower than the SAT-10 scales (approximately 40) and to anchor the lowest score at the current lowest scale value (120).

A set of transformations was developed which produced scales with these characteristics. Table 16 presents coefficients of the linear equations that produced these initial transformations.⁴

This last set of equations complete the series of transformations that relate the original ISAT scales to the proposed 2006 scales. When they are applied sequentially to the existing cutoff values, which are shown in Table 17, the resulting score ranges that define each performance category on the 2006 scales are as shown in Table 18.

Review by State Testing Review Committee

The State Testing Review Committee extensively reviewed the information in this report at its January 4, 2006 meeting. Following discussion a series of votes were taken which resulted in unanimous recommendations to ISBE to accept the proposed new scale and to accept the transformation of the existing cut scores to the new scale with the grade 8 mathematics cut scores adjusted as presented.⁵

They further recommended that in the scaling of tests for 2006 and beyond that steps be taken to ensure that scale scores which represent the lower bounds of the Below Standards, Meets Standards, and Exceeds Standards be always represented in the range of possible scale scores. Their purpose in making this recommendation was to avoid the confusion that followed the 2005 release of grade 5 reading test scores. In that test as originally reported there was no raw score that corresponded to the minimum Meets Standards scale score.

The committee recommended that, in the event a scale score cut point fail to appear, the closest lower raw score point be set to the scale score cut point.

⁴ The set of transformations will be finalized and reviewed by the State Testing Review Committee once 2006 test data become available.

⁵ See the minutes of the State Testing Review Committee meeting for details of these recommendations.

Table 1
Summary of ISAT/SAT-10 Data Record Match

Grade	SAT-10 Level	Total ISAT Records	TOTAL SAT Records	Matched	Unmatched ISAT Records	Unmatched SAT-10 Records
3	05	2099	2040	1376	723	664
4	06	2026	2012	1559	467	453
5	07	2103	1599	1180	923	419
7	09	1334	1284	1016	318	268
8	10	1278	883	842	436	41

Table 2
Demographic Characteristics for Matched Samples

Demographic Variable		Grade 3	Grade 4	Grade 5	Grade 7	Grade 8
Gender	Male	48.8	50.6	48.6	51.1	54.1
	Female	51.2	49.4	51.4	48.9	45.9
Ethnicity	Indian	.1	.1	.1		
	Asian	.8	2.3	1.1	2.5	1.7
	Black	66.1	55.8	58.8	23.8	33.7
	Hispanic	18.2	11.2	23.8	27.9	33.4
	White	14.0	28.0	15.8	44.3	30.7
	Multi-Racial	.8	2.6	.4	1.6	.6
IEP	No	89.5	86.3	89.5	87.6	87.5
	Yes	10.5	13.7	10.5	12.4	12.5
Accommodated Administration	No	93.2	90.1	91.5	90.4	89.4
	Yes	6.8	9.9	8.5	9.6	10.6
Free Lunch	No	21.6	39.4	21.4	53.8	38.4
	Yes	78.4	60.6	78.6	46.2	61.6
LEP	No	99.3	98.6	99.2	97.2	98.8
	Yes	.7	1.4	.8	2.8	1.2
Migrant Status	No	100.0	100.0	100.0	99.9	100.0
	Yes				.1	

Table 3
Descriptive Statistics for Matched Samples: Reading Tests

	SAT-10			ISAT		
	Grade 3	Grade 5	Grade 8	Grade 3	Grade 5	Grade 8
N	1376	1180	842	1376	1180	842
Mean	609.16	635.43	668.02	156.00	153.72	153.47
Std. Error of Mean	1.113	.997	1.174	.364	.384	.375
Median	608.00	633.00	667.00	155.00	154.00	153.00
Mode	627	648	656	149	162	150
Std. Deviation	41.282	34.247	34.057	13.487	13.204	10.888
Variance	1704.190	1172.890	1159.895	181.906	174.359	118.544
Skewness	.303	.219	.514	.295	.165	.199
Std. Error of Skewness	.066	.071	.084	.066	.071	.084
Kurtosis	.049	.250	1.081	-.103	.100	.508
Std. Error of Kurtosis	.132	.142	.168	.132	.142	.168
Range	245	240	261	89	96	78
Minimum	513	514	559	122	121	125
Maximum	758	754	820	211	217	203
Sum	838201	749811	562470	214655	181392	129220

