

Section 4. Test-Level Analyses

This chapter summarizes the test-level statistics obtained for the January, May and July 2004 administration of the HSAs. The test-level analyses included demographic distributions, scale score distributions, and reliability analyses.

Demographic Distributions

All eligible students completed the HSAs, though the scores were not used for individual accountability during this time. The demographic characteristics of the students were presented in Tables 4.1 to 4.5 for the January and May administrations. The numbers of students completing the summer administrations ranged from 75 for Biology to 500 for Geometry. Algebra had 234 students, English I had 143 and Government had 95 students participate in the July administration. Due to the small sample sizes, results for this section were only included in overall results. The numbers of students participating in the May administration was greater than the January administration. As a result, only two field test versions were included in the January administration to ensure sufficient samples for the analyses of the field test items. Due to the small numbers of students participating in the July administration, the May field test sections were repeated to ensure that the test length was comparable.

Table 4.1. Demographic Information for Algebra

		January Primary Forms		January Make-Up Forms		May Primary Forms		May Make-up Forms	
		N	%	N	%	N	%	N	%
Overall		4617	100	396	100	59398	100	2377	100
Gender									
	Male	2413	52.3	205	51.8	28749	48.4	1157	48.7
	Female	2204	47.7	191	48.2	30639	51.6	1219	51.3
	Missing	0	0	0	0	10	0	1	0
Special Education									
	Yes	459	9.9	65	16.4	4530	7.6	233	9.8
	No	4088	88.5	321	81.1	54236	91.3	2116	89
	504	72	1.6	10	2.5	632	1.1	28	1.2
Ethnicity									
	American Indian	14	0.3	2	0.5	227	0.4	11	0.5
	Asian/Pacific Islander	115	2.5	13	3.3	3461	5.8	75	3.2
	African American	1416	30.7	167	42.2	19970	33.7	969	40.9
	White	2950	63.9	158	39.9	32329	54.5	1190	50.2
	Hispanic	122	2.6	55	13.9	3332	5.6	125	5.3
	Missing	0	0	1	0.3	79	0.1	7	0.3
Limited English Proficient									
	Yes	68	1.5	30	7.6	1426	2.4	46	1.9
	No	4537	98.3	363	91.7	57449	96.7	2317	97.5
	Exited	12	0.3	3	0.8	523	0.9	14	0.6

Table 4.2. . Demographic Information for Biology

		January Primary Forms		January Make-Up Forms		May Primary Forms		May Make-up Forms	
		N	%	N	%	N	%	N	%
Overall		7770	100	442	100	46550	100	1933	100
Gender									
	Male	3931	50.6	258	58.4	22433	48.2	938	48.6
	Female	3839	49.4	183	41.4	24106	51.8	992	51.4
	Missing	0	0	1	0.2	11	0	3	0.2
Special Education									
	Yes	799	10.3	97	21.9	3685	7.9	221	11.4
	No	6856	88.2	338	76.5	42404	91.1	1685	87.2
	504	115	1.5	7	1.6	461	1	27	1.4
Ethnicity									
	American Indian	21	0.3	0	0	163	0.4		
	Asian/Pacific Islander	161	2.1	20	4.5	2913	6.3	62	3.2
	African American	2206	28.4	213	48.2	15913	34.2	866	44.9
	White	5222	67.2	174	39.4	24925	53.6	874	45.3
	Hispanic	160	2.1	35	7.9	2609	5.6	115	6
	Missing	0	0	0	0	27	0.1	5	0.3
Limited English Proficient									
	Yes	73	0.9	12	2.7	1079	2.3	36	1.9
	No	7681	98.9	425	96.2	45039	96.8	1885	97.5
	Exited	1.6	0.2	5	1.1	432	0.9	12	0.6

Table 4.3. Demographic Information for English

		January Primary Forms		January Make-Up Forms		May Primary Forms		May Make-up Forms	
		N	%	N	%	N	%	N	%
Overall		7193	100	392	100	55016	100	2271	100
Gender									
	Male	3704	51.5	253	64.5	27067	49.2	1092	48.2
	Female	3489	48.5	139	35.5	27939	50.8	1175	51.8
	Missing	0	0	4	0.2	10	0	4	0.2
Special Education									
	Yes	837	11.6	101	25.8	5376	9.8	311	13.7
	No	6255	87	283	72.2	49058	89.2	1935	85.2
	504	101	1.4	8	2	582	1.1	25	1.1
Ethnicity									
	American Indian	15	0.2	0	0	258	0.5	16	0.7
	Asian/Pacific Islander	179	2.5	18	4.6	3001	5.5	46	2
	African American	1625	22.6	192	49	19726	35.9	1171	51.7
	White	5202	72.3	147	37.5	28895	52.6	910	40.2
	Hispanic	172	2.4	33	8.4	3087	5.6	121	5.3
	Missing	0	0	2	0.5	49	0.1	7	0.3
Limited English Proficient									
	Yes	64	0.9	11	2.8	1072	1.9	48	2.1
	No	7119	99	376	95.9	53417	97.1	2206	97.1
	Exited	10	0.1	5	1.3	527	1	17	0.7

