

Independent Evaluation of the California High School Exit Examination: 2011 Evaluation Report

***D.E. (Sunny) Becker, Laress L. Wise, Michele M. Hardoin, and
Christa Watters (Editors)***

Prepared for: **California Department of Education
Sacramento, CA**

Prepared under: **Contract #100235**

November 1, 2011

HumRRO
Human Resources Research Organization

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Executive Summary

In 1999, the California legislature established the requirement that, beginning with the Class of 2004, students pass a graduation examination in English-language arts (ELA) and mathematics (Senate Bill [SB]-2X, written into Chapter 9 of the California *Education Code [EC]* as sections 60850–60859). In July 2003, after the completion of the 2002–03 California High School Exit Examination (CAHSEE) testing, the State Board of Education (SBE) voted to defer the CAHSEE requirement to the Class of 2006.

The legislation establishing the CAHSEE requirement also called for an independent evaluation of the impact of this requirement and of the quality of the CAHSEE tests. The Human Resources Research Organization (HumRRO) has served as the independent evaluator of the CAHSEE since January 2000. Over the past 11 years, HumRRO has gathered, analyzed, and reported a wide range of information as part of the independent evaluation of the CAHSEE. Copies of our annual and biennial evaluation reports may be found on the California Department of Education (CDE) CAHSEE Independent Evaluation Reports Web page at: <http://www.cde.ca.gov/ta/tg/hs/evaluations.asp>.

This annual report covers analyses of test results and other evaluation activities conducted through June 2011. Evaluation activities, findings from these activities, and recommendations based on these findings are summarized here. As in previous years, the evaluation includes analysis of test quality, test results, student perspectives, and an investigation of indicators of student achievement and success outside the CAHSEE program. Additionally, HumRRO began a special Post-High School Outcomes Study this year to investigate how students who graduated with differing levels of success on the CAHSEE are doing after high school. We will study these data to help evaluate the effectiveness of the CAHSEE passing standards and blueprints in the assessment of students' readiness for work and college. We report progress on the Post-High School Outcomes Study, noting it will be a major part of next year's evaluation activities. More detailed information on each activity is provided in the full report under the following topics:

- 2011 test administration, essay scoring, and score equating (Chapter 2)
- 2011 test quality review, including reviews of item development processes, alignment, and accessibility (Chapter 3)
- 2010–11 test results, including analyses of cumulative passing rates (Chapter 4)
- Analysis of student questionnaire responses (Chapter 5)
- Examination of other indicators of student achievement and success, including overview of the Post-High School Outcomes Study (Chapter 6)

The final chapter (Chapter 7) of this annual report includes both a summary of key findings from each of these activities and a number of general policy recommendations for further improving the CAHSEE and its use. Following are the major findings as of June 2011, after eleven and a half years of evaluation.

CAHSEE Test Quality Continues to be Good

As in prior years, HumRRO reviewed the alignment of CAHSEE test forms to the blueprints specifying the content standards to be assessed. Good alignment provides the key evidence for the validity of the interpretation of the CAHSEE test scores as an indicator of competency in the required content. Alignment results from 2011 were mostly consistent with results from 2005 and 2008 for mathematics and with results from 2005, 2008, and 2009 for ELA. The CAHSEE test forms continue to surpass, for most strands, the minimum criterion for each alignment measure, although for some strands the alignment outcomes are consistently somewhat lower than for others. The 2011 CAHSEE mathematics test form was aligned with all or most of the targeted content strands for each alignment measure. The ELA test form was aligned with the majority of targeted content strands for two alignment measures, with more than half of the targeted content strands for one measure, and for less than half the strands for the fourth measure.

HumRRO worked with the National Center on Educational Outcomes (NCEO) to conduct the accessibility review of CAHSEE test design relative to the various student populations who take the CAHSEE. The test forms demonstrated many instances of fidelity to universal design considerations, including appropriate grade level vocabulary and sentence complexity, inclusion of commonly used words, sensitivity to test-taker characteristics, and identifiable questions. Some concerns about visual presentation of items were noted.