Table 4
Descriptive Statistics for Matched Samples: Mathematics Tests

	SAT-10			ISAT		
	Grade 3	Grade 5	Grade 8	Grade 3	Grade 5	Grade 8
N	1376	1180	842	1376	1180	842
Mean	607.11	634.54	674.90	160.63	162.04	155.09
Std. Error of Mean	1.119	1.031	1.140	.358	.462	.518
Median	603.00	630.00	669.50	160.00	162.00	152.00
Mode	622	625	658	152	158	150
Std. Deviation	41.495	35.430	33.087	13.281	15.871	15.041
Variance	1721.865	1255.266	1094.750	176.391	251.890	226.223
Skewness	.406	.398	.923	.226	.232	1.188
Std. Error of Skewness	.066	.071	.084	.066	.071	.084
Kurtosis	.664	.410	2.359	-.245	.168	2.854
Std. Error of Kurtosis	.132	.142	.168	.132	.142	.168
Range	256	269	287	81	106	116
Minimum	488	526	561	124	119	123
Maximum	744	795	848	205	225	239
Sum	835381	748758	568265	221024	191206	130587

Table 5
Descriptive Statistics for Matched Samples: Science Tests

	SAT-10		ISAT	
	Grade 4	Grade 7	Grade 4	Grade 7
N	1559	1016	1559	1016
Mean	607.90	648.32	160.50	160.40
Std. Error of Mean	.730	.826	.403	.481
Median	600.00	641.00	159.00	160.00
Mode	600	641	166	171
Std. Deviation	28.835	26.333	15.899	15.346
Variance	831.483	693.416	252.789	235.491
Skewness	.682	.866	.512	.307
Std. Error of Skewness	.062	.077	.062	.077
Kurtosis	2.466	2.290	.129	.055
Std. Error of Kurtosis	.124	.153	.124	.153
Range	269	213	117	96
Minimum	497	559	119	123
Maximum	766	772	236	219
Sum	947715	658689	250224	162963

Table 6
Statistical Comparison of Matched Sample SAT-10 Means With SAT-10 Spring Norms

	SAT-10			ISAT		
	Grade 3	Grade 5	Grade 8	Grade 3	Grade 5	Grade 8
Reading Comprehension						
Sample Mean	609.16	635.43	668.02	156.00	153.72	153.47
Population Mean	621.2	643.1	672.5	161.52	158.65	158.02
Population SD	41.8	38.2	38.2	15.189	13.729	11.799
z	-0.29	-0.20	-0.12	-0.36	-0.36	-0.39
Mathematics Problem Solving						
Sample Mean	607.11	634.54	674.9	160.63	162.04	155.09
Population Mean	612.4	639	679.4	165.7	168.22	164.75
Population SD	44	37.5	36.4	15.342	17.106	18.477
z	-0.12	-0.12	-0.12	-0.33	-0.36	-0.52
Science						
Sample Mean	607.9	648.32		160.50	160.40	
Population Mean	623.9	657.9		162.92	161.31	
Population SD	36.1	34.1		15.18	15.411	
z	-0.44	-0.28		-0.16	-0.06	

Table 7
Correlation Between Corresponding ISAT/SAT-10 Ability Estimates

	Matched Sample						Sample With Outliers Removed					
	N	ISAT Mean Ability	ISAT SD	SAT-10 Mean Ability	SAT-10 SD	r	N	ISAT Mean Ability	ISAT SD	SAT-10 Mean Ability	SAT-10 SD	r
Reading												
3	1362	.7819	1.06231	.6669	1.18302	.731	1240	.7349	1.05698	.7255	1.16654	.823
5	1170	.7569	1.10244	.5425	.98022	.721	1083	.7239	1.07441	.5819	.97265	.801
8	815	1.0508	.97308	.7205	.97837	.741	759	1.0195	.95984	.7672	.96290	.812
Math												
3	1362	.9617	.98352	.7661	1.18946	.745	1266	.9306	.97336	.8414	1.17051	.807
5	1171	.5759	1.05736	.2771	1.01612	.775	1083	.5164	1.03489	.3185	1.02314	.846
8	810	.5658	1.02603	-.2676	.96024	.831	633	.4335	1.02747	-.1938	.96922	.895
Science												
4	993	.2584	.91040	.3539	1.00941	.640	919	.2314	.86583	.3750	.98881	.778
7	603	.3440	.92212	.3445	.94910	.767	581	.3603	.90717	.3474	.93489	.819

Notes:

SAT-10 subtests corresponding to each ISAT test are as follows: ISAT reading-SAT-10 Reading Comprehension, ISAT mathematics-SAT-10 Problem Solving, ISAT science-SAT-10 Science.

