SOUTH CAROLINA
END-OF-COURSE EXAMINATION PROGRAM

2014–15 OPERATIONAL TEST TECHNICAL REPORT

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Office of Assessment
Division of Innovation and Effectiveness

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CHAPTER 1

HISTORY AND OVERVIEW

The South Carolina Education Accountability Act of 1998 requires the administration of end-of-course examinations in gateway courses for which credit in English language arts, mathematics, science, and social studies is awarded. Students must take the appropriate End-of-Course Examination Program (EOCEP) tests if they are enrolled in courses in which the curriculum standards for Algebra 1, Mathematics for the Technologies 2, English 1, Biology 1, Applied Biology 2, and U.S. History and the Constitution are taught.

As they are enunciated in State Board of Education Regulation 43-262.4, the purposes and uses of the EOCEP tests are as follows:

A. The tests shall promote instruction in the specific academic standards for the courses, encourage student achievement, and document the level of students' mastery of the curriculum standards.

B. The tests shall serve as indicators of program, school, and school district effectiveness in the manner prescribed by the Education Oversight Committee in accordance with the provisions of the Education Accountability Act of 1998 (EAA).

C. The tests shall be weighted 20 percent in the determination of students' final grades in the gateway courses.

EOCEP exams are reported on the basis of the South Carolina uniform grading scale (UGS). The score reported is a scale score and not the percentage of correct answers.

The Algebra 1/Mathematics for the Technologies 2 end-of-course examination was implemented in the baseline year 2002–03 and was operational for the first time in 2003–04. The English 1, Physical Science, and Biology 1/Applied Biology 2 examinations that were field-tested in May 2003 were implemented for the baseline year in 2003–04. These subject-area EOCEP examinations became operational in 2004–05. The Biology 1/Applied Biology 2 examination was discontinued after the 2005–06 school year. The State Board of Education reinstated the Biology test with a field test in 2008. Additional field testing was conducted in spring 2009. The 2009–10 school year was an implementation year for Biology. The first operational administration for Biology was fall 2010. The last administration of Physical Science was in spring 2011. The U.S. History and Constitution examination was field-tested in 2005–06, with baseline implementation in 2006–07 and a second implementation in 2007–08. The first operational administration was in 2008–09.

EOCEP exams are delivered in both online and paper-and-pencil formats. The first opportunity for online testing was for Adult Education students in fall 2004. The opportunity for online testing was expanded to include most other students in spring 2005. The proportion of EOCEP exams administered online has increased steadily and currently the large majority of EOCEP exams are administered online.

The South Carolina Department of Education (SCDE) awarded the contract for the development and scoring of the EOCEP tests in October 2001 to American Institutes for Research (AIR) and its partners Insite, Inc., and Pearson Educational Measurement (PEM). In spring 2007, Pearson became the sole contractor. In fall 2008, Data Recognition Corporation (DRC) took over administration, while Pearson remained the development contractor. These contractors have undertaken a number of development, review, implementation, and data analysis activities. DRC became the sole contractor in mid-2013.

Until 2014-15, all EOCEP exams contained only multiple-choice operational items. The online versions of the fall-winter 2014-2015 and spring 2015 English 1 EOCEP exams included a small number of technology enhanced operational items.

Rasch-ability-score-to-scale-score conversion tables were produced prior to each test administration on the basis of the item parameters in the pre-equated item pool. This technical report summarizes the results of statistical and psychometric analyses performed on the current year's operational data.

In this report, all data are based on the students in public middle and high schools or adult education programs only. Data on students in district-approved homeschools have been excluded.

CHAPTER 2

STUDENT DEMOGRAPHICS

2.1 STUDENT PARTICIPATION

All schools administered EOCEP tests to students who completed courses, in which the standards for Algebra 1, Mathematics for the Technologies 2, Biology 1, Applied Biology 2, U.S. History and the Constitution, or English 1 were taught. Summary data are reported for operational tests only.

Demographic data were collected for each student. These data included the categories of gender, race/ethnicity, grade, English language proficiency (LEP, limited English proficiency), free/reduced-price meal program participation, Individualized Education Plan (IEP) or 504 Accomodation Plan status, disability status, and migrant status. Table 2.1 presents the combined student participation in the three EOCEP administrations (fall, spring, and summer) by the demographic variables.

Table 2.1

Summary of 2014-15 Student Characteristics in the Sample

Demographics	Algebra 1/ Math Tech 2		Biology		English 1		US Hist. & Const.	
	N	%	*N*	%	*N*	%	*N*	%
Overall	59,591	100.00	54,796	100.00	58,337	100.00	48,756	100.00
Gender								
Female	29,058	48.76	27,060	49.38	28,610	49.04	24,332	49.91
Male	30,151	50.60	27,327	49.87	29,425	50.44	23,859	48.94
Unknown	382	0.64	409	0.75	302	0.52	565	1.16
Mode								
Online	54,815	91.99	50,294	91.78	52,633	90.22	45,358	93.03
Paper-and-Pencil	4,776	8.01	4,502	8.22	5,704	9.78	3,398	6.97
Grade								
6	15	0.03	0	–	0	–	0	–
7	2,445	4.10	8	0.01	5	0.009	0	–
8	14,191	23.81	63	0.11	12,792	21.93	0	–
9	33,369	56.00	21,983	40.12	44,605	76.46	536	1.10
10	8,486	14.24	30,472	55.61	525	0.90	5,307	10.88
11	595	1.00	1,517	2.77	102	0.17	39,749	81.53
12	171	0.29	393	0.72	53	0.09	2,598	5.33
Adult education	39	0.07	49	0.09	22	0.04	121	0.25
Other	280	0.47	311	0.57	233	0.40	445	0.91

Table 2.1
Summary of 2014-15 Student Characteristics in the Sample

Demographics	Algebra 1/ Math Tech 2		Biology		English 1		US Hist. & Const.	
	N	%	*N*	%	*N*	%	*N*	%
Ethnicity								
Hispanic or Latino	3,947	6.62	3,427	6.25	3,992	6.84	2,864	5.87
American Indian or Alaska Native	180	0.30	174	0.32	179	0.31	145	0.30
Asian	894	1.50	791	1.44	904	1.55	713	1.46
Black or African American	20,022	33.60	18,756	34.23	19,428	33.30	16,433	33.70
Native Hawaiian or Other Pacific Islander	78	0.13	67	0.12	75	0.13	81	0.17
White	31,917	53.56	29,315	53.50	31,324	53.69	26,410	54.17
Two or More Races	1,672	2.81	1,439	2.63	1,639	2.81	1,042	2.14
Other	881	1.48	827	1.51	796	1.36	1,068	2.19
Language								
Parent waiver	38	0.06	19	0.03	39	0.07	21	0.04
Pre-functional	325	0.55	233	0.43	333	0.57	121	0.25
Beginner	328	0.55	301	0.55	386	0.66	184	0.38
Intermediate	571	0.96	450	0.82	590	1.01	273	0.56
Advanced	1,464	2.46	1,222	2.23	1,437	2.46	845	1.73
Initially English Proficient	14	0.02	15	0.03	15	0.03	19	0.04
Title III First Year Exited	115	0.19	201	0.37	130	0.22	196	0.40
Title III Second + Year Exited	119	0.20	104	0.19	94	0.16	252	0.52
English Speaker I	764	1.28	657	1.20	775	1.33	739	1.52
English Speaker II	54,548	91.54	50,376	91.93	53,181	91.16	44,545	91.36
Other	1,305	2.19	1,218	2.22	1,357	2.33	1,561	3.20
Lunch								
Free meals	29,040	48.73	25,959	47.37	28,611	49.04	21,416	43.92
Reduced-price meals	3,554	5.96	3,089	5.64	3,475	5.96	2,707	5.55
No free/reduced-price meals	26,997	45.30	25,748	46.99	26,251	45.00	24,633	50.52
IEP								
Yes	5,831	9.79	5,366	9.79	5,510	9.45	4,034	8.27
No	53,760	90.21	49,430	90.21	52,827	90.55	44,722	91.73
Migrant								
Yes	13	0.02	6	0.01	16	0.03	9	0.02
No	59,578	99.98	54,790	99.99	58,321	99.97	48,747	99.98
Gifted/talented								
Academic	10,169	17.06	7,806	14.25	9,678	16.59	4,749	9.74
Artistic	1,207	2.03	1,083	1.98	1,298	2.23	1,195	2.45
Both	1,140	1.91	574	1.05	1,168	2.00	474	0.97
No	47,075	79.00	45,333	82.73	46,193	79.18	42,338	86.84
504 Plan								
Yes	1,411	2.37	1,270	2.32	1,341	2.30	1,091	2.24
No	58,180	97.63	53,526	97.68	56,996	97.70	47,665	97.76
Accommodations								
Yes	973	1.63	921	1.68	1,073	1.84	714	1.46
No	58,618	98.37	53,875	98.32	57,264	98.16	48,042	98.54

Note: Includes all students who attempted the test except home school students.

2.2 ACCOMMODATIONS

Supplemental information regarding the administration of the EOCEP to students with disabilities is contained in Appendix C of the EOCEP Test Administration Manuals (SCDE 2014b and 2015b). These manuals provide guidelines for IEP teams in making decisions about testing students with disabilities and give specific information regarding standard and non-standard testing accommodations, customized test forms and materials, and test administration procedures.

A student with a documented disability is one who has been evaluated and found to meet the eligibility criteria for enrollment in special education as defined by the 1997 amendments to the Individuals with Disabilities Education Act and by South Carolina State Board of Education Regulation 43-243.1, or one who has a disability covered under Section 504 of the Rehabilitation Act of 1973. The IEP or 504 Accomodation Plan team determines how a student with disabilities participates in the EOCEP assessments. Decisions about standard and non-standard accommodations must be made on an individual student basis, not on the basis of the category of disability or instructional placement. Table 2.2 presents the percentages of standard accommodations used in the current year's testing.