This year, we continued analyses of the accuracy with which the essay portion of the ELA test was scored and found acceptable accuracy similar to that observed in prior years. Two-thirds of the time, two independent scorers assigned the exact same score for each essay. Independent scores differed by more than one point about one percent of the time. We also found that the test forms used in different administrations were of comparable difficulty, as indicated by consistency in the raw-to-scale score tables resulting from test form equating. Further, we conducted a detailed replication of item analysis and equating for the March 2011 form that fully confirmed the operational results.

Test Scores Have Been Improving

Among many arguments for instituting the CAHSEE is the belief that this requirement would lead schools to improve the effectiveness of instruction in the content judged important for success after high school and lead students to work harder to master this content. Figure ES.1 shows that competency in the CAHSEE content, as indicated by scores from the initial testing of grade ten students, has improved over the

past eight years. The percentage of students passing both parts on the first try has increased steadily from 64.3 percent in 2004 (Class of 2006) to 73.8 percent in 2011 (Class of 2013). Initial passing rates for Hispanic, African-American, and economically disadvantaged students showed even larger gains, indicating a modest reduction of achievement gaps at grade ten for these groups.

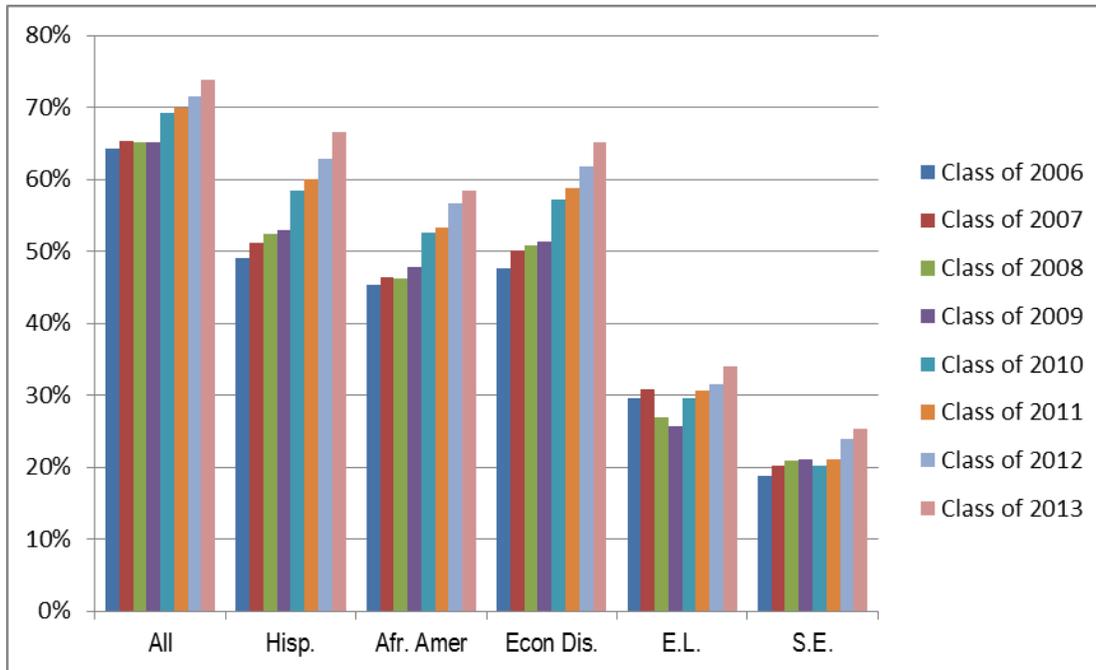


Figure ES.1. Trends in overall grade ten passing rates for selected groups. (Reproduction of Figure 4.2)

Note: Hisp = Hispanic or Latino, Afr. Amer = African American or Black, Econ Dis = Economically disadvantaged, EL = English Learner, SE = students in special education.