Some of the matched records did not contain valid (i.e., attempted) scores. They were eliminated from the calculations.

Table 8
Constants for Transforming ISAT Scores to the SAT-10 Vertical Scales

Subject	Grade	a	b
Reading	3	181.471	2.736
	5	188.703	2.906
	8	193.056	3.097
Math	3	190.576	2.585
	5	266.052	2.272
	8	305.595	2.383
Science	4	254.615	2.287
	7	305.010	2.207

Table 9
Table for Transforming ISAT Scores to the SAT-10 Vertical Scales

ISAT	READING		MATH			SCIENCE		
	3	5	8	3	5	8	4	7
120	510	537	565	501	539	592	529	570
121	513	540	568	503	541	594	531	572
122	515	543	571	506	543	596	534	574
123	518	546	574	509	546	599	536	576
124	521	549	577	511	548	601	538	579
125	523	552	580	514	550	603	540	581
126	526	555	583	516	552	606	543	583
127	529	558	586	519	555	608	545	585
128	532	561	589	521	557	611	547	588
129	534	564	593	524	559	613	550	590
130	537	566	596	527	561	615	552	592
131	540	569	599	529	564	618	554	594
132	543	572	602	532	566	620	556	596
133	545	575	605	534	568	623	559	599
134	548	578	608	537	571	625	561	601
135	551	581	611	540	573	627	563	603
136	554	584	614	542	575	630	566	605
137	556	587	617	545	577	632	568	607
138	559	590	620	547	580	634	570	610
139	562	593	624	550	582	637	573	612
140	565	596	627	552	584	639	575	614
141	567	598	630	555	586	642	577	616
142	570	601	633	558	589	644	579	618
143	573	604	636	560	591	646	582	621
144	575	607	639	563	593	649	584	623
145	578	610	642	565	595	651	586	625
146	581	613	645	568	598	654	589	627
147	584	616	648	571	600	656	591	629
148	586	619	651	573	602	658	593	632
149	589	622	655	576	605	661	595	634
150	592	625	658	578	607	663	598	636
151	595	628	661	581	609	665	600	638
152	597	630	664	583	611	668	602	640
153	600	633	667	586	614	670	605	643
154	603	636	670	589	616	673	607	645
155	606	639	673	591	618	675	609	647
156	608	642	676	594	620	677	611	649
157	611	645	679	596	623	680	614	652
158	614	648	682	599	625	682	616	654
159	616	651	685	602	627	684	618	656
160	619	654	689	604	630	687	621	658
161	622	657	692	607	632	689	623	660
162	625	659	695	609	634	692	625	663
163	627	662	698	612	636	694	627	665
164	630	665	701	615	639	696	630	667
165	633	668	704	617	641	699	632	669
166	636	671	707	620	643	701	634	671
167	638	674	710	622	645	704	637	674
168	641	677	713	625	648	706	639	676
169	644	680	716	627	650	708	641	678

ISAT	READING		MATH			SCIENCE		
	3	5	8	3	5	8	4	7
170	647	683	720	630	652	711	643	680
171	649	686	723	633	655	713	646	682
172	652	689	726	635	657	715	648	685
173	655	691	729	638	659	718	650	687
174	658	694	732	640	661	720	653	689
175	660	697	735	643	664	723	655	691
176	663	700	738	646	666	725	657	693
177	666	703	741	648	668	727	659	696
178	668	706	744	651	670	730	662	698
179	671	709	747	653	673	732	664	700
180	674	712	751	656	675	735	666	702
181	677	715	754	658	677	737	669	704
182	679	718	757	661	680	739	671	707
183	682	721	760	664	682	742	673	709
184	685	723	763	666	684	744	675	711
185	688	726	766	669	686	746	678	713
186	690	729	769	671	689	749	680	716
187	693	732	772	674	691	751	682	718
188	696	735	775	677	693	754	685	720
189	699	738	778	679	695	756	687	722
190	701	741	781	682	698	758	689	724
191	704	744	785	684	700	761	691	727
192	707	747	788	687	702	763	694	729
193	710	750	791	689	705	766	696	731
194	712	752	794	692	707	768	698	733
195	715	755	797	695	709	770	701	735
196	718	758	800	697	711	773	703	738
197	720	761	803	700	714	775	705	740
198	723	764	806	702	716	777	707	742
199	726	767	809	705	718	780	710	744
200	729	770	812	708	720	782	712	746