Table 2.2
Percentages of Students Using Accommodations in 2014–15 EOCEP Testing

Accommodations	Algebra 1/ Math Tech 2	Biology	English 1	US Hist. & Const.
		Regular Form		
	(*N* =59,555)	**(*N* =54,778)**	**(*N* =58,306)**	**(*N* =48,735)**
Setting	1.49	1.52	1.71	1.29
Timing	0.14	0.19	0.18	0.18
Scheduling	0.02	0.02	0.01	0.01
Response options	0.04	0.05	0.04	0.06
Presentation	0.24	0.33	0.32	0.25
Supplemental Materials	0.04	0.05	0.04	0.08
		Customized Form		
	(N =36)	**(*N* =18)**	**(*N* =31)**	**(*N* =21)**
Setting	19.44	22.22	22.58	19.05
Timing	2.78	11.11	9.68	14.29
Scheduling	—	5.56	3.23	—
Response options	11.11	22.22	16.13	4.76
Presentation	13.89	27.78	12.90	4.76
Supplemental Materials	13.89	5.56	6.45	14.29

Note: Includes all students who attempted the test except home school students.
Total responses in each column for the Customized Form may exceed 100 percent because some students received accommodations in more than one category.

2.3 TEST ADMINISTRATION TIME

For online testing, start and stop times were recorded automatically. For paper-and-pencil testing, students were asked to record on their answer documents the exact times that they started and finished the test. The total elapsed time was calculated for each student. (It was not possible to calculate a total testing time for students with incomplete or invalid data.) Total elapsed time may be influenced by the presence of field test items on some forms. The majority of students finished the test within two hours, as tables 2.3 and 2.4 reflect.

Table 2.3
Percentages of Students by Testing-Time Intervals in 2014–15 EOCEP Testing (with Regular Forms)

	Algebra 1/Math Tech 2			Biology		
	Fall 2014 (*N* =8,017)	**Spring 2015 (*N* =51,382)**	**Summer 2015 (*N* =156)**	**Fall 2014 (*N* =13,130)**	**Spring 2015 (*N* =41,555)**	**Summer 2015 (*N* =93)**
Less than 15 min	0.11	0.09	0.00	0.06	0.11	1.08
15 min - 29 min	0.94	0.50	3.21	2.12	0.94	10.75
30 min - 44 min	5.04	2.29	14.10	17.17	9.94	21.51
45 min - 59 min	15.44	6.97	27.56	31.27	23.79	31.18
1 hr - 1 hr 14 min	22.32	14.66	17.31	25.44	25.52	17.20
1 hr 15 min - 1 hr 29 min	20.39	18.31	11.54	12.75	17.40	8.60
1 hr 30 min - 1 hr 44 min	15.30	17.37	12.18	5.91	10.15	—
1 hr 45 min - 1 hr 59 min	8.54	13.39	1.92	2.63	5.21	1.08
2 hr - 2 hr 14 min	5.34	9.49	2.56	1.36	2.88	2.15
2 hr 15 min - 2 hr 29 min	2.86	6.09	2.56	0.53	1.63	1.08
2 hr 30 min - 2 hr 44 min	1.72	3.76	3.21	0.29	0.89	—
2 hr 45 min - 2 hr 59 min	0.86	2.47	0.64	0.13	0.46	—
3 hr or more	0.99	4.10	1.28	0.14	0.56	—
Invalid*	0.15	0.50	1.92	0.19	0.52	5.38
	English 1			**US History and Constitution**		
	Fall 2014 (*N* =7,393)	**Spring 2015 (*N* =50,796)**	**Summer 2015 (*N* =117)**	**Fall 2014 (*N* =9,988)**	**Spring 2015 (*N* =38,672)**	**Summer 2015 (*N* =75)**
Less than 15 min	0.07	0.07	—	0.09	0.10	—
15 min - 29 min	0.50	0.24	2.56	6.19	2.65	22.67
30 min - 44 min	1.60	0.90	10.26	28.98	18.11	33.33
45 min - 59 min	5.34	2.99	23.93	31.28	29.72	24.00
1 hr - 1 hr 14 min	12.21	7.12	17.95	17.31	23.26	12.00
1 hr 15 min - 1 hr 29 min	16.72	11.59	9.40	8.16	12.76	2.67
1 hr 30 min - 1 hr 44 min	17.53	14.02	12.82	4.21	6.17	—
1 hr 45 min - 1 hr 59 min	15.11	14.35	5.13	1.83	3.03	1.33
2 hr - 2 hr 14 min	11.56	12.59	10.26	0.77	1.60	—
2 hr 15 min - 2 hr 29 min	7.37	10.00	2.56	0.45	0.89	—
2 hr 30 min - 2 hr 44 min	4.69	7.58	1.71	0.23	0.51	—
2 hr 45 min - 2 hr 59 min	2.60	5.33	0.85	0.10	0.27	—
3 hr or more	3.71	12.12	1.71	0.20	0.47	—
Invalid*	0.99	1.11	0.85	0.20	0.45	4.00

* includes responses with no mark or multiple marks on start and/or stop time fields, making it impossible to compute the difference between start and stop times

Note: Includes all students who attempted the test using a regular form except home school students.

Table 2.4
Percentages of Students by Testing-Time Intervals in 2014–15 EOCEP Testing (with Customized Forms)

	Algebra 1/Math Tech 2			Biology		
	Fall 2014 (*N* =2)	Spring 2015 (*N* =34)	Summer 2015 (*N* =0)	Fall 2014 (*N* =1)	Spring 2015 (*N* =17)	Summer 2015 (*N* =0)
Less than 15 min	—	—	—	—	—	—
15 min - 29 min	—	—	—	—	—	—
30 min - 44 min	—	2.94	—	—	—	—
45 min - 59 min	—	5.88	—	—	5.88	—
1 hr - 1 hr 14 min	50.00	8.82	—	—	17.65	—
1 hr 15 min - 1 hr 29 min	—	8.82	—	100.00	17.65	—
1 hr 30 min - 1 hr 44 min	—	14.71	—	—	11.76	—
1 hr 45 min - 1 hr 59 min	—	11.76	—	—	11.76	—
2 hr - 2 hr 14 min	—	2.94	—	—	5.88	—
2 hr 15 min - 2 hr 29 min	50.00	11.76	—	—	11.76	—
2 hr 30 min - 2 hr 44 min	—	2.94	—	—	11.76	—
2 hr 45 min - 2 hr 59 min	—	5.88	—	—	—	—
3 hr or more	—	14.71	—	—	5.88	—
Invalid*	—	8.82	—	—	—	—
	English 1			**US History and Constitution**		
	Fall 2014 (*N* =2)	Spring 2015 (*N* =29)	Summer 2015 (*N* =0)	Fall 2014 (*N* =6)	Spring 2015 (*N* =15)	Summer 2015 (*N* =0)
Less than 15 min	—	—	—	—	—	—
15 min - 29 min	—	—	—	33.33	—	—
30 min - 44 min	—	—	—	33.33	6.67	
45 min - 59 min	—	—	—	16.67	—	—
1 hr - 1 hr 14 min	—	—	—	16.67	—	—
1 hr 15 min - 1 hr 29 min	—	6.90	—	—	6.67	—
1 hr 30 min - 1 hr 44 min	—	3.45	—	—	6.67	—
1 hr 45 min - 1 hr 59 min	—	—	—	—	6.67	—
2 hr - 2 hr 14 min	—	17.24	—	—	6.67	—
2 hr 15 min - 2 hr 29 min	—	13.79	—	—	—	—
2 hr 30 min - 2 hr 44 min	—	6.90	—	—	—	—
2 hr 45 min - 2 hr 59 min	—	6.90	—	—	6.67	—
3 hr or more	100.00	27.59	—	—	53.33	—
Invalid*	—	17.24	—	—	6.67	—

* includes responses with no mark or multiple marks on start and/or stop time fields, making it impossible to compute the difference between start and stop times

Note: Includes all students who attempted the test using a regular form except home school students.

2.4 STUDENT QUESTIONNAIRE

After the administration of the Biology EOCEP test during fall and spring, students were instructed to complete a questionnaire that addressed such topics as the difficulty of the test, the nature of the instruction they had received, and the amount of time they had spent engaged in laboratory activities.

CHAPTER 3

TEST ADMINISTRATION

3.1 TEST ADMINISTRATION WINDOW

The test administration dates for the current year are given in Table 3, below. Within the state-approved testing window, districts selected a 10-day testing window for paper-pencil testing and a 15-day testing window for online testing. The SCDE recommends that districts administer the EOCEP tests over five consecutive days and use the additional days to complete make-up testing or to accommodate technological resources needed for online testing. Make-up testing was provided for students who missed the originally scheduled EOCEP test due to a death in the family, illness, or another situation deemed valid by the state. It was recommended that a single makeup test be given per day, but two could have been given per day if necessary. For all three EOCEP administrations, district test coordinators (DTCs) were responsible for providing the testing schedule to all school test coordinators (STCs) in their districts.

TABLE 3

2014–15 EOCEP Test Administration Windows

Administration	Dates
Fall 2014	December 1 – January 30
Spring 2015	May 4 – June 5
Summer 2015	June 22 – July 24

3.2 TIMING OF THE TEST

The EOCEP tests were not timed; however, each session had to be administered during a single day (unless a student's IEP or 504 Plan specifically stated that he or she needed to have the test administered over several days). To ensure an accurate assessment, districts and schools were instructed that students should be given as much time as they needed to complete the test.

3.3 ADMINISTRATION MANUALS

Working with the SCDE, DRC staff drafted the administration manuals for the test. SCDE staff reviewed and revised the manuals, and DRC finalized and printed them. The EOCEP district test coordinator supplements (SCDE 2014a, 2015a, and 2015c) were produced for each administration of the EOCEP. The DTC supplements included only the information that DTCs needed for the administration of the EOCEP tests. Test Administration Manuals (TAMs) (2014b and 2015b) were provided each fall and spring administration; the spring TAM is also used for reference each summer. These TAMs are for paper/pencil and online testing and were available

for download from both the SCDE and DRC. The TAMs contained the information that STCs, test administrators (TAs), and monitors needed to administer the tests to students in their schools.