One particular problem addressed by the CAHSEE requirement is student participation in elective high school mathematics courses. When the CAHSEE requirement was first passed, school districts established graduation requirements and some districts did not require students to take specific mathematics courses to receive a high school diploma. A statewide requirement that students take Algebra I was added shortly thereafter. Since the CAHSEE requirement was implemented for the Class of 2006, the percentage of grade ten students who have already taken Algebra I and are taking even higher level mathematics courses has increased steadily and dramatically, from 56 percent for the Class of 2006 to 73 percent for the Class of 2013 (Table 4.25). For all groups except English learners and Native Americans, the percentage taking courses beyond Algebra I continued to increase this year. However, the percentage of economically disadvantaged, Hispanic, and African American students taking courses beyond Algebra I continued to lag behind that of white and Asian students. For example, the percentage of Black or African-American students taking courses beyond Algebra I this year (67 percent) was about the same as the percentage of white students taking courses beyond Algebra I five or six years ago.

Increases in the grade ten passing rates indicate improved effectiveness of instruction prior to the point at which students take the CAHSEE for the first time. There is also evidence for improved remediation for students who do not initially pass the CAHSEE. The calculation of cumulative pass rates beyond grade ten is a difficult and controversial process, particularly given assumptions that must be made with an incomplete set of data. For example, when a student does not pass the CAHSEE in grade ten and does not retest in grade eleven, he or she may have dropped out or may have moved out of the state and continued high school elsewhere. Similarly, the test data available to HumRRO cannot identify when a student passes the CAHSEE in grade ten and then moves out of state. While the assumptions are subject to debate, HumRRO has retained consistent assumptions over time to facilitate interpretation of trends. Recognizing some difficulty in tracking students across grade levels, HumRRO estimates that cumulative passing rates for grade twelve general education students have increased from 91.2 percent for the Class of 2006 to 94.2 percent for the Class of 2011 (Table 4.11).

One new analysis HumRRO conducted this year looked more closely at the 2010–11 testing status of students in the Class of 2011 who had not passed one or both parts of the CAHSEE as grade eleven students, with testing status defined as either “continuing” or “not continuing” to test in grade twelve. As might be expected, the percentage of students not continuing to test was higher for those who had passed neither the ELA nor mathematics test through grade eleven (35.5%) than for those who had passed one of the two tests, with 21.5 percent of those who had passed ELA not continuing, and 18.6 percent of those who had passed mathematics not continuing (Table 4.12). When testing status was compared to the prior mean CAHSEE score earned by students on the test they had yet to pass, the prior mean was found to be only very slightly higher for students who continued to test compared to the mean for students who did not. This seems to indicate that there is a reason other than prior test performance that may be responsible for students choosing not to continue testing, hence denying themselves the opportunity to be successful on the CAHSEE.

One final indication of the impact of the CAHSEE requirement on student achievement is the significant number of students not passing the CAHSEE by the end of grade twelve who continue to work to pass in a fifth or subsequent year of high school. Roughly 25,500 general education students and 16,000 students in special education who were first-time seniors in 2010 had not met the CAHSEE requirement by May 2010 (Table 4.33). Of these, nearly 9,400 general education students and about 2,400 special education students took the CAHSEE at least once this year. Slightly over one-quarter of the general education students, but just about a tenth of the special education students who took the CAHSEE in their fifth year of high school completed the requirement. Also nearly 2,500 general education students in the Class of 2009 who had not yet passed the CAHSEE continued to try to pass it this year, and over 600 of these students did pass (Table 4.30). While there is no comparable data on fifth-year seniors prior to the CAHSEE requirement, the number now continuing to work to meet the new requirement is quite significant.