Table 12
National Percentile Ranks Corresponding to Existing ISAT Cut Scores

Subject	Grade	Below	Meets	Exceeds
Reading	3	7	38	79
	5	3	49	86
	8	3	40	93
Mathematics	3	10	28	73
	5	4	37	93
	8	8	67	94
Science	4	8	32	85
	7	12	29	83

Table 13
ISAT Cut Scores Expressed on the SAT-10 Vertical Scales (Lower Bounds)

Subject	Grade	Below Standards	Meets Standards	Exceeds Standards
Reading	3	559	608	658
	5	566	642	686
	8	593	664	729
Math	3	558	586	638
	5	580	625	700
	8	633	666	722
Science	4	573	607	664
	7	618	638	691

Note: Grade 8 values are after adjustment

Table 14
Sample District 1 Demographic Profile

	State	District
% Drop Out	4.0	
% Low Income	40.0	16.3
% LEP Enrollment	6.6	1.2
% Attendance	93.9	95.7
% Mobility	16.1	8.5
% Chronic Truant	2.2	0.1
% White	56.7	55.6
% Black	20.3	29.8
% Hispanic	18.3	3.9
% Asian	3.7	3.6
% Native American	0.2	0.1
% Multiracial	0.4	6.9
Total Enrollment	2062912	4,969
% Parental Contacts	95.7	99.7
% Emgcy Teachers	1.9	0.3
% Class NoHighQ Teacher	1.9	0.0