Table 4.4. Demographic Information for Geometry

		January Primary Forms		January Make-Up Forms		May Primary Forms		May Make-up Forms	
		N	%	N	%	N	%	N	%
Overall		7113	100	588	100	45285	100	2512	100
Gender									
	Male	3423	48.1	317	53.9	21567	47.6	1245	49.6
	Female	3690	59.9	271	46.1	23713	52.4	1266	50.4
	Missing	0	0	0	0	5	0	1	0
Special Education									
	Yes	581	8.2	60	10.2	2655	5.9	205	8.2
	No	6417	90.2	520	88.4	42188	93.2	2272	90.4
	504	115	1.6	8	1.4	442	1	35	1.4
Ethnicity									
	American Indian	24	0.3	1	0.2	204	0.5	12	0.5
	Asian/Pacific Islander	190	2.7	127	21.6	2982	6.6	81	3.2
	African American	1745	24.5	200	34	14014	31	1032	41.1
	White	4985	70.1	189	32.1	25635	56.6	1234	49.2
	Hispanic	175	2.5	71	12.1	2426	5.4	149	5.9
	Missing	0	0	0	0	24	0.1	4	0
Limited English Proficient									
	Yes	45	0.1	36	6.1	918	2	33	1.3
	No	7036	98.9	521	88.6	43903	96.9	2463	98
	Exited	11	0.6	31	5.3	464	1	16	0.6

Table 4.5. Demographic Information for Government

		January Primary Forms		January Make-Up Forms		May Primary Forms		May Make-up Forms	
		N	%	N	%	N	%	N	%
Overall		8119	100	396	100	50408	100	2745	100
Gender									
	Male	4074	50.2	210	52.9	24708	49	1274	46.4
	Female	4045	49.8	186	46.9	25684	51	1470	53.6
	Missing	0	0	1	0.3	16	0	1	0
Special Education									
	Yes	787	9.7	61	15.4	4415	8.8	304	11.1
	No	7232	89.1	329	82.9	45460	90.2	2412	87.9
	504	100	1.2	7	1.8	533	1.1	29	1.1
Ethnicity									
	American Indian	14	0.3	1	0.3	298	0.6	19	0.7
	Asian/Pacific Islander	181	2.2	17	4.3	3098	6.2	80	2.9
	African American	2169	26.7	170	42.8	17549	34.9	1276	46.6
	White	5543	68.3	158	39.8	26574	52.8	1203	43.9
	Hispanic	202	2.5	50	12.6	2831	5.6	163	5.9
	Missing	0	0	1	0.3	58	0.1	4	0.1
Limited English Proficient									
	Yes	68	1.5	16	4	1114	2.2	44	1.6
	No	8063	99.3	375	94.5	48803	96.8	2679	97.6
	Exited	12	0.3	6	1.5	491	1	22	0.8

Score Distributions and Summary Statistics

Overall, comparisons of the combined mean scores for each administration are presented in Table 4.6. Scores for the May administration were higher than either the January or July administrations.

Summary statistics for all students and for subgroups based on grade, gender, ethnicity, language fluency, economic disadvantage and special education programs are presented in Tables 4.8 through 4.17. These tables include number of students tested for whom valid scores were available, mean scale scores, standard deviation of scale scores, as well as percentages of students in various proficiency levels. In all content areas, the mean scores were higher for the primary and make-up forms administered in May compared to the forms administered January. In addition, higher mean scores were noted for the primary week forms from both administrations compared to the make-up forms.

Table 4.6 Mean Scores by Administration

	Jan-04			May-04			July-04		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Algebra	5499	400.9	48.6	67595	412.8	49.5	234	400.84	32.05
Biology	8629	398.8	43.9	52116	407.5	42.5	75	391.23	34.61
English	8084	392.5	44.0	60768	407.2	39.6	143	377.38	31.49
Geometry	8375	401.7	42.1	53320	405.8	37.8	500	395.55	29.49
Government	9155	397.5	44.5	56626	408.0	42.0	95	392.69	39.63

The following figures graphically represent the distribution of scale scores for each of the content areas (see Figures 4.1 to 4.5). The data from the January and May administrations were overlaid to facilitate comparisons across two administrations.