The TAMs and the supplements included logistical and administration procedures as well as the directions (scripts) for administering the tests. The DTCs, STCs, and TAs were encouraged to offer comments and suggestions on the procedures therein.

Appendix C in the TAMs includes a detailed description of customized materials available, as well as additional graphics for completing student demographic information and returning scorable and nonscorable test materials. Tables showing the types of customized materials available for students who require such special testing formats were also provided.

3.4 CUSTOMIZED MATERIALS

Customized formats of the EOCEP test were available in both paper-and-pencil and online versions for Algebra 1/Mathematics for the Technologies 2, Biology 1/Applied Biology 2, English 1, and United States History and the Constitution:

- Loose-leaf test booklets—printed single-sided, and bound in three-ring binders—allowed individuals to remove the pages, if necessary, during testing. Except for the English 1 test, this form contains only one item per page. The loose-leaf accommodation was also available via online testing.
- Large-print booklets were produced for students who have difficulty reading text in a standard-size font. The large-print version used an 18-point sans serif font and was issued as a 9 x 12-inch spiral-bound booklet. The online testing system also accommodates students needing a large-print test, as it is fully scalable when a student uses a larger monitor.
- Form C Braille test booklets were produced for students who typically read classroom materials in braille. The braille version was issued as spiral-bound booklets containing 11½ x 11-inch interpoint braille pages. No braille accommodation was available via online testing.
- A regular print Form C test booklet was provided in test packets for students or TAs to use with customized formats such as the braille oral script, braille, and sign language versions. These booklets were saddle-stitched and printed in a 12-point font, just as the regular, noncustomized test booklets were.
- For students whose IEP or 504 Plan requires the oral administration of tests, oral administration scripts provided the directions to TAs regarding the appropriate way to read test questions, passages, and answer choices to the students.
- CD-ROMs were also produced to provide audio oral administration of the tests and contained recorded administration directions, passages, test questions, and the text-based answer choices. The CD-ROMs and the oral administration scripts contained the same information. Audio oral administration using Human Voice Audio (HVA) is also available in online test forms.
- Sign language DVDs included the signed test directions, questions, and most answer choices. Each DVD contains both American Sign Language (ASL) and Pidgin Signed English (PSE). For spring 2015, the sign language accommodation was also available for online testing.

3.5 MATERIALS SHIPPING AND RETURN

Due to the preponderance of online testing, the need for shipping and return of physical materials has been greatly reduced. For districts testing online, the test tickets are available for download and printing approximately two weeks prior to testing. Test ticket rosters must be used to track an d monitor the distribution and receipt of student test tickets. For each day of testing, STCs collect all online test materials from TAs, including testing rosters, student test tickets, and seating charts.

For all three administrations, materials for paper-and-pencil tests were shipped to district offices approximately two weeks before testing—in time for the DTCs to be able to distribute school materials at least one week before the schools' test dates. Each school's shipment was boxed individually and labeled with the total number of boxes shipped to that school. For the eight largest districts and the SC Public Charter School Districts, materials were shipped directly to schools.

The district office was also sent a shipment of noncustomized overage materials, which were to be used by the DTCs to complete any additional materials requests from the STCs. Materials in customized formats were sent only to the schools and only in the quantities ordered.

TAs were instructed to return their test materials to the STCs immediately after the test administration. The STCs then redistributed test materials to the TAs who needed them in order to administer makeup tests. Those TAs were instructed to return the makeup test materials to their STC immediately after the makeup session. DTCs were to arrange for the pickup of all scorable materials for return to DRC within three days after testing.

Because the test scores were required to be reported back to the schools within thirty-six hours for calculating final course grades, a rapid scoring and reporting process was utilized for all three administrations. Each school district could return the scorable materials to DRC in as many as five separate shipments. Nonscorable materials were to be returned in one shipment within three days of the completion of makeup tests. For all three administrations, step-by-step instructions for returning scorable and nonscorable materials were included in the TAM and DTC Supplement. These instructions listed the toll-free phone numbers of the shipping companies that the DTCs were instructed to call to schedule pickups of return materials.

3.6 TEST SECURITY

Test security is an important issue before, during, and following test administrations. The specific procedures to be followed during the EOCEP test administrations are outlined in the *Test Administration Manual* (2014b and 2015b). The manual includes an excerpt from Section 59-1-445 of the South Carolina Code of Laws, a summary of Section 59-1-447 of the Code of Laws, and the entirety of State Board of Education Regulation 43-100.

Section 59-1-445 states in part:

> It is unlawful for anyone knowingly and wilfully [*sic*] to violate security procedures regulations promulgated by the State Board of Education for mandatory tests administered by or through the State Board of Education to students or educators, or knowingly and willfully to:
> (a) Give examinees access to test questions prior to testing;
> (b) Copy, reproduce, or use in any manner inconsistent with test security regulations all or any portion of any secure test booklet;
> (c) Coach examinees during testing or alter or interfere with examinees' responses in any way;
> (d) Make answer keys available to examinees;
> (e) Fail to follow security regulations for distribution and return of secure test [materials] as directed, or fail to account for all secure test materials before, during, and after testing;
> (f) Participate in, direct, aid, counsel, assist in, encourage, or fail to report any of the acts prohibited in this section.

Regulation 43-100 mandates that "Each local school board must develop and adopt a district test security policy" with procedures for the storage and handling of all test materials and that each district superintendent must annually designate a DTC. The regulation and the *TAM* provide specific security guidelines regarding various aspects of the test administration process (e.g., the storage and handling of test materials, the responsibility of administrators to monitor students during testing and to remove supplemental materials from the testing room, and the requirement that administrators refrain from interference with student responses).

Following the test administration and the return of materials, DRC generated a missing-document report, listing the identification numbers of unreturned secure materials. The report was used to notify districts of missing materials. A toll-free telephone line was manned to answer questions regarding missing documents, and follow-up procedures were employed until all materials were accounted for. Subsequently, the districts located and returned the materials or sent signed statements indicating that all secure materials had been returned.

Secure Materials

Secure materials—each assigned a human- and machine-readable security identification number—are test booklets, answer documents, customized test materials, and administration scripts. For online testing secure materials consist of student test tickets, student rosters, and any materials containing student writing. Secure materials are locked in storage until the day of the test administration and are signed out when they are to be used, and signed in when they are returned. These materials are not to be left unattended at any time.

CHAPTER 4

TECHNICAL CHARACTERISTICS OF ITEMS

This chapter reports the results of item analyses based on classical test theory (CTT) using a proprietary program designed by DRC. Item difficulty (*p*) is the proportion (or percentage) of examinees correctly answering a dichotomously scored item.

Item discrimination is defined as a correlation between the item score and the total score. For the discrimination index, point-biserial correlations were produced. In computing the point-biserial correlation, DRC corrected for spuriousness. In the recoding of missing data for item analysis, all omitted and not-reached items were recoded as incorrect, with a zero score. After discussions between the SCDE and DRC, it was decided to exclude from the CTT item analyses and item calibrations those students who had used customized test materials.

4.1 ITEM NONRESPONSE RATES

Although the EOCEP tests were not timed, students were required to finish each test during one school day, unless they had an IEP that allowed for accommodations in administration. Districts and schools were instructed that, if they had space and staff available, students should be given as much time as necessary to take the test to ensure an accurate assessment.

The item nonresponse rates indicate the percentage of students who did not reach a particular item and all items thereafter. The item omit rates indicate the percentage of students who did not respond to that particular item but did respond to a later item. The percentages for not-reached and omit rates were quite low—less than 1 percent—in all subjects. These data indicate that students were given ample time to complete the test in every subject.

4.2 CLASSICAL ITEM STATISTICS

Table 4 provides a summary of item *p*-values and item discrimination values for operational items for all three administrations.

Table 4
Summary of Classical Item Statistics

Administration	Number of items	Mean *p*-value	Adjusted Point-Biserial Correlation
Algebra 1/Math Tech 2			
Fall 2014	50	0.567	0.308
Spring 2015	50	0.593	0.355
Summer 2015	50	0.456	0.305
Biology			
Fall 2014	60	0.636	0.363
Spring 2015	60	0.622	0.379
Summer 2015	60	0.496	0.327
English 1			
Fall 2014	55	0.657	0.334
Spring 2015	55	0.675	0.415
Summer 2015	55	0.568	0.398
US History and Constitution			
Fall 2014	56	0.624	0.345
Spring 2015	56	0.601	0.373
Summer 2015	56	0.497	0.368

Note: Includes all students who attempted the test using a complete regular form except home school students and students in an adult education program.

CHAPTER 5

ITEM CALIBRATION AND SCALING

5.1 METHODOLOGY AND SOFTWARE

The one-parameter Rasch model (Rasch 1960; Wright and Stone 1979) was used to calibrate all items, using WINSTEPS software (see Linacre and Wright 2003). The WINSTEPS program employs joint maximum likelihood estimation, an approach that estimates the item and person parameters simultaneously.

5.2 ITEM CALIBRATION AND PRE-EQUATING

The AIR conducted field tests with a sufficient number of items to create precalibrated item pools and to construct pre-equated operational-test forms for all tests. For all subjects, the Rasch-ability-score-to-scale-score conversion tables were produced prior to each test administration based on the item parameters in the pre-equated item pools. If an item or items on a test form had to be replaced, SCDE staff recalibrated the forms, producing new conversion tables.

5.3 SCALING

The SCDE provided DRC with initial Rasch-ability-score-to-scale-score conversion tables that showed the transformation of the ability score interval for each scale score for each subject area. DRC then applied these tables specifically to each test form for each subject area on the basis of the pre-equated item pool. The conversion tables took into account any differences in the difficulty of the various forms. All items shared a common metric so that the scale scores developed for each form were automatically adjusted for differences in item difficulty. For all EOCEP test subjects, the scale scores are now reported according to the South Carolina UGS. Scale scores range from 0 to 100 with a minimum passing score of 70. Each scale score is assigned a letter-grade equivalent (A, B, C, D, or F) in accordance with the UGS.