Significant Gaps in Passing Rates Persist

While performance on the CAHSEE has increased for key demographic groups, significant gaps in CAHSEE passing rates persist. As shown in Figure ES.1 above there has been a modest reduction in gaps in initial passing rates for Hispanic or Latino, African American or Black, and economically disadvantaged students. Notwithstanding this modest reduction, their passing rates are still 7–15 percentage points below overall passing rates. Initial passing rates for ELs have increased only modestly, with about a third of these students meeting the CAHSEE requirement in grade ten. Almost by definition these students will have great difficulty passing at least the ELA portion of the CAHSEE until they achieve proficiency in English and are no longer classified as ELs. Trends for ELs are better captured by trends in scores on the California English Language Development Test (CELDT) reported elsewhere (see <http://celdt.cde.ca.gov/>). Finally, while there has been some improvement for students in special education, less than one quarter of these students met the CAHSEE requirement in grade ten.

Students Report Varying Perspectives on the CAHSEE

As part of the independent evaluation, students complete a brief questionnaire after each part of the CAHSEE. The questions are designed to identify different ways that students are affected by the CAHSEE requirement. Responses to several questions suggest that, overall, increases in student CAHSEE scores result from a combination of increased help and increased effort. For example, this year 43 percent of all grade ten students said that a teacher spent time in class helping them get ready to take the CAHSEE ELA test and 27 percent said a teacher spent time helping them get ready to take the CAHSEE mathematics test (Table 5.4). In addition, the percentage of this year's grade ten students saying they used the CAHSEE on-line prep increased to 12 percent for ELA and increased to 10 percent for mathematics (Table 5.6).

Trends in student responses indicate teachers have increasingly focused coursework on the skills tested by the CAHSEE. This year about 49 percent of all grade ten students said that all of the questions on the CAHSEE ELA test were similar to those encountered in class, up from 41 percent in 2005. Similarly, 44 percent of students said that all of the questions on the CAHSEE mathematics test were similar, compared to 35 percent in 2005 (Table 5.19). About 95 percent of all grade ten students said most or all of the topics on the ELA test were covered in their courses, up from 92 percent of grade ten students in 2005. For mathematics, the percentage saying most or all of the topics were covered in their courses rose from 89 to 91 percent over the same period (Table 5.17). The rigor of related courses has also increased. The percentage of grade ten students saying that the questions on the CAHSEE were more difficult than questions encountered in their course work dropped from 18 percent in 2005 to 12 percent in 2011 for ELA and from 22 percent in 2005 to 19 percent in 2011 for the mathematics test (Table 5.21).

In contrast to these generally positive perceptions, grade ten minority and low income students (ED), students with disabilities (SWD), and English learners (EL)

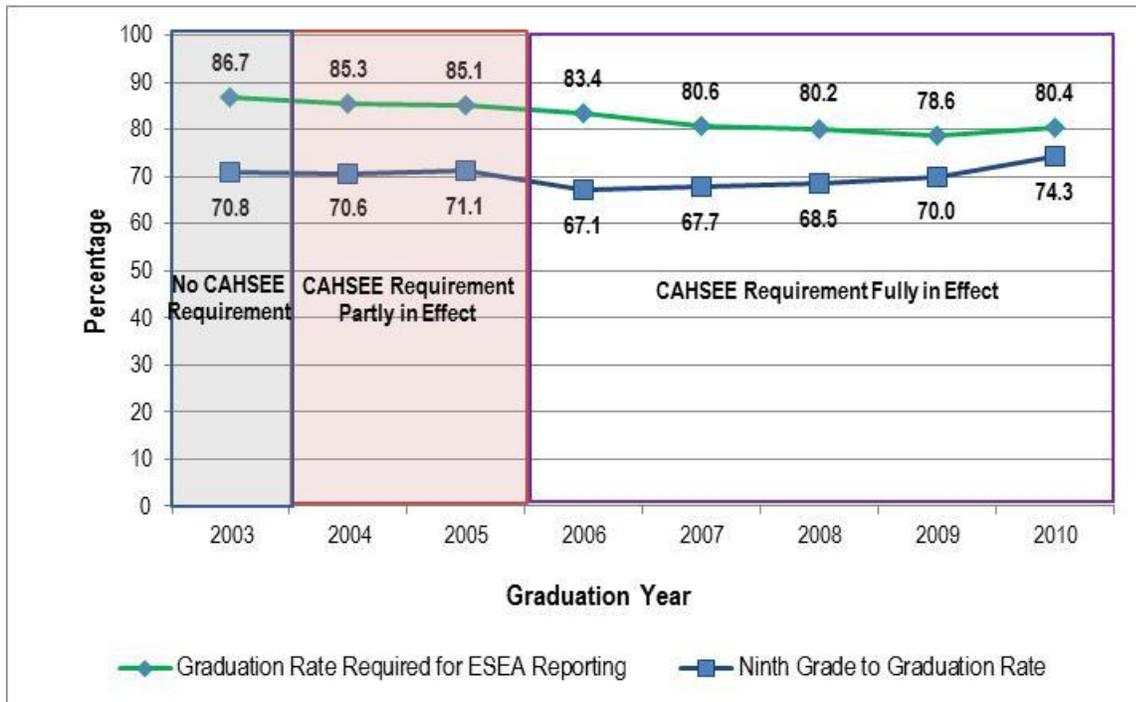
continue to report a somewhat different picture. For example, ED, SWD and EL students report at higher levels than other students that test questions and topics on the CAHSEE differ from what they have seen in class and are more difficult than questions they see on classroom tests and homework. ED, SWD, and EL students were more likely than the general population to report nervousness as preventing them from doing as well on the test as they could. Hispanic or Latino, African American, and American Indian/Native Alaskan groups also report higher levels of difficulty with the test content than the general population reported.