Figure 4.1

Comparison of Scaled Score Distributions: Algebra 2004

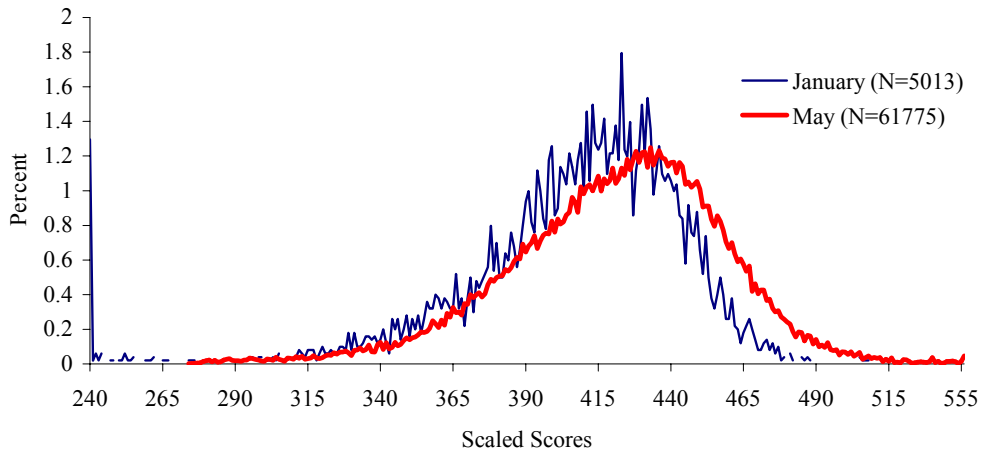


Figure 4.2

Comparison of Scaled Score Distributions: Biology 2004

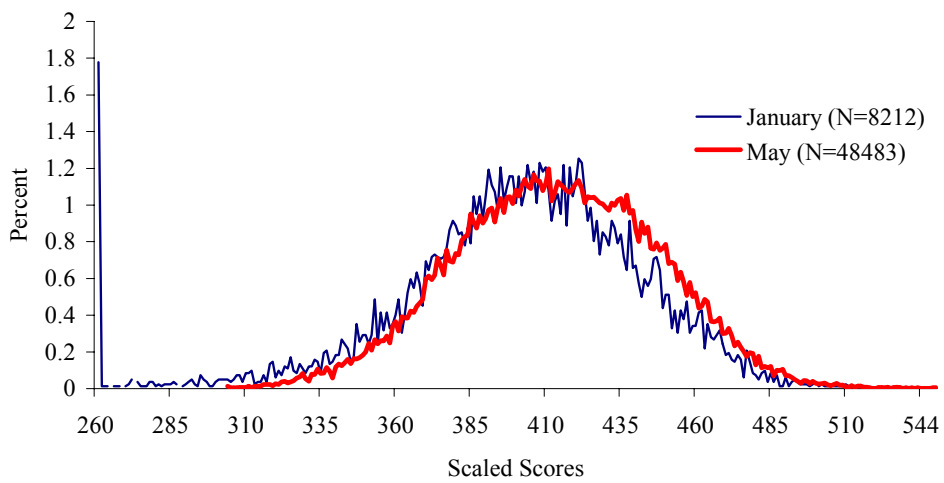


Figure 4.3

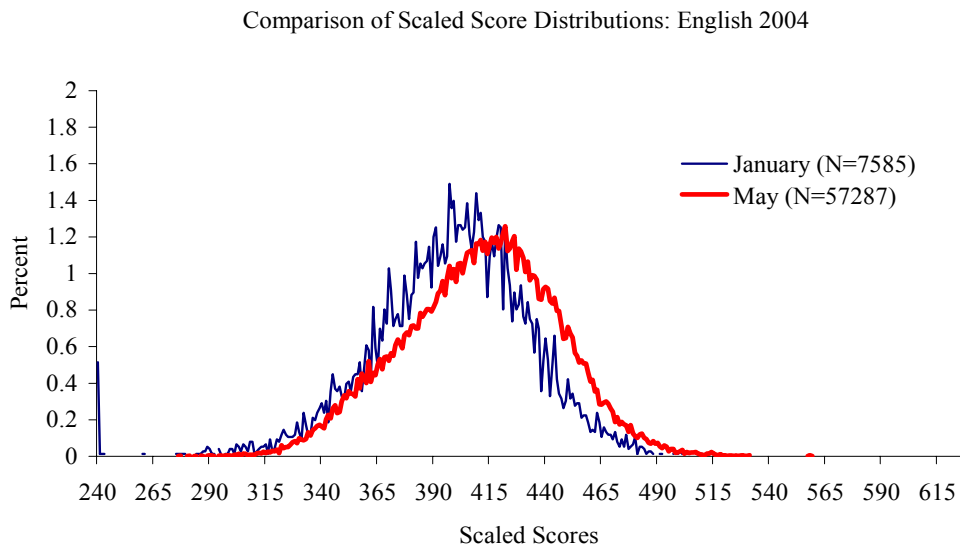


Figure 4.4

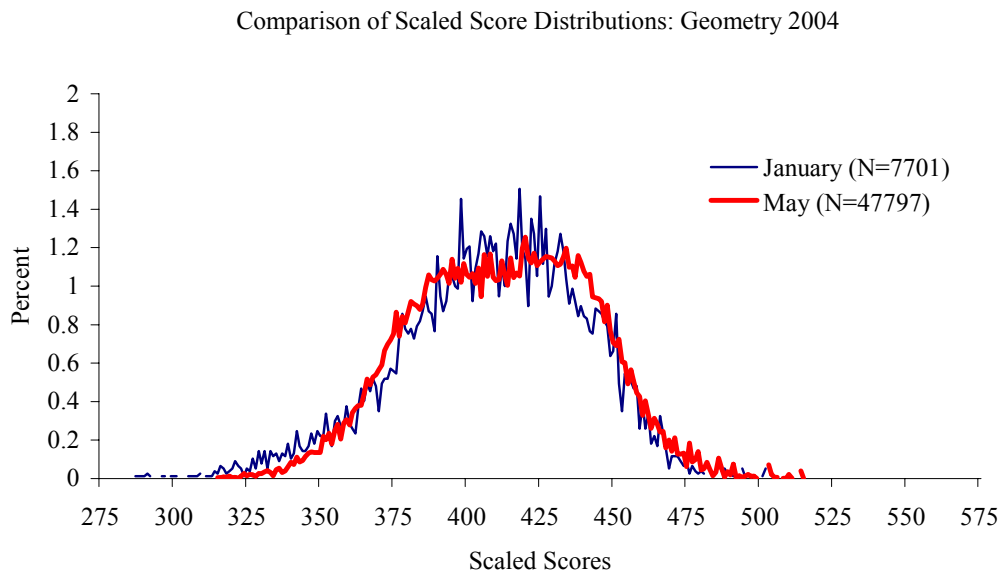
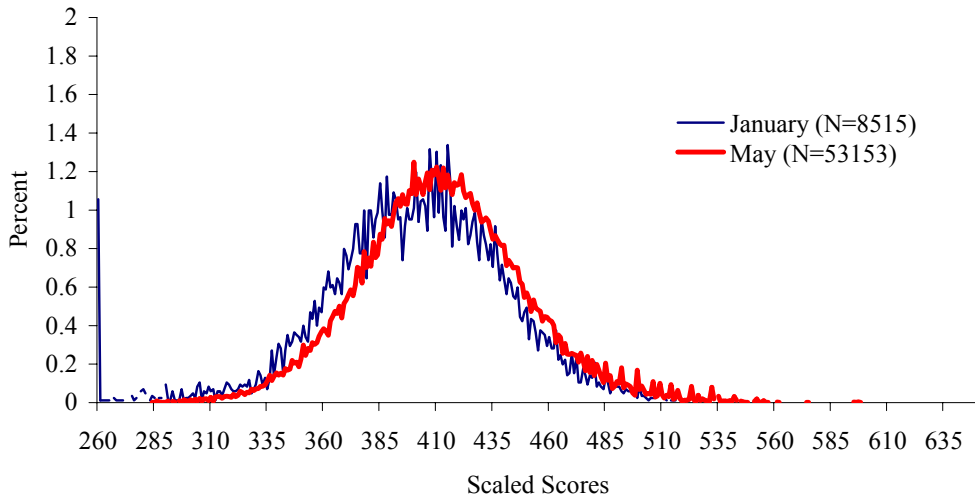


Figure 4.5

Comparison of Scaled Score Distributions: Government 2004



Combined across all three administrations, the mean scores were higher compared to the mean scores from 2002 and 2003, as reported in the 2003 Technical Report (CTB/McGraw-Hill, 2003; see Table 4.7).

Table 4.7 Comparisons of Mean Scores from 2002, 2003, and 2004

	2002	2003	2004
Algebra	405.1	408.3	411.9
Biology	399.3	400.8	406.2
English	395.8	393.9	405.4
Geometry	398.3	398.8	405.2
Government	397.8	403.5	406.5

Passing rates were also higher in 2004 compared to the previous two years (see Table 4.8). The most notable increase was in English, – 11% and 14.8% more students were classified as passing in 2004 in comparison with 2002 and 2003, respectively. Smaller increases were noted in 2004 compared to 2003 for Algebra, Biology and Government (6.1%, 7.7% and 7.0%, respectively) and 2002 (7.2%, 7.5%, and 9.9%, respectively). In Geometry, more students were classified as Proficient and Advanced in 2004 compared to 2003 (2.9% and 1.8%, respectively) and 2002 (1.5% and 1.6%, respectively; see Table 4.9).

Table 4.8 Comparisons of Passing Rates from 2002, 2003, and 2004

	2002	2003	2004
Algebra	52.1	53.2	59.3
Biology	54.5	54.3	62.0
English	43.6	39.8	54.6
Government	57.3	60.2	67.2

Table 4.9 Comparisons of Geometry Passing Rates from 2002, 2003, and 2004

	2002	2003	2004
Basic	55.0	56.6	51.9
Proficient	34.6	33.2	36.1
Advanced	10.4	10.2	12.0

Speededness

The HSAs were untimed tests, therefore students had sufficient time to complete all items. Extensive timing studies have been conducted in previous years and the number and type of items adjusted for each of the content areas. As a verification that the tests were not speeded, the percentage of students who responded to the last items in each of the test sections can help identify any speededness issues. Tables 4.10 and 4.11 display the proportion of students who did not respond to the last 5 operational items in the first test section for each of the content areas for the January and May primary forms, respectively. Since the last 5 items in the end of the second section were all field test items, we have only presented the omit rates for the first section. For Biology and Government, the omission rates for each of the last 5 items were small and consistent with one another, suggesting that students had sufficient time to complete the entire assessment. Omission rates for the other three content areas were higher and were tending to increase toward the end of the session. This is particularly noticeable in the January Algebra and English forms. This may be related to insufficient time to complete the section. Alternatively students may not be motivated to complete the test, especially for the CR items as shown in Table 4.10 and 4.11 for Algebra and Geometry. MSDE planed to change the placement of the field test items (i.e. embed filed test items within operational items so that item statistics obtained for the field test items will be closer to operational settings. A more detailed omit analyses will be conducted for the 2005 administrations to discern whether the high omit rates were due to speededness or student motivation.