5.4 DEFINITION OF SCOREABILITY

A student was considered "tested" if the student answered at least one question on the answer document or by means of the online testing system. All tested students' item responses were scored. All omits and not-reached items were recoded as incorrect, with a zero score.

5.5 REPORTING OF ZERO AND PERFECT SCORES

In item response theory (IRT), zero and perfect scores are assigned the ability of minus and plus infinity. The AIR used the WINSTEPS default setting in estimating finite values for the extreme scores. In other words, a fractional score point value was subtracted from perfect scores, and was added to zero scores. The WINSTEPS default value for adjusting the extreme scores for extreme measures is 0.3. This value was also used by SCDE staff when recalibrating forms.

5.6 PERCENTAGE OF STUDENTS SCORING IN EACH LETTER-GRADE EQUIVALENT

Tables 5.1 through 5.8 report student performance for all administrations combined. The results are summarized separately for public middle and high schools and for adult education programs. The number and percentage of students in each letter-grade equivalent and the mean scale score are reported for the test-takers overall and by demographic category.

Table 5.1
Algebra 1/Math Tech 2 Operational Test, Grades 6-12:
Percentages of Student Scores in Letter-Grade Equivalents, Overall and by Demographics

Demographics	*N*	Mean Scale Score	A	B	C	D	F
Overall	59,552	82.64	23.82	19.70	22.48	19.49	14.50
Gender							
Female	29,044	83.30	24.61	20.84	23.28	18.97	12.30
Male	30,139	82.09	23.19	18.74	21.80	19.87	16.40
Unknown	369	76.03	13.28	8.40	15.99	29.54	32.79
Grade							
6	15	98.80	93.33	6.67	0.00	0.00	0.00
7	2,445	95.64	76.03	15.54	5.56	2.09	0.78
8	14,191	91.38	51.29	26.54	15.38	5.25	1.54
9	33,369	80.08	13.96	19.65	25.97	23.04	17.38
10	8,486	75.24	3.48	10.88	25.69	33.08	26.88
11	595	75.04	5.71	10.08	22.69	31.76	29.75
12	171	75.87	5.85	14.04	23.98	26.90	29.24
Other	280	75.93	13.57	7.14	17.14	28.93	33.21
Ethnicity							
Hispanic or Latino	3,946	81.58	20.15	19.99	23.67	19.79	16.40
American Indian or Alaska Native	180	80.24	16.11	22.22	22.22	18.33	21.11
Asian	894	91.75	56.82	19.13	13.87	7.05	3.13
Black or African American	20,014	77.88	9.59	16.06	24.90	27.04	22.41
Native Hawaiian or Other Pacific Islander	78	84.35	25.64	26.92	20.51	17.95	8.97
White	31,915	85.65	32.58	22.09	21.08	14.96	9.28
Two or More Races	1,672	83.18	24.70	20.28	23.68	18.72	12.62
Other	853	76.71	12.31	12.66	19.34	25.56	30.13
Language							
Parent waiver	38	81.66	7.89	28.95	39.47	18.42	5.26
Pre-functional	325	69.44	0.62	5.23	10.77	28.00	55.38
Beginner	328	74.88	8.23	10.37	18.29	28.05	35.06
Intermediate	571	77.00	7.01	14.71	25.74	30.30	22.24
Advanced	1,464	83.18	20.83	23.36	27.05	18.37	10.38
Initially English Proficient	14	84.86	35.71	14.29	21.43	21.43	7.14
Title III First Year Exited	115	87.13	36.52	19.13	26.09	16.52	1.74
Title III Second + Year Exited	119	90.93	53.78	16.81	17.65	10.08	1.68
English Speaker I	764	90.51	51.57	20.29	16.36	7.46	4.32
English Speaker II	54,547	82.81	24.10	19.96	22.56	19.36	14.03
Other	1,267	76.92	12.79	12.39	19.81	25.73	29.28

Table 5.1
Algebra 1/Math Tech 2 Operational Test, Grades 6-12:
Percentages of Student Scores in Letter-Grade Equivalents, Overall and by Demographics

Demographics	*N*	Mean Scale Score	A	B	C	D	F
Lunch							
Free meals	29,039	78.82	12.24	17.07	24.50	25.25	20.94
Reduced-price meals	3,554	82.89	22.20	21.22	25.04	19.72	11.82
No free/reduced-price meals	26,959	86.73	36.51	22.34	19.97	13.26	7.92
IEP							
Yes	5,831	72.56	3.70	7.01	17.48	29.91	41.90
No	53,721	83.74	26.01	21.08	23.02	18.36	11.53
Migrant							
Yes	13	83.23	23.08	38.46	0.00	23.08	15.38
No	59,539	82.64	23.82	19.70	22.49	19.49	14.50
Courses taken							
4111 (Alg 1)	3,219	84.45	30.16	20.88	20.41	16.53	12.02
3142 (Math for the Techs 2)	9,450	75.49	3.77	11.62	25.78	32.57	26.26
4114 (Common Core Alg 1)	46,479	84.03	27.64	21.31	21.90	16.96	12.19
4117 (Int Alg:Functions & Modeling)	368	77.07	3.80	14.95	31.25	29.08	20.92
Other	36	66.92	0.00	2.78	5.56	19.44	72.22
Gifted/talented							
Academic	10,169	94.10	65.75	22.05	9.09	2.56	0.56
Artistic	1,207	85.69	27.59	27.01	24.94	14.17	6.30
Both	1,140	94.53	69.74	17.98	8.42	2.63	1.23
No	47,036	79.80	13.55	19.05	25.65	23.70	18.05
504 Plan							
Yes	1,411	81.92	20.84	18.78	24.88	21.55	13.96
No	58,141	82.66	23.90	19.72	22.42	19.44	14.51
Accommodations							
Yes	973	74.04	4.62	8.94	21.27	29.60	35.56
No	58,579	82.79	24.14	19.88	22.50	19.32	14.15

Note: Includes all students who attempted the test except home school students and students in an adult education program.
If the number tested is less than 10, no other statistics appear.

Table 5.2
Algebra 1/Math Tech 2 Operational Test, Adult Education Programs:
Percentages of Student Scores in Letter-Grade Equivalents, Overall and by Demographics

Demographics	*N*	Mean Scale Score	A	B	C	D	F
Overall	39	68.28	2.56	10.26	28.21	58.97	0.00
Gender							
Female	14	69.14	0.00	0.00	14.29	28.57	57.14
Male	12	66.33	0.00	8.33	8.33	8.33	75.00
Unknown	13	69.15	0.00	0.00	7.69	46.15	46.15
Ethnicity							
Hispanic or Latino	1	–	–	–	–	–	–
Black or African American	8	–	–	–	–	–	–
White	2	–	–	–	–	–	–
Other	28	69.39	0.00	3.57	7.14	39.29	50.00
Language							
English Speaker II	1	–	–	–	–	–	–
Other	38	68.26	0.00	2.63	10.53	28.95	57.89
Lunch							
Free meals	1	–	–	–	–	–	–
No free/reduced-price meals	38	68.26	0.00	2.63	10.53	28.95	57.89
IEP							
No	39	68.28	0.00	2.56	10.26	28.21	58.97
Migrant							
No	39	68.28	0.00	2.56	10.26	28.21	58.97
Courses taken							
4111 (Alg 1)	13	69.23	0.00	0.00	7.69	38.46	53.85
3142 (Math for the Techs 2)	11	69.64	0.00	9.09	9.09	27.27	54.55
4114 (Common Core Alg 1)	13	66.92	0.00	0.00	15.38	23.08	61.54
Other	2	–	–	–	–	–	–
Gifted/talented							
No	39	68.28	0.00	2.56	10.26	28.21	58.97
504 Plan							
No	39	68.28	0.00	2.56	10.26	28.21	58.97
Accommodations							
No	39	68.28	0.00	2.56	10.26	28.21	58.97

Note: Includes all students who attempted the test and are in an adult education program except home school students.
If the number tested is less than 10, no other statistics appear.

Table 5.3
Biology Operational Test, Grades 6-12:
Percentages of Student Scores in Letter-Grade Equivalents, Overall and by Demographics

Demographics	*N*	Mean Scale Score	A	B	C	D	F
Overall	54,747	82.28	32.77	16.50	16.23	12.23	22.27
Gender							
Female	27,051	82.77	32.83	17.20	16.82	12.62	20.54
Male	27,309	81.88	32.77	15.90	15.69	11.88	23.77
Unknown	387	77.07	28.42	10.08	12.66	10.34	38.50
Grade							
7	8	–	–	–	–	–	–
8	63	87.21	52.38	15.87	11.11	1.59	19.05
9	21,983	83.22	36.81	16.04	14.91	10.82	21.43
10	30,472	82.22	31.15	17.21	17.23	12.97	21.45
11	1,517	73.55	12.85	11.60	16.28	17.86	41.40
12	393	72.85	10.69	11.20	18.32	16.79	43.00
Other	311	75.50	27.01	9.97	9.97	9.32	43.73
Ethnicity							
Hispanic or Latino	3,426	79.26	24.17	17.10	16.90	14.45	27.38
American Indian or Alaska Native	174	79.49	26.44	14.37	14.94	18.97	25.29
Asian	791	89.95	59.80	13.65	9.48	7.21	9.86
Black or African American	18,750	75.04	13.55	13.97	18.45	17.03	37.00
Native Hawaiian or Other Pacific Islander	67	84.13	32.84	19.40	20.90	7.46	19.40
White	29,314	87.11	45.38	18.17	14.99	9.05	12.42
Two or More Races	1,439	84.52	36.83	18.97	15.98	11.81	16.40
Other	786	76.68	24.94	10.81	13.87	11.58	38.80
Language							
Parent waiver	19	68.74	5.26	10.53	10.53	21.05	52.63
Pre-functional	233	58.78	0.43	3.00	4.29	8.58	83.69
Beginner	301	65.53	2.99	5.32	7.97	16.61	67.11
Intermediate	450	69.98	5.33	8.22	15.33	19.33	51.78
Advanced	1,222	80.61	20.70	20.21	21.93	17.35	19.80
Initially English Proficient	15	86.87	46.67	26.67	6.67	0.00	20.00
Title III First Year Exited	201	88.40	42.29	23.38	18.41	11.44	4.48
Title III Second + Year Exited	104	87.02	42.31	16.35	24.04	9.62	7.69
English Speaker I	657	90.71	56.32	19.03	12.63	6.24	5.78
English Speaker II	50,376	82.65	33.51	16.68	16.29	12.13	21.39
Other	1,169	75.69	22.33	11.21	13.60	11.89	40.98
Lunch							
Free meals	25,959	77.01	18.24	15.23	17.89	16.12	32.52
Reduced-price meals	3,089	82.13	29.56	18.13	18.84	12.82	20.65
No free/reduced-price meals	25,699	87.62	47.82	17.59	14.23	8.23	12.12
IEP							
Yes	5,366	67.93	6.90	6.65	12.15	14.42	59.88
No	49,381	83.84	35.58	17.57	16.67	11.99	18.19
Migrant							
Yes	6	–	–	–	–	–	–
No	54,741	82.28	32.77	16.50	16.23	12.23	22.27