As to graduation expectations and post-high school plans, grade ten students continue to be optimistic. About 84 percent of all grade ten students expect to graduate from high school on time, and about 62 percent of them plan to attend a four-year university. About 10 percent of grade ten students said they expect to graduate but may need additional coursework beyond their senior year (Table 5.8). That optimism declines for those who struggle to pass the CAHSEE, with only about 20 percent of this year's grade twelve students still taking the CAHSEE reporting that they plan to attend a four-year university (Table 5.33). However, when asked what they would do if they did not pass this time, only about 4 percent of the grade twelve students who actually did not pass said they would give up trying to get a diploma (Table 5.38). The rest were willing to keep trying through additional courses, community college programs, or the GED program.

Graduation Rates Increased and Dropout Rates Decreased, but Gaps Persist

We examined trends in other academic indicators to see if there might be changes that could be associated with the implementation of the CAHSEE requirement, beginning with the Class of 2006. Details of the indicators analyzed and findings from these analyses are reported in Chapter 6 and summarized here.

Graduation rates dropped when the CAHSEE took effect as a graduation requirement in 2006 but the pattern has been more complicated since. The four-year adjusted cohort graduation rate complies with the U.S. Department of Education's 2008 guidance and accounts for students who transfer in and out of California schools from grade nine on. This rate is represented by the blue line in Figure ES.2 and shows a steady climb after the 2006 dip, reaching its highest level in several years in 2010. A second calculation, the grade nine to graduation rate, is calculated simply as the number of graduates divided by the number of grade nine students four years prior. This calculation is depicted as the green line in Figure ES.2. Although this rate had continued its decline after the 2006 dip, it rose in 2010. Gaps in graduation rates have narrowed but continue to be large, ranging from 59.0 percent for African American students to 89.4 percent for Asian students.



Source: CDE DataQuest. <http://data1.cde.ca.gov/dataquest> (accessed August 24, 2011).

Figure ES.2. Trends in two graduation rates.
(Reproduction of Figure 6.5)

The 2010 increase in graduation rates was accompanied by a decline in dropout rates. Table ES.1 shows the four-year dropout rates by demographic groups. Aside from an anomalous upward spike for the Class of 2009, the dropout rates have declined each year from 2007 to 2010, to a low of 17.7 percent for the Class of 2010. Large differences in dropout rates persist, from a low of 7.1 percent for Asian students to a high of 30.3 percent for African American students.