Table 4.10 Proportion of Students Omitting the Last 5 Items in the First Session:

January					
Algebra		Biology		English	
Item Number	%	Item Number	%	Item Number	%
19	3.3	32	1.9	32	10.4
20	3.1	33	2.3	33	10.8
21(CR)* ^{1,2}	35.2	34	2.2	34	11.3
22	9.9	35	2.5	35	11.6
23	10.6	36		36	12.0
Geometry		Government			
Item Number	%	Item Number	%		
21(CR)* ^{1,2}	23.3	30	1.9		
22	5.2	31	2.3		
23	5.0	32	1.9		
24	5.3	33	2.3		
25	5.1	34	2.2		

Table 4.11 Proportion of Students Omitting the Last 5 Items in the First Session: May

May					
Algebra		Biology		English	
Item Number	%	Item Number	%	Item Number	%
20	1.5	31	1.1	31	3.6
22(CR)	15.2	32	3.6	32	3.9
23	4.8	33	2.2	33	4.0
24	5.0	34	2.3	34	4.4
25	5.4	35	2.5	35	4.6
Geometry		Government			
Item Number	%	Item Number	%		
21(CR)	10.8	30	1.4		
22	2.9	31	1.5		
23	3.8	32	1.5		
24	3.0	33	1.6		
25	4.0	34	1.5		

*^{1,2} CR – Constructed response items

*^{1,2} CR Omit rates were defined as percent of student receiving condition code ‘A’ or ‘B’.

Reliability

Reliability focuses on the extent to which differences in test scores reflect true differences in the knowledge, ability, or skill being tested rather than fluctuations due to chance or factors other than those which were being tested. The variance in the distributions of test scores (i.e., the differences among individuals) is partly due to real differences in the knowledge, skill, or ability being tested (true variance) and partly due to random errors in the measurement process (error variance). The number used to describe reliability is an estimate of the proportion of the total variance that is true variance. Several different ways of estimating this proportion exist. The estimates of reliability reported in this report were internal-consistency measures, which were derived from analysis of the consistency of the performance of individuals on items within a test (internal-consistency reliability). Therefore, they apply only to the test form being analyzed. They do not take into account form-to-form variation due to equating limitations or lack of parallelism, nor were they responsive to day-to-day variation due, for example, to state of health or testing environment. Reliability coefficients may range from 0 to 1. The higher the reliability coefficient for a set of scores, the more likely individuals would be to obtain very similar scores if they took another form of the test. The formula for the internal consistency reliability as measured by Cronbach's Alpha (Cronbach, 1951) is reported below:

$$\alpha = \frac{n}{n-1} \left[1 - \frac{\sum_{i=1}^n \sigma_i^2}{\sigma_x^2} \right]$$

where n is the number of items, σ_i^2 is the variance of scores on the i -th item, and σ_x^2 is the variance of the total score (sum of scores on the individual items).

Since all five HSAs have mix item type (both dichotomous and polytomous items), it is more appropriate to report stratified Alpha (Feldt and Brennan, 1989). The stratified Alpha is a weighted average of Cronbach's Alpha for item sets with different maximum score points, i.e. "strata". The formula for calculating the stratified Alpha is:

$$strata \rho = 1 - \frac{\sum \sigma_{x_j}^2 (1 - \alpha_j)}{\sigma_x^2}$$

Where $\sigma_{x_j}^2$ is the variance for strata j of the test, σ_x^2 is the total variance of the test and α_j is the Cronbach's Alpha for strata j of the test.

The results for the reliability analyses of the total score is presented in Tables 4.12 to 4.21. The results in these tables indicate that all of the HSAs were highly reliable with overall reliabilities ranging from 0.85 to 0.95. The lowest reliabilities were observed in Algebra. In general, the make-up forms had slightly lower reliabilities than the primary forms. Reliability estimates for the some of the tests were lowest for the make-up forms, which also have lower mean scale scores. This suggests that these lower reliabilities may be related to a decrease in true-score variance.