Table 5.3
Biology Operational Test, Grades 6-12:
Percentages of Student Scores in Letter-Grade Equivalents, Overall and by Demographics

Demographics	*N*	Mean Scale Score	A	B	C	D	F
Courses taken							
3221 (Biology 1)	52,453	82.70	33.82	16.73	16.18	11.91	21.35
3227 (Applied Biology 2)	2,250	72.29	7.07	11.29	17.64	19.87	44.13
Other	44	96.64	84.09	6.82	4.55	2.27	2.27
Gifted/talented							
Academic	7,806	96.21	79.16	13.36	5.60	1.15	0.73
Artistic	1,083	87.42	43.67	21.05	14.59	10.43	10.25
Both	574	96.99	83.10	11.50	3.31	1.57	0.52
No	45,284	79.57	23.87	17.00	18.26	14.32	26.55
504 Plan							
Yes	1,270	82.47	33.70	16.06	15.75	12.20	22.28
No	53,477	82.28	32.74	16.51	16.24	12.23	22.27
Accommodations							
Yes	920	69.06	8.37	7.72	13.37	14.89	55.65
No	53,827	82.51	33.18	16.65	16.28	12.19	21.70

Note: Includes all students who attempted the test except home school students and students in an adult education program.

Table 5.4
Biology Operational Test, Adult Education Programs:
Percentages of Student Scores in Letter-Grade Equivalents, Overall and by Demographics

Demographics	*N*	Mean Scale Score	A	B	C	D	F
Overall	49	66.67	6.12	4.08	10.20	12.24	67.35
Gender							
Female	9	–	–	–	–	–	–
Male	18	71.00	11.11	5.56	11.11	22.22	50.00
Unkown	22	62.68	0.00	4.55	4.55	4.55	86.36
Ethnicity							
Hispanic or Latino	1	–	–	–	–	–	–
Black or African American	6	–	–	–	–	–	–
White	1	–	–	–	–	–	–
Other	41	66.83	7.32	2.44	9.76	12.20	68.29
Language							
Other	49	66.67	6.12	4.08	10.20	12.24	67.35
Lunch							
No free/reduced-price meals	49	66.67	6.12	4.08	10.20	12.24	67.35
IEP							
No	49	66.67	6.12	4.08	10.20	12.24	67.35
Migrant							
No	49	66.67	6.12	4.08	10.20	12.24	67.35
Courses taken							
3221 (Biology 1)	46	67.26	6.52	4.35	10.87	13.04	65.22
3227 (Applied Biology 2)	3	–	–	–	–	–	–
Gifted/talented							
No	49	66.67	6.12	4.08	10.20	12.24	67.35
504 Plan							
No	49	66.67	6.12	4.08	10.20	12.24	67.35
Accommodations							
Yes	1	–	–	–	–	–	–
No	48	66.96	6.25	4.17	10.42	12.50	66.67

Note: Includes all students who attempted the test and are in an adult education program except home school students.
If the number tested is less than 10, no other statistics appear.

Table 5.5
English 1 Operational Test, Grades 6-12:
Percentages of Student Scores in Letter-Grade Equivalents, Overall and by Demographics

Demographics	*N*	Mean Scale Score	A	B	C	D	F
Overall	58,315	79.41	19.69	16.80	21.51	16.89	25.10
Gender							
Female	28,599	80.52	21.29	17.48	22.49	17.03	21.72
Male	29,418	78.41	18.24	16.22	20.63	16.79	28.12
Unknown	298	71.08	10.07	9.40	14.43	14.43	51.68
Grade							
7	5	–	–	–	–	–	–
8	12,792	89.63	44.87	25.34	19.97	7.10	2.71
9	44,605	76.69	12.74	14.56	22.11	19.72	30.88
10	525	68.03	5.33	4.95	13.71	17.90	58.10
11	102	67.24	5.88	6.86	14.71	5.88	66.67
12	53	74.53	16.98	11.32	11.32	16.98	43.40
Other	233	70.84	9.01	9.44	14.59	16.31	50.64
Ethnicity							
Hispanic or Latino	3,990	76.58	13.58	16.32	20.90	17.82	31.38
American Indian or Alaska Native	179	79.32	14.53	16.76	31.28	16.20	21.23
Asian	904	85.61	36.50	20.13	20.80	9.85	12.72
Black or African American	19,423	73.22	6.36	10.72	20.54	21.53	40.84
Native Hawaiian or Other Pacific Islander	75	81.16	21.33	18.67	29.33	13.33	17.33
White	31,324	83.52	28.37	20.62	22.21	14.18	14.61
Two or More Races	1,639	80.82	22.39	17.94	22.45	16.05	21.17
Other	781	72.55	10.37	10.88	16.65	15.88	46.22
Language							
Parent waiver	39	74.92	5.13	5.13	35.90	28.21	25.64
Pre-functional	333	56.49	0.30	0.30	1.20	3.30	94.89
Beginner	386	66.04	4.92	5.44	10.36	11.40	67.88
Intermediate	590	68.79	1.36	2.54	13.56	27.80	54.75
Advanced	1,437	78.26	8.77	17.61	29.23	24.15	20.25
Initially English Proficient	15	82.27	20.00	33.33	13.33	13.33	20.00
Title III First Year Exited	130	85.85	30.00	27.69	23.08	13.85	5.38
Title III Second + Year Exited	94	85.48	30.85	26.60	23.40	10.64	8.51
English Speaker I	775	87.93	41.16	23.35	19.23	8.77	7.48
English Speaker II	53,181	79.82	20.32	17.13	21.76	16.78	24.01
Other	1,335	72.76	10.11	11.31	15.73	18.80	44.04
Lunch							
Free meals	28,611	74.79	9.42	12.73	21.15	20.29	36.41
Reduced-price meals	3,475	79.52	17.06	17.70	24.43	18.99	21.81
No free/reduced-price meals	26,229	84.43	31.26	21.13	21.52	12.90	13.19
IEP							
Yes	5,509	67.38	2.72	4.70	12.23	18.39	61.95
No	52,806	80.66	21.47	18.07	22.48	16.73	21.25
Migrant							
Yes	16	73.81	6.25	18.75	31.25	0.00	43.75
No	58,299	79.41	19.70	16.80	21.51	16.90	25.09

Table 5.5
English 1 Operational Test, Grades 6-12:
Percentages of Student Scores in Letter-Grade Equivalents, Overall and by Demographics

Demographics	*N*	Mean Scale Score	A	B	C	D	F
Courses taken							
3011 (Eng 1)	4,111	81.41	24.84	18.00	21.31	14.86	20.99
3024 (Common Core Eng 1)	54,200	79.25	19.30	16.71	21.53	17.05	25.41
Other	4	–	–	–	–	–	–
Gifted/talented							
Academic	9,678	92.37	56.52	24.91	14.36	3.24	0.96
Artistic	1,298	83.51	24.35	21.49	26.96	15.02	12.17
Both	1,168	93.67	64.30	22.35	10.02	2.31	1.03
No	46,171	76.21	10.72	14.83	23.15	20.17	31.13
504 Plan							
Yes	1,341	79.17	18.27	16.18	23.49	17.90	24.16
No	56,974	79.41	19.73	16.82	21.47	16.87	25.12
Accommodations							
Yes	1,073	68.33	3.45	5.41	13.70	19.38	58.06
No	57,242	79.62	20.00	17.02	21.66	16.84	24.48

Note: Includes all students who attempted the test except home school students and students in an adult education program.
If the number tested is less than 10, no other statistics appear.

Table 5.6
English 1 Operational Test, Adult Education Programs:
Percentages of Student Scores in Letter-Grade Equivalents, Overall and by Demographics

Demographics	*N*	Mean Scale Score	A	B	C	D	F
Overall	22	64.09	4.55	4.55	9.09	9.09	72.73
Gender							
Female	11	66.27	9.09	0.00	18.18	9.09	63.64
Male	7	–	–	–	–	–	–
Unknown	4	–	–	–	–	–	–
Ethnicity							
Hispanic or Latino	2	–	–	–	–	–	–
Black or African American	5	–	–	–	–	–	–
Other	15	61.93	0.00	6.67	6.67	13.33	73.33
Language							
Other	22	64.09	4.55	4.55	9.09	9.09	72.73
Lunch							
No free/reduced-price meals	22	64.09	4.55	4.55	9.09	9.09	72.73
IEP							
Yes	1	–	–	–	–	–	–
No	21	64.00	4.76	4.76	9.52	9.52	71.43
Migrant							
No	22	64.09	4.55	4.55	9.09	9.09	72.73
Courses taken							
3011 (Eng 1)	12	64.17	8.33	8.33	0.00	0.00	83.33
3024 (Common Core Eng 1)	10	64.00	0.00	0.00	20.00	20.00	60.00
Gifted/talented							
No	22	64.09	4.55	4.55	9.09	9.09	72.73
504 Plan							
No	22	64.09	4.55	4.55	9.09	9.09	72.73
Accommodations							
No	22	64.09	4.55	4.55	9.09	9.09	72.73

Note: Includes all students who attempted the test and are in an adult education program except home school students.
If the number tested is less than 10, no other statistics appear.