**Table ES.1. CDE Four-Year Dropout Rates by Demographic Group
(Extracted from Table 6.3)**

Demographic Group	Four-Year Derived Dropout Percentage				Percentage Point Decrease in Dropout Rate
	2006–07	2007–08	2008–09	2009–10	
Race/Ethnicity					
African American (not Hispanic)	35.8%	32.9%	36.8%	30.3%	5.5
American Indian	28.1%	24.1%	30.0%	23.8%	4.3
Hispanic	26.7%	23.8%	26.7%	22.0%	4.7
Pacific Islander	24.8%	21.3%	25.4%	18.8%	6.0
White	13.3%	11.7%	14.1%	10.8%	2.5
Filipino	10.6%	8.6%	10.7%	7.3%	3.3
Asian American	9.0%	7.9%	9.6%	7.1%	1.9
Multiple/No Response	26.8%	23.3%	N/A	N/A	N/A
Other Demographic Groups					
Socioeconomically Disadvantaged	25.4%	23.2%	25.2%	18.9%	6.5
LEP†	23.5%	21.7%	26.4%	22.7%	0.8
Special Education ‡	26.6%	23.6%	27.0%	15.0%	11.6
State Totals	21.1%	18.9%	21.5%	17.7%	3.4

Source: CDE DataQuest. <http://data1.cde.ca.gov/dataquest> (accessed July 7, 2011).

† Limited English Proficient for federal reporting includes English learners and fluent-English proficient students that have not yet tested at the proficient or above level for three years on the CST ELA test.

‡ Special education students in the Classes of 2006, 2007, 2010 and 2011 were exempt from the CAHSEE requirement.

Students are Participating in More College Preparation

One concern with the CAHSEE requirement was that it might lead to a focus on more basic courses at the expense of advanced coursework. Among other indicators we have tracked, the percentage of students taking and passing Advanced Placement (AP) tests has been an important check of this concern. In fact, participation in AP examinations has increased both before and after the CAHSEE requirement took effect. Nearly a third of the 2010 graduating class (32 percent) took at least one AP examination and over one-fifth (21 percent) achieved a score of 3 or better on at least one AP examination.

Participation in the SAT college entrance examination continued its slight decline in the 2009–10 school year. Participation on the ACT—which had only about one-quarter of the participation among California students that the SAT program did—increased. We presented achievement on the SAT and ACT using two metrics each and found inconsistent results for both examinations. Mean SAT scores continued a three-year increase, but the percentage of students earning a combined score of 1500 or better continued a two-year decline. Mean scores on the ACT decreased slightly but the percentage of students achieving a score of 21 or higher increased.

The CDE is Making Meaningful Improvements in Data and Reporting

The CDE recently implemented a new data collection system, the California Longitudinal Pupil Achievement Data System (CALPADS), with the potential to expand and improve available data. The CALPADS system aggregates data from a student-level database. In addition, the CDE online system, the California Basic Educational Data System (CBEDS), has been enhanced with select new reports. Four-year adjusted cohort graduation and dropout rates provide outcomes for a cohort of students (i.e., a graduating class) over time. We also note that CDE added disaggregated graduation rates for graduating cohorts in 2010 for the first time, making this important educational indicator more transparent.

Recommendations

As in past years, HumRRO offers a number of recommendations for improving the CAHSEE and its use based on findings from the evaluation. This year, we focus on two general recommendations related to our updated findings. We did not include prior recommendations with no new findings from current year evaluation work. We will, however, conduct a cumulative review of the status of all prior recommendations for the 2012 Biennial Report. . The two general recommendations are:

General Recommendation 1: The State Board of Education and the California Department of Education should review the content and rigor of the CAHSEE requirement and propose alternatives for consideration by the Legislature and the Governor.