Table 4.12. Summary Statistics for Algebra Primary Forms

		January				May			
		Mean	SD	N	Alpha	Mean	SD	N	Alpha
Overall		408.6	39.83	4617	0.92	422.1	36.66	59398	0.91
Gender									
	Male	406.2	41.63	2413		422.3	37.58	28749	
	Female	411.3	36.57	2204		421.9	35.78	30639	
Special Education									
	Yes	374.5	50.15	459		385.5	40.14	4530	
	No	412.4	36.15	4086		425.2	34.64	54236	
	504 Only	409.6	35.17	72		415.2	35.64	632	
Ethnicity									
	American Indian	*	*	*		415.5	36.07	227	
	Asian/Pacific Islander	412.9	38.34	115		441.9	34.92	3461	
	African American	391.5	43.07	1416		402	33.86	19970	
	White	416.9	34.81	2950		433.3	32.62	32329	
	Hispanic	401.8	37.23	122		412.8	35.24	3332	
Limited English Proficient									
	Yes	384.3	39.22	68		402.8	37.43	1426	
	No	409	44.17	4537		422.6	36.49	57449	
	Exited	*	*	*		420	37.89	523	

* Statistics not reported for sample size less than 50 (N<50)

Table 4.13. Summary Statistics for Algebra Make-Up Form

		January Make-Up Forms								May Make-Up Forms							
		C				D				X				Y			
		Mean	SD	N	Alpha	Mean	SD	N	Alpha	Mean	SD	N	Alpha	Mean	SD	N	Alpha
Overall		398.8	43.15	366	0.91	385.8	32.12	296	0.85	404.4	38.74	1672	0.92	396.3	31.4	418	0.89
Gender																	
	Male	397.6	43.13	194		380.9	34.03	153		402.3	40.4	817		395.4	34.8	198	
	Female	400.3	43.26	172		391.1	29.16	143		406.3	36.99	855		397.1	28.05	220	
	Missing			*				*				*				*	
Special Education																	
	Yes	*	*	*		*	*	*		370	38.57	162		*	*	*	
	No	403.6	40.17	316		387	31.58	250		408.2	36.91	1491		398.5	29.94	377	
	504 Only	*	*	*		*	*	*		*	*	*		*	*	*	
Ethnicity																	
	American Indian	*	*	*				8		*	*	*		*	*	*	
	Asian/Pacific Islander	*	*	*		*	*	*		414.9	34.48	50		*	*	*	
	African American	370.1	49.16	93		375.9	36.87	113		386.8	35.32	643		387.6	28.24	238	
	White	410.1	34.54	260		395.4	27.72	110		417.2	36.55	875		407.5	32.24	146	
	Hispanic	*	*	*		383.5	25.87	62		399.9	35.82	100		412.5	26.62	*	
	Missing			*				*				*				*	
Limited English Proficient																	
	Yes	*	*	*		*	*	*		*	*	*		*	*	*	
	No	399.1	43.15	363		387.7	31.87	259		404.8	38.7	1625		396.2	31.18	412	
	Exited	*	*	*		*	*	*		*	*	*		*	*	*	

* Statistics not reported for sample size less than 50 (N<50)

Table 4.14 Summary Statistics for Biology Primary Forms

		January				May			
		Mean	SD	N	Alpha	Mean	SD	N	Alpha
Overall		403.3	39.37	7770	0.92	414.5	33.53	46550	0.93
Gender									
	Male	400.5	43.2	3931		413.8	34.51	22433	
	Female	406.2	34.8	3839		415	32.56	24106	
Special Education									
	Yes	365.2	43.88	799		385	31.08	3685	
	No	407.8	36.33	6856		417.1	32.51	42404	
	504 Only	400	38.82	115		408.6	30.56	461	
Ethnicity									
	American Indian	*	*	*		410.2	30.87	163	
	Asian/Pacific Islander	422.1	40.35	161		432.8	34.53	2913	
	African American	381.3	37.55	2206		396.2	29.05	15913	
	White	412.5	35.74	5222		425	30.6	24925	
	Hispanic	386	47.27	160		403.5	30.98	2609	
Limited English Proficient									
	Yes	363.5	42.88	73		387.5	29.55	1079	
	No	403.7	39.14	7681		415.2	33.35	45039	
	Exited	*	*	*		405.1	31.92	432	
* Statistics not reported for sample size less than 50 (N<50)									

Table 4.15. Summary Statistics for Biology Make-Up Forms

		January Make-Up Forms				May Make-up Forms							
		C & D				X				Y			
		Mean	SD	N	Alpha	Mean	SD	N	Alpha	Mean	SD	N	Alpha
Overall		372.6	48.44	709	0.92	392.9	31.55	1356	0.91	380	29.12	342	0.86
Gender													
	Male	364.5	51.83	393		391.3	32.87	640		378.4	29.96	178	
	Female	382.84	41.72	316		394.2	30.27	716		381.9	28.16	164	
	Missing			*				*				*	
Special Education													
	Yes	333.4	46.27	131		372.9	29.32	149		*	*	*	
	No	381.5	44.6	568		395.2	30.96	1186		381.9	28.09	302	
	504 Only	*	*	*		*	*	*		*	*	*	
Ethnicity													
	American Indian	*	*	*		*	*	*		*	*	*	
	Asian/Pacific Islander	429.4	38.08	21		*	*	*		*	*	*	
	African American	359.6	46.31	314		380.6	27.12	570		376	28.04	218	
	White	383.4	46.18	329		403.8	30.62	661		388.3	30.2	101	
	Hispanic	358.3	43.9			381.9	30.13	82		*	*	*	
	Missing			*				*				*	
Limited English Proficient													
	Yes	*	*	*		*	*	*		*	*	*	
	No	373.1	48.68	691		393.2	31.59	1325		380.2	29.21	337	
	Exited	*	*	*		*	*	*		*	*	*	