Table 5.7
US History and Constitution Operational Test, Grades 6-12:
Percentages of Student Scores in Letter-Grade Equivalents, Overall and by Demographics

Demographics	*N*	Mean Scale Score	A	B	C	D	F
Overall	48,635	76.13	10.61	13.92	21.83	22.63	31.01
Gender							
Female	24,291	75.05	8.55	12.35	21.13	24.14	33.83
Male	23,815	77.15	12.49	15.42	22.58	21.20	28.30
Unknown	529	79.96	20.04	18.53	20.23	17.77	23.44
Grade							
9	536	67.14	4.85	6.16	9.14	15.30	64.55
10	5,307	71.52	5.62	8.12	16.66	22.46	47.15
11	39,749	76.90	11.32	14.78	22.79	22.91	28.20
12	2,598	74.80	8.97	12.86	20.71	21.71	35.76
Other	445	81.42	23.15	22.02	19.78	13.71	21.35
Ethnicity							
Hispanic or Latino	2,861	74.52	6.96	12.55	22.13	23.35	35.02
American Indian or Alaska Native	145	77.88	11.72	15.86	24.14	26.21	22.07
Asian	713	81.71	23.84	18.51	24.40	15.01	18.23
Black or African American	16,422	70.54	2.85	6.52	16.28	25.78	48.58
Native Hawaiian or Other Pacific Islander	81	77.73	4.94	20.99	29.63	20.99	23.46
White	26,404	79.54	15.24	18.44	25.19	20.89	20.24
Two or More Races	1,042	76.94	11.42	13.82	23.99	23.99	26.78
Other	967	77.60	16.44	16.24	18.30	18.20	30.82
Language							
Parent waiver	21	67.29	4.76	9.52	4.76	14.29	66.67
Pre-functional	121	59.35	0.83	0.83	3.31	4.13	90.91
Beginner	184	63.98	1.63	2.17	5.43	13.04	77.72
Intermediate	273	66.41	0.37	2.56	8.79	20.88	67.40
Advanced	845	72.46	2.84	8.76	20.24	26.75	41.42
Initially English Proficient	19	78.37	5.26	26.32	21.05	31.58	15.79
Title III First Year Exited	196	76.41	5.10	15.31	23.98	33.16	22.45
Title III Second + Year Exited	252	79.61	10.71	17.46	32.54	24.21	15.08
English Speaker I	739	82.06	20.43	20.16	26.93	19.49	12.99
English Speaker II	44,543	76.21	10.60	13.95	22.04	22.79	30.62
Other	1,442	77.04	15.26	16.64	18.03	18.17	31.90
Lunch							
Free meals	21,415	71.94	4.38	8.70	17.95	24.87	44.10
Reduced-price meals	2,707	75.60	8.42	12.34	22.76	26.60	29.89
No free/reduced-price meals	24,513	79.85	16.29	18.66	25.12	20.24	19.70
IEP							
Yes	4,033	67.09	2.01	4.49	10.12	19.19	64.20
No	44,602	76.95	11.39	14.78	22.89	22.94	28.01
Migrant							
Yes	9	–	–	–	–	–	–
No	48,626	76.13	10.61	13.92	21.83	22.63	31.00
Courses taken							
3320 (US Hst of Const. or College Prep US Hst)	43,053	74.55	6.88	12.35	21.78	24.35	34.65
3372 (AP US Hst)	4,854	88.97	42.03	26.02	21.28	8.12	2.55
336D (IB Hst of Americas)	394	86.88	26.40	33.50	29.19	9.14	1.78
Other	334	80.99	16.17	17.96	27.84	28.14	9.88

Table 5.7
US History and Constitution Operational Test, Grades 6-12:
Percentages of Student Scores in Letter-Grade Equivalents, Overall and by Demographics

Demographics	*N*	Mean Scale Score	A	B	C	D	F
Gifted/talented							
Academic	4,749	86.72	30.49	28.79	25.96	11.31	3.45
Artistic	1,195	79.87	16.32	16.07	26.19	23.60	17.82
Both	474	87.65	35.23	27.43	24.05	11.18	2.11
No	42,217	74.71	7.93	12.04	21.22	24.00	34.81
504 Plan							
Yes	1,091	76.41	11.27	14.12	22.00	20.62	31.99
No	47,544	76.13	10.59	13.92	21.83	22.68	30.99
Accommodations							
Yes	712	66.99	3.37	4.35	9.83	17.28	65.17
No	47,923	76.27	10.72	14.06	22.01	22.71	30.50

Note: Includes all students who attempted the test except home school students and students in an adult education program.
If the number tested is less than 10, no other statistics appear.

Table 5.8
US History and Constitution Operational Test, Adult Education Programs:
Percentages of Student Scores in Letter-Grade Equivalents, Overall and by Demographics

Demographics	*N*	Mean Scale Score	A	B	C	D	F
Overall	121	64.70	3.31	2.48	4.96	11.57	77.69
Gender							
Female	41	63.95	2.44	0.00	7.32	9.76	80.49
Male	44	65.36	6.82	2.27	4.55	9.09	77.27
Unknown	36	64.75	0.00	5.56	2.78	16.67	75.00
Ethnicity							
Hispanic or Latino	3	–	–	–	–	–	–
Black or African American	11	60.27	0.00	0.00	0.00	9.09	90.91
White	6	–	–	–	–	–	–
Other	101	64.36	1.98	2.97	4.95	11.88	78.22
Language							
English Speaker II	2	–	–	–	–	–	–
Other	119	64.40	2.52	2.52	5.04	11.76	78.15
Lunch							
Free meals	1	–	–	–	–	–	–
No free/reduced-price meals	120	64.41	2.50	2.50	5.00	11.67	78.33
IEP							
Yes	1	–	–	–	–	–	–
No	120	64.78	3.33	2.50	5.00	11.67	77.50
Migrant							
No	121	64.70	3.31	2.48	4.96	11.57	77.69
Courses taken							
3320 (US Hst of Const. or College Prep US Hst)	120	64.83	3.33	2.50	5.00	11.67	77.50
Other	1	–	–	–	–	–	–
Gifted/talented							
No	121	64.70	3.31	2.48	4.96	11.57	77.69
504 Plan							
No	121	64.70	3.31	2.48	4.96	11.57	77.69
Accommodations							
Yes	2	–	–	–	–	–	–
No	119	64.82	3.36	2.52	5.04	11.76	77.31

Note: Includes all students who attempted the test and are in an adult education program except home school students.
If the number tested is less than 10, no other statistics appear.

CHAPTER 6

DESCRIPTIVE STATISTICS

Descriptive statistics of scale score distributions for the three test administrations of the current year combined are presented in table 6 for students overall and by gender and race.

TABLE 6
2014–15 EOCEP Test Administration Summary Statistics: Grades 6-12 and Adult Education Programs, Overall and by Gender, Race, and Accommodations

Algebra 1/Math Tech 2

Grades 6-12				Adult Education Programs			
		Scale Score				Scale Score	
	N	Mean	*SD*		*N*	Mean	*SD*
Overall	59,552	82.64	11.57	**Overall**	39	68.28	8.14
Gender				**Gender**			
Female	29,044	83.30	11.21	Female	14	69.14	6.74
Male	30,139	82.09	11.85	Male	12	66.33	11.60
Ethnicity				**Ethnicity**			
African-American	20,014	77.88	10.33	African-American	8	63.88	11.03
White	31,915	85.65	11.23	White	2	64.50	4.95
Accommodations				**Accommodations**			
No	58,579	82.79	11.55	No	39	68.28	8.14
Yes	973	74.04	9.74	Yes	0	–	–

Biology

Grades 6-12				Adult Education Programs			
		Scale Score				Scale Score	
	N	Mean	*SD*		*N*	Mean	*SD*
Overall	54,747	82.28	14.88	**Overall**	49	66.67	13.02
Gender				**Gender**			
Female	27,051	82.77	14.36	Female	9	67.78	16.72
Male	27,309	81.88	15.31	Male	18	71.00	13.29
Ethnicity				**Ethnicity**			
African-American	18,750	75.04	14.04	African-American	6	60.83	9.43
White	29,314	87.11	13.29	White	1	85.00	
Accommodations				**Accommodations**			
No	53,827	82.51	14.78	No	48	66.96	13.00
Yes	920	69.06	14.52	Yes	1	53.00	

TABLE 6
2014–15 EOCEP Test Administration Summary Statistics: Grades 6-12 and Adult Education Programs, Overall and by Gender, Race, and Accommodations

English 1

Grades 6-12				Adult Education Programs			
		Scale Score				Scale Score	
	N	Mean	*SD*		*N*	Mean	*SD*
Overall	58,315	79.41	13.20	**Overall**	22	64.09	12.75
Gender				**Gender**			
Female	28,599	80.52	12.71	Female	11	66.27	14.42
Male	29,418	78.41	13.54	Male	7	63.71	11.87
Ethnicity				**Ethnicity**			
African-American	19,423	73.22	11.64	African-American	5	60.80	5.26
White	31,324	83.52	12.40	White	0	–	–
Accommodations				**Accommodations**			
No	57,242	79.62	13.14	No	22	64.09	12.75
Yes	1,073	68.33	11.44	Yes	0	–	–

US History and Constitution

Grades 6-12				Adult Education Programs			
		Scale Score				Scale Score	
	N	Mean	*SD*		*N*	Mean	*SD*
Overall	48,635	76.13	11.80	**Overall**	121	64.70	10.32
Gender				**Gender**			
Female	24,291	75.05	11.42	Female	41	63.95	9.03
Male	23,815	77.15	12.07	Male	44	65.36	12.13
Ethnicity				**Ethnicity**			
African-American	16,422	70.54	10.12	African-American	11	60.27	6.39
White	26,404	79.54	11.40	White	6	79.17	16.35
Accommodations				**Accommodations**			
No	47,923	76.27	11.76	No	119	64.82	10.36
Yes	712	66.99	10.87	Yes	2	57.50	3.54

Note: Includes all students who attempted the test except home school students.