Figure 1
Sample District 1 2005 Reading Outcomes

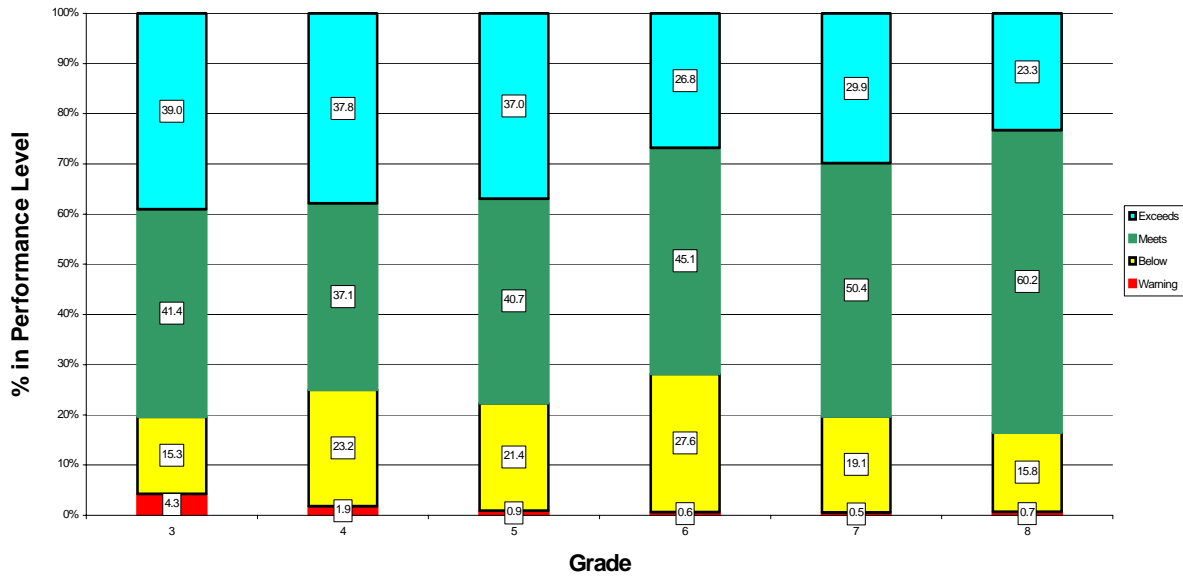


Figure 2
Sample District 1 2005 Mathematics Outcomes

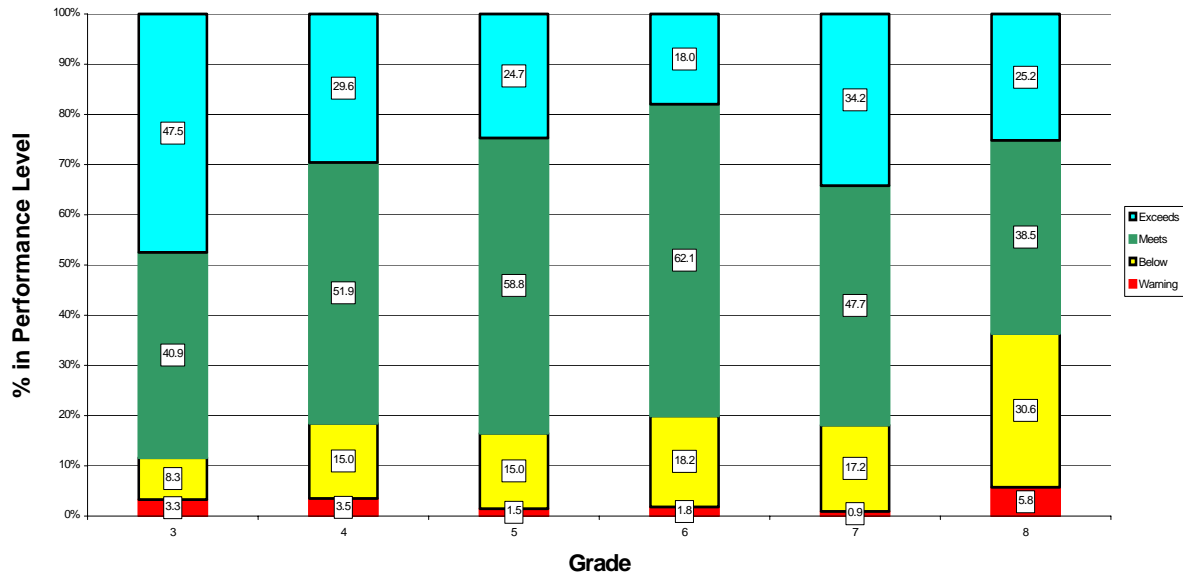


Table 16
Constants for Transforming SAT-10 Scales to 2006 ISAT Reporting Scales

	b	a
Reading	0.72192	-248.02832
Mathematics	0.75644	-258.80700
Science	0.86411	-337.16252

Table 17
Scale Score Ranges That Define Student Performance Levels on the 1999-2005 ISAT Scales

READING		Academic Warning	Below Standards	Meets Standards	Exceeds Standards
	3	120-137	138-155	156-173	174-200
	5	120-129	130-155	156-170	171-200
	8	120-128	129-151	152-172	173-200
MATHEMATICS					
	3	120-141	142-152	153-172	173-200
	5	120-137	138-157	158-190	191-200
	8	120-137	138-161	162-184	185-200
SCIENCE					
	4	120-138	139-153	154-178	179-200
	7	120-141	142-150	151-174	175-200

Note: Grade 8 cut scores are shown before adjustment. After adjustment the Meets Standards cut score would have been approximately 152 and the Exceeds Standards cut score approximately 175, which are very close to the values produced by a second Angoff panel that convened in July, 1999 (149, 177).

Table 18
Scale Score Ranges That Define Student Performance Levels on the 2006 ISAT Scales

Grade	Academic Warning	Below Standards	Meets Standards	Exceeds Standards
READING				
3	120-155	156-190	191-226	227+
4	120-157	158-202	203-236	237+
5	120-160	161-214	215-246	247+
6	120-166	167-219	220-256	257+
7	120-173	174-225	226-266	267+
8	120-179	180-230	231-277	278+
MATHEMATICS				
3	120-162	163-183	184-223	224+
4	120-171	172-199	200-246	247+
5	120-179	180-213	214-270	271+
6	120-193	194-224	225-275	276+
7	120-206	207-234	235-280	281+
8	120-220	221-245	246-287	288+
SCIENCE				
4	120-157	158-186	187-236	237+
7	120-196	197-213	214-259	260+