* Statistics not reported for sample size less than 50 (N<50)

**Make-Up forms for this administration contain the same set of operational items I couldn't find the ** in the table. Perhaps this sentences should be a "Note:" rather than appearing with

Table 4.16. Summary Statistics for English Primary Forms

		January				May			
		Mean	SD	N	Alpha	Mean	SD	N	Alpha
Overall		399.8	33.6	7193	0.90	411.6	34.35	55016	0.92
Gender									
	Male	393.3	34.65	3704		405.4	34.68	27067	
	Female	406.7	30.97	3489		417.6	32.92	27939	
Special Education									
	Yes	362.9	32.64	837		374.4	30.12	5376	
	No	404.8	30.65	6255		415.8	32.26	49058	
	504 Only	395.9	25.12	101		400.3	31.47	582	
Ethnicity									
	American Indian	*	*	*		403	31.55	258	
	Asian/Pacific Islander	411.3	33.7	179		425.8	34.16	3001	
	African American	380.1	31.55	1625		397.1	30.77	19726	
	White	405.9	31.9	5202		421.3	33.06	28895	
	Hispanic	391	27.93	172		401.2	30.97	3087	
Limited English Proficient									
	Yes	373.4	27.14	64		382.2	25.24	1072	
	No	400.1	33.57	7119		412.4	34.28	53417	
	Exited	*	*	*		397.2	26.98	527	
* Statistics not reported for sample size less than 50 (N<50)									

Table 4.17 Summary Statistics for English Make-Up Forms

		January Make-Up Forms								May Make-Up Forms							
		C				D				X				Y			
		Mean	SD	N	Alpha	Mean	SD	N	Alpha	Mean	SD	N	Alpha	Mean	SD	N	Alpha
Overall		368.4	38.87	307	0.90	366.3	48.9	308	0.91	386.6	32.45	1510	0.92	387.2	31.17	528	0.91
Gender																	
	Male	361.5	39.91	196		359.5	50.89	184		379	32.26	736		378.7	29.89	237	
	Female	380.5	33.86	111		376.4	44.09	124		393.8	31	773		394.3	30.54	290	
	Missing	*	*	*		*	*	*		*	*	*		*	*	*	
Special Education																	
	Yes	340.6	43.48	73		331.3	46.05	67		364.7	28.29	211		*	*	*	
	No	377.5	33.18	227		376.2	45.53	235		390.3	31.59	1282		389.9	29.59	482	
	504 Only	*	*	*		*	*	*		*	*	*		*	*	*	
Ethnicity																	
	American Indian	*	*	*		*	*	*		*	*	*		*	*	*	
	Asian/Pacific Islander	*	*	*		*	*	*		*	*	*		*	*	*	
	African American	359.3	34.85	135		350.6	49.66	118		379	29.19	678		386.6	29.82	384	
	White	375.9	40.77	161		378.3	47.07	138		394.3	33.89	701		388.4	35.79	117	
	Hispanic	*	*	*		*	*	*		383.7	30.18	81		*	*	*	
	Missing	*	*	*		*	*	*		*	*	*		*	*	*	
Limited English Proficient																	
	Yes	*	*	*		*	*	*		*	*	*		*	*	*	
	No	368.7	39.08	302		366.4	49.86	292		387	32.54	1465		387.4	31.29	516	
	Exited	*	*	*	*	*	*	*		*	*	*		*	*	*	

* Statistics not reported for sample size less than 50 (N<50)

Table 4.18. Summary Statistics for Geometry Primary Forms

		January Primary Forms				May Primary Forms			
		Mean	SD	N	Alpha	Mean	SD	N	Alpha
Overall		407.2	35.95	7113	0.92	413.3	30.61	45280	0.93
Gender									
	Male	406	37.76	3423		414.7	30.95	21567	
	Female	408.3	34.16	3690		411.9	30.24	23713	
Special Education									
	Yes	373.8	41.65	581		389.2	28	2655	
	No	410.3	33.86	6417		414.9	30.15	42188	
	504 Only	403.8	32.34	115		405.1	27.09	442	
Ethnicity									
	American Indian	*	*	*		398.6	27.73	204	
	Asian/Pacific Islander	427.6	27.29	190		432.1	30.35	2982	
	African American	383	37.43	1745		398.9	25.6	14014	
	White	415.3	31.78	4985		422.6	27.69	25635	
	Hispanic	403.8	29.56	175		404.2	28.04	2426	
Limited English Proficient									
	Yes	408.2	30.25	61		398.1	30.29	918	
	No	407.2	36.02	7036		413.6	30.5	43903	
	Exited	*	*	*		405.65	33.28	464	