CHAPTER 7

RELIABILITY

In this chapter, multiple types of reliability indexes are presented. For the total tests, two measures of the reliability of raw scores and the classical standard error of measurement (SEM) are given. At the passing cut scores, conditional standard errors of measurement (CSEM) for raw scores, for scale scores, and measures of decision consistency were determined.

7.1 RELIABILITY OF RAW SCORES

Table 7.1 reports the reliability coefficients and SEMs. The reliabilities of the total raw scores were computed using the Kuder-Richardson formulas 20 (KR20) and 21 (KR21). The KR21 reliability coefficients were used in computing the CSEM for the raw scores shown below, in section 7.2.

Table 7.1
Reliability Coefficients of Raw Scores

Administration	Number of Items	Number of Test Takers	KR-20	KR-21	Classical SEM
Algebra 1/Mathematics for the Technologies 2					
Fall 2014	50	8,003	0.859	0.847	3.948
Spring 2015	50	51,360	0.894	0.883	3.810
Summer 2015	50	153	0.850	0.840	4.026
Biology					
Fall 2014	60	13,111	0.912	0.909	4.402
Spring 2015	60	41,528	0.915	0.909	4.334
Summer 2015	60	90	0.890	0.883	4.918
English 1					
Fall 2014	55	7,385	0.878	0.872	4.024
Spring 2015	55	50,784	0.910	0.909	4.010
Summer 2015	55	115	0.915	0.907	3.914
US History and Constitution					
Fall 2014	56	9,943	0.899	0.895	3.656
Spring 2015	56	38,600	0.905	0.895	3.639
Summer 2015	56	71	0.897	0.893	3.492

Note: Includes all students who attempted the test using a complete regular form except home school students and students in an adult education program.

7.2 OVERALL AND CONDITIONAL SEM

The overall classical SEM is defined as $s_x\sqrt{1-r_{xx}}$, where s_x is the standard deviation of the scale score and r_{xx} is the reliability coefficient. The CSEM for raw scores at the cut score was computed using the following formula (Feldt and Qualls 1998; Huynh, Meyer, and Barton 2000):

$$\text{raw score } CSEM = \sqrt{\left(\frac{1-KR20}{1-KR21}\right)\left(\frac{c(k-c)}{k-1}\right)}$$, where c = cut score and k = number of items.

The scale score CSEM at the passing cut score was computed on the basis of the conditional standard error of the Rasch ability cut score. The scale score CSEM is defined as the reciprocal of the square root of the test information function at the point on the ability continuum that corresponds to the scale score cut (Hambleton, Swaminathan, and Rogers 1991). Although classical and conditional SEMs serve similar roles, the values of the conditional standard errors are determined separately for each possible test score, while the classical SEM is a single value used for all scores. Table 7.2 presents both the raw score and scale score CSEMs.

TABLE 7.2

2014–15 EOCEP Conditional Standard Errors of Measurement

Administration	Raw Scores	Scale Scores
Algebra/ Mathematics for the Technologies 2		
Fall 2014	3.289	4.418
Spring 2015	3.301	4.385
Summer 2015	3.314	4.452
Biology		
Fall 2014	3.825	4.520
Spring 2015	3.748	4.442
Summer 2015	3.767	4.464
English 1		
Fall 2014	3.636	4.493
Spring 2015	3.721	4.586
Summer 2015	3.565	4.406
US History and Constitution		
Fall 2014	3.685	4.521
Spring 2015	3.580	4.370
Summer 2015	3.669	4.502

Note: Includes all students who attempted the test using a complete regular form except home school students and students in an adult education program.

7.3 CONSISTENCY OF PASSING CUT SCORES

When student performance is reported in a pass or fail category, a reliability index is computed in terms of the probabilities of consistent classification of students, as specified in standard 2.15 in *Standards for Educational and Psychological Testing* (AERA, APA, and NCME 1999). This index takes into consideration the consistency of classifications for the percentage of examinees who would be classified in the same way on a second (hypothetical) EOCEP administration using either the same form or an alternate equivalent form.

Although a number of procedures are available for estimating classification errors (Livingston and Lewis 1995; Hanson and Brennan 1990; Huynh 1976; Subkoviak 1976), DRC used the *beta* binomial distribution method (Huynh 1979; Huynh, Meyer, and Barton 2000). Table 7.3 presents a summary of agreements between the operational test classifications—that is, the percentages of students who would be consistently classified in the same category (pass or fail) on two equivalent administrations of the test. The consistency index for the passing score is computed for each administration.

TABLE 7.3

2014–15 EOCEP Consistency Index for Passing Scores

Administration	Consistency Index
Algebra/ Mathematics for the Technologies 2	
Fall 2014	0.914
Spring 2015	0.913
Summer 2015	0.853
Biology	
Fall 2014	0.904
Spring 2015	0.904
Summer 2015	0.848
English 1	
Fall 2014	0.876
Spring 2015	0.899
Summer 2015	0.870
US History and Constitution	
Fall 2014	0.868
Spring 2015	0.880
Summer 2015	0.864

Note: Includes all students who attempted the test using a complete regular form except home school students and students in an adult education program.

CHAPTER 8

VALIDITY

Three types of validity evidence are reported for the algebra test forms: test content, item fairness, and internal structure. Evidence of content validity is presented in the item content distribution across domains and the alignment of the current year's EOCEP test items with the state content standards. Evidence of item fairness is examined with the information on differential item functioning (DIF). Evidence of internal structure is provided in correlations among content domains.

8.1 ITEM DISTRIBUTION ACROSS CONTENT DOMAINS

The EOCEP operational and implementation test forms were constructed according to the test specifications and the test blueprints. These items measured the specific assessment standards that were approved by the SCDE. All items in the test forms were reviewed by the content review committee and the sensitivity review committee and were approved by the SCDE. The current year's EOCEP test form specifications are presented in tables 8.1 through 8.4 by subject.

Table 8.1
Item Distribution by Content Domain for Algebra 1/Math Tech 2

Content Domain*	Fall	Spring	Summer
Algebra-1	22	22	22
Algebra -2	19	19	19
Algebra -3	6	6	6
Algebra -4	3	3	3
Totals	**50**	**50**	**50**

Algebra -1=Algebra: polynomials, expressions, and equations
Algebra -2=Functions: notation, representations, models, building, interpreting, and computer functions
Algebra -3=Number and Quantity: exponents, rational and irrational numbers, and units
Algebra -4=Statistics and Probability: data and linear models

TABLE 8.2
Item Distribution by Content Domain for Biology

Content Domain*	Fall	Spring	Summer
B-1	11	11	11
B-2	9	9	9
B-3	10	10	11
B-4	11	11	11
B-5	9	9	9
B-6	10	10	9
Totals	**60**	**60**	**60**

*B-1: The student will demonstrate an understanding of how scientific inquiry and technological design, including mathematical analysis, can be used appropriately to pose questions, seek answers, and develop solutions.
B-2: The student will demonstrate an understanding of the structure and function of cells and their organelles.
B-3: The student will demonstrate an understanding of the flow of energy within and between living systems.
B-4: The student will demonstrate a understanding of the molecular basis of heredity.
B-5: The student will demonstrate an understanding of biological evolution and the diversity of life.
B-6: The student will demonstrate an understanding of the interrelationships among organisms and the biotic and abiotic components of their environments.

Table 8.3
Item Distribution by Content Domain for English 1

Content Domain*	Fall	Spring	Summer
E1-1	17	16	17
E1-2	22	22	22
E1-3	7	7	7
E1-4	9	10	9
Totals	**55**	**55**	**55**

*E1-1: Reading Standards for Literature
E1-2: Reading Standards for Informational Text.
E1-3: Language Standards
E1-4: Writing Standards

TABLE 8.4
Item Distribution by Content Domain for US History and Constitution

Content Domain*	Fall	Spring	Summer
USHC-1	8	8	8
USHC-2	6	6	6
USHC-3	6	6	6
USHC-4	8	8	8
USHC-5	6	6	6
USHC-6	6	6	6
USHC-7	8	8	8
USHC-8	8	8	8
Totals	**56**	**56**	**56**

*USHC-1: The student will demonstrate an understanding of the conflicts between regional and national interest in the development of democracy in the United States.
USHC-2: The student will demonstrate an understanding of how economic developments and the westward movement impacted regional differences and democracy in the early nineteenth century.
USHC-3: The student will demonstrate an understanding of how regional and ideological differences led to the Civil War and an understanding of the impact of the Civil War and Reconstruction on democracy in America.
USHC-4: The student will demonstrate an understanding of the industrial development and the consequences of that development on society and politics during the second half of the nineteenth and the early twentieth centuries.
USHC-5: The student will demonstrate an understanding of domestic and foreign developments that contributed to the emergence of the United States as a world power in the twentieth century.
USHC-6: The student will demonstrate an understanding of the conflict between traditionalism and progressivism in the 1920s and the economic collapse and the political response to the economic crisis in the 1930s.
USHC-7: The student will demonstrate an understanding of the impact of World War II on the United States and the nation's subsequent role in the world.
USHC-8: The student will demonstrate an understanding of social, economic and political issues in contemporary America.

8.2 ITEM DEVELOPMENT

All EOCEP items were developed with reference to the South Carolina academic standards and measurement guidelines. Various committees reviewed all items; items approved by these committees and the SCDE were field-tested. Items demonstrating satisfactory performance on field tests became eligible for inclusion in operational forms.

8.3 DIFFERENTIAL ITEM FUNCTIONING

A critical issue in statewide high-stakes testing is whether the test is fair to all test-takers; therefore, an important goal of item and test development is to produce a pool of items that are judged to be free of bias either toward or against any group of students. All EOCEP items were reviewed both for bias and for differential item functioning (DIF).

The sensitivity review committee examined the EOCEP items for potential bias, including language that might disadvantage a particular group, might be considered offensive to members of a particular group, or might present obstacles to a particular group due to factors unrelated to content and processes specified in the standards.

As with other statistical methodologies, there are numerous widely accepted approaches to detecting potential unfairness in test items. Many of these methods fall into the general category of DIF analyses. DIF statistics provide information regarding relative group performance at the

item level for gender and ethnic comparisons while controlling for ability. Once an item is flagged for a significant DIF, judgment is used to determine whether the difference in difficulty shown by the DIF index is unfairly related to group membership. The DIF statistics do not necessarily indicate bias or unfairness in an item but may simply show the relative strengths and weaknesses of the two groups being compared after the overall ability that the test is intended to measure has been controlled for.

Procedure:

The procedure that DRC selected for detecting DIF was the Mantel-Haenszel (MH) chi-square for dichotomous items. DRC calculated the Mantel-Haenszel statistic (MH D-DIF) for MC items (Holland and Thayer 1988) to measure the degree and magnitude of DIF. The examinee group of interest is the *focal* group, and the group to which performance on the item is being compared is the *reference* group. In this report, the focal groups for DIF were females and African Americans.

Items were separated into one of three categories on the basis of DIF statistics (Holland and Thayer 1988; Dorans and Holland 1993): negligible DIF (category A), intermediate DIF (category B), and large DIF (category C). The items in category C, which exhibit significant DIF, are of primary concern.

Positive values of *delta* indicate that the item is easier for the *focal* group, suggesting that the item favors the *focal* group. A negative value of *delta* indicates that the item is more difficult for the *focal* group. The item classifications are based on the Mantel-Haenszel chi-square and the MH delta (Δ) value as follows:

- The item is classified as C category if the absolute value of the MH delta value (i.e., |Δ|) is significantly greater than 1 and also greater than or equal to 1.5.
- The item is classified as B category if the MH delta value (Δ) is significantly different from 0 and either the absolute value of the MH delta (|Δ|) is less than 1.5 or the absolute value of the MH delta (|Δ)| is not significantly different from 1.
- The item is classified as A category if delta value (Δ) is not significantly different from 0 or the absolute value of delta (|Δ|) is less than or equal to 1.

The data in table 8.5, below, summarize the number of items in DIF categories for the current year's operational test items.

When the operational forms were constructed, all item statistics from the initial field test were reviewed and approved by the SCDE. Due to the large number of items subjected to DIF analyses, erroneous flags could be expected. All flagged items were closely examined by the SCDE. Inclusion of any flagged item on an operational form (i.e., an item classified as C category) was possible only when the SCDE had approved that item.

Table 8.5
Summary of Differential Item Functioning for Operational Items

Administration	Cat	Whites/African-Americans				Males/Females			
		Alg	Bio	Eng	USHC	Alg	Bio	Eng	USHC
Fall 2014	A+	24	21	26	14	31	26	31	33
	A-	23	36	29	38	18	30	22	21
	B+	0	0	0	1	0	3	3	0
	B-	3	2	1	3	1	1	1	1
	C+	0	0	0	0	0	0	0	0
	C-	0	1	1	0	0	0	0	1
Spring 2015	A+	21	22	30	23	32	30	28	29
	A-	26	32	23	30	17	27	26	27
	B+	0	0	3	0	0	2	0	0
	B-	3	5	0	3	0	1	1	0
	C+	0	0	0	0	0	0	0	0
	C-	0	1	0	0	1	0	1	0
Summer 2015*	A+	--	--	--	--	--	--	--	--
	A-	--	--	--	--	--	--	--	--
	B+	--	--	--	--	--	--	--	--
	B-	--	--	--	--	--	--	--	--
	C+	--	--	--	--	--	--	--	--
	C-	--	--	--	--	--	--	--	--

*Due to low N counts, DIF was not calculated for the summer administrations

Note: Includes all students who attempted the test using a regular form except home school students and students in an adult education program.

8.4 CORRELATIONS AMONG CONTENT DOMAINS

Evidence of internal structure was examined using correlations among content domains. On the following pages, tables 8.6 through 8.9 report the correlation matrices for the raw scores among content domains for each test.

Table 8.6
Correlations among Domain Scores for Algebra 1/Math Tech 2

Domain	EA-1	EA-2	EA-3	EA-4	Number of Items
Fall 2014 (*N*=8,003)					
EA-1	1	0.708	0.503	0.424	22
EA-2	—	1	0.487	0.464	19
EA-3	—	—	1	0.311	6
EA-4	—	—	—	1	3
Spring 2015 (*N*=51,360)					
EA-1	1	0.767	0.590	0.515	22
EA-2	—	1	0.577	0.513	19
EA-3	—	—	1	0.411	6
EA-4	—	—	—	1	3
Summer 2015 (*N*=153)					
EA-1	1	0.730	0.517	0.503	22
EA-2	—	1	0.507	0.491	19
EA-3	—	—	1	0.287	6
EA-4	—	—	—	1	3

Note: Includes all students who attempted the test using a complete regular form except home school students and students in an adult education program.

Table 8.7
Correlations among Domain Scores for Biology

Domain	B-1	B-2	B-3	B-4	B-5	B-6	Number of Items
Fall 2014 (*N*=13,111)							
B-1	1	0.601	0.579	0.607	0.641	0.612	11
B-2	—	1	0.620	0.651	0.633	0.625	9
B-3	—	—	1	0.602	0.588	0.595	10
B-4	—	—	—	1	0.637	0.612	11
B-5	—	—	—	—	1	0.670	9
B-6	—	—	—	—	—	1	10
Spring 2015 (*N*=41,528)							
B-1	1	0.612	0.573	0.625	0.592	0.610	11
B-2	—	1	0.630	0.678	0.608	0.633	9
B-3	—	—	1	0.624	0.566	0.590	10
B-4	—	—	—	1	0.624	0.628	11
B-5	—	—	—	—	1	0.618	9
B-6	—	—	—	—	—	1	10
Summer 2015 (*N*=90)							
B-1	1	0.435	0.567	0.466	0.563	0.541	11
B-2	—	1	0.567	0.385	0.502	0.509	9
B-3	—	—	1	0.573	0.566	0.579	11
B-4	—	—	—	1	0.505	0.579	11
B-5	—	—	—	—	1	0.637	9
B-6	—	—	—	—	—	1	9

Note: Includes all students who attempted the test using a regular form except home school students and students in an adult education program.

Table 8.8
Correlations among Domain Scores for English 1

Domain	E1-1	E1-2	E1-3	E1-4	Number of Items
Fall 2014 (*N*=7,385)					
E1-1	1	0.693	0.559	0.602	17
E1-2	—	1	0.560	0.620	22
E1-3	—	—	1	0.494	7
E1-4	—	—	—	1	9
Spring 2015 (*N*=50,784)					
E1-1	1	0.763	0.682	0.635	16
E1-2	—	1	0.711	0.678	22
E1-3	—	—	1	0.612	7
E1-4	—	—	—	1	10
Summer 2015 (*N*=115)					
E1-1	1	0.761	0.674	0.714	17
E1-2	—	1	0.641	0.695	22
E1-3	—	—	1	0.576	7
E1-4	—	—	—	1	9

Note: Includes all students who attempted the test using a regular form except home school students and students in an adult education program.

Table 8.9
Correlations among Domain Scores for US History and Constitution

Domain	USHC-1	USHC-2	USHC-3	USHC-4	USHC-5	USHC-6	USHC-7	USHC-8	Number of Items
Fall 2014 (*N*=9,943)									
USHC-1	1	0.544	0.516	0.551	0.504	0.468	0.537	0.510	8
USHC-2	—	1	0.543	0.568	0.536	0.498	0.563	0.523	6
USHC-3	—	—	1	0.544	0.522	0.476	0.555	0.510	6
USHC-4	—	—	—	1	0.533	0.502	0.579	0.536	8
USHC-5	—	—	—	—	1	0.466	0.534	0.507	6
USHC-6	—	—	—	—	—	1	0.508	0.473	6
USHC-7	—	—	—	—	—	—	1	0.547	8
USHC-8	—	—	—	—	—	—	—	1	8
Spring 2015 (*N*=38,600)									
USHC-1	1	0.525	0.540	0.596	0.508	0.571	0.610	0.525	8
USHC-2	—	1	0.479	0.533	0.447	0.498	0.536	0.455	6
USHC-3	—	—	1	0.540	0.460	0.507	0.553	0.476	6
USHC-4	—	—	—	1	0.527	0.592	0.607	0.528	8
USHC-5	—	—	—	—	1	0.484	0.530	0.460	6
USHC-6	—	—	—	—	—	1	0.591	0.510	6
USHC-7	—	—	—	—	—	—	1	0.564	8
USHC-8	—	—	—	—	—	—	—	1	8
Summer 2015 (*N*=71)									
USHC-1	1	0.521	0.440	0.715	0.561	0.513	0.593	0.536	8
USHC-2	—	1	0.444	0.537	0.543	0.507	0.549	0.466	6
USHC-3	—	—	1	0.411	0.501	0.380	0.429	0.349	6
USHC-4	—	—	—	1	0.516	0.576	0.677	0.567	8
USHC-5	—	—	—	—	1	0.328	0.458	0.478	6
USHC-6	—	—	—	—	—	1	0.467	0.380	6
USHC-7	—	—	—	—	—	—	1	0.473	8
USHC-8	—	—	—	—	—	—	—	1	8

Note: Includes all students who attempted the test using a regular form except home school students and students in an adult education program.

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