Table 4.19 Summary Statistics for Geometry Make-Up Forms

		January Make-Up Forms								May Make-Up Forms							
		C				D				X				Y			
		Mean	SD	N	Alpha	Mean	SD	N	Alpha	Mean	SD	N	Alpha	Mean	SD	N	Alpha
Overall		385.8	34.93	332	0.87	401.3	41.8	549	0.93	395.1	27.26	1684	0.89	390.8	27.25	549	0.90
Gender																	
	Male	381.6	38.02	172		398.3	43.41	285		395.6	28.16	851		391.5	27.96	264	
	Female	390.4	31.75	160		404.6	39.83	264		394.7	26.31	833		390.2	26.61	285	
	Missing	*	*	*		*	*	*		*	*	*		*	*	*	
Special Education																	
	Yes	*	*	*		357.4	47.3	53		376.5	24.4	139		*	*	*	
	No	389	32.83	296		406.4	38.29	488		396.9	26.92	1519		392.1	26.91	501	
	504 Only	*	*	*		*	*	*		*	*	*		*	*	*	
Ethnicity																	
	American Indian	*	*	*		*	*	*		*	*	*		*	*	*	
	Asian/Pacific Islander	*	*	*		437.2	29.29	127		412.7	27.54	57		*	*	*	
	African American	374.6	33.97	132		375.5	33.76	157		384	23.42	678		380.2	24.97	271	
	White	394.4	32.64	187		402.8	39.47	192		403.7	26.95	843		403.7	24.49	233	
	Hispanic	*	*	*		390.6	36.62	73		389.7	23.15	99		*	*	*	
	Missing	*	*	*		*	*	*		*	*	*		*	*	*	
Limited English Proficient																	
	Yes	*	*	*		*	*	*		*	*	*		*	*	*	
	No	386	35.03	329		400.5	41.88	482		395.3	27.27	1644		391.1	27.19	544	
	Exited	*	*	*		*	*	*		*	*	*		*	*	*	

* Statistics not reported for sample size less than 50 (N<50)

Table 4.20 Summary Statistics for Government Primary Forms

		January Primary Forms				May Primary Forms			
		Mean	SD	N	Alpha	Mean	SD	N	Alpha
Overall		402.5	39.76	8119	0.95	413.5	36.17	50408	0.95
Gender									
	Male	398.8	42.69	4074		411.9	37.37	24708	
	Female	406.3	36.19	4045		415.2	34.9	25684	
Special Education									
	Yes	358.2	41.83	787		381.1	33.19	4415	
	No	407.5	36.47	7232		416.8	34.89	45460	
	504 Only	395.2	33.98	100		406.8	33.38	533	
Ethnicity									
	American Indian	*	*	*	*	383.8	30.39	298	
	Asian/Pacific Islander	420.7	39.06	181		402.3	39.17	3098	
	African American	379.8	35.76	2169		432.2	30.46	17549	
	White	411.1	37.63	5543		397.5	35.31	26574	
	Hispanic	394.2	39.29	202		42.31	32.99	2831	
Limited English Proficient									
	Yes	*	*	*	*	388.9	29.75	1114	
	No	402.7	39.71	8063		414.2	36.14	48803	
	Exited	*	*	*	*	403.7	32.02	491	

* Statistics not reported for sample size less than 50 (N<50)

Table 4.21 Summary Statistics for Government Make-Up Forms

		January Make-Up Forms				May Make-Up Forms							
		C & D				X				Y			
		Mean	SD	N	Alpha	Mean	SD	N	Alpha	Mean	SD	N	Alpha
Overall		378.7	40.99	748	0.95	391.8	36.95	1692	0.95	390	35.39	721	0.95
Gender													
	Male	374.1	43.59	414		388.1	37.86	790		387.5	38.16	337	
	Female	384.2	36.82	334		395.1	35.84	902		392.2	32.66	384	
	Missing	*	*	*		*	*	*		*	*	*	
Special Education													
	Yes	354.3	35.88	119		362.6	31.7	156		361.8	26.49	90	
	No	383.5	40.61	614		395	36.21	1519		394.2	34.61	622	
	504 Only	*	*	*		*	*	*		*	*	*	
Ethnicity													
	American Indian	*	*	*		*	*	*		*	*	*	
	Asian/Pacific Islander	*	*	*		415.3	46.8	52		*	*	*	
	African American	364.3	38.11	249		379.5	30.93	794		382.8	31.42	356	
	White	386.9	41.29	421		406	37.35	717		396.3	36.7	325	
	Hispanic	376.3	33.7	58		379.2	31.65	122		*	*	*	
	Missing	*	*	*		*	*	*		*	*	*	
Limited English Proficient													
	Yes	*	*	*		*	*	*		*	*	*	
	No	378.9	41.32	724		392.4	37.08	1639		390.1	35.52	713	
	Exited	*	*	*		*	*	*		*	*	*	

* Statistics not reported for sample size less than 50 (N<50)

** Make-Up forms for this administration contain the same set of operational items

References

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