It has been more than ten years since the CAHSEE blueprints were first adopted by the SBE. It is an appropriate time for CDE and the SBE to review: (a) the pending change to the Common Core State Standards, including college and career readiness standards for high school youth, (b) experience with the current CAHSEE and with high school graduation tests in other states, and (c) initial data from our post-high school outcomes study that will be available in the coming year. Based on the outcome of such a review, the CDE and the SBE should recommend any changes in the content and rigor of the CAHSEE requirement that seem necessary and appropriate to ensuring that a high school diploma signals readiness for college and careers.

General Recommendation 2: California should set and maintain consistent requirements for students with disabilities with respect to the CAHSEE.

The CAHSEE requirement was appropriately deferred for two years for all students from 2004 to 2006 to allow time for instruction at earlier grades to prepare students to take and pass Algebra I and also to prepare students to meet high school ELA expectations. The requirement was deferred two additional years for SWD, from 2006 to 2008, while a law suit on behalf of these students was resolved. This second delay provided additional time to adjust individual education programs (IEPs) at earlier grades to prepare students for the high school requirements. For the high school classes of 2008 and 2009, SWD had to meet the CAHSEE requirement to receive a

diploma, although waivers were available if students needed a testing modification to receive a passing score. Under current law, SWD in the high school classes of 2010, 2011, and 2012 have once again been exempted from the CAHSEE requirement, leaving teachers, parents, and the students themselves uncertain as to what is expected beyond spring 2012. Issues leading to the current exemption need to be resolved so that efforts to improve instruction for SWD will resume in full. Resolution of these issues will require agreement on appropriate alternatives for ways that SWD can demonstrate required knowledge and skills and might include identification of appropriate goals for students who are not able to participate in regular academic instruction.

In addition to these two general recommendations, HumRRO offers several specific recommendations for improving CAHSEE development, administration, and scoring procedures. These recommendations are listed briefly here and described more fully in Chapter 7.

Specific Recommendation 1: *California should ensure that local educational agencies (LEAs) and school site test administration personnel are trained to deliver appropriate accommodations and modifications to students with disabilities.*

Specific Recommendation 2: *California should ensure that statewide student data systems are as accurate and up-to-date as possible.*

Specific Recommendation 3: *California should work with its test administration vendor to achieve improved content alignment of items assessing the content standards in the strands of Mathematical Reasoning and Reading and Comprehension.*

Specific Recommendation 4: *California should examine the visual presentation of the CAHSEE to achieve closer alignment with the principles of universal design for assessment.*

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INDEPENDENT EVALUATION OF THE CAHSEE: 2011 EVALUATION REPORT

Chapter 1: Introduction

D. E. (Sunny) Becker and Laress L. Wise

Eighteen states had exit examinations in place in 2002, and another six states, including California, were phasing in exit examinations but not yet withholding diplomas (CEP, 2002). By 2010, 28 states were withholding diplomas from students based on their exit examination performance. “Public schools in these states enroll 83 percent of the nation’s students of color and more than three-quarters of the country’s low-income students” (CEP, 2010).

History of California High School Exit Examination

In 1999, the California state legislature enacted the requirement that, beginning with the Class of 2004, students pass a graduation examination in English-language arts (ELA) and mathematics (Senate Bill (SB)-2X, written into the California *Education Code (EC)* as Chapter 9, sections 60850–60859). This requirement was modified in 2002 through the passage of Assembly Bill (AB) 1609. The revised legislation gave the State Board of Education (SBE) authority to postpone the California High School Exit Examination (CAHSEE) requirement, based in part on the results of a study that examined the extent to which both test development and standards-based instruction met standards for this type of examination (Wise et al., 2003a). In July 2003, after completion of the 2002–03 CAHSEE testing, the SBE voted to defer the CAHSEE requirement to the Class of 2006. It has been in effect ever since.

The requirement for students with disabilities (SWD), however, has varied over time. In 2002, a lawsuit (Kidd et al. vs. O’Connell et al., formerly referred to as the Chapman case) was filed on behalf of SWD. While the suit was pending, the parties agreed that SWD in the classes of 2006 and 2007 could receive a diploma even if they did not pass the CAHSEE, as long as they met all other local and state requirements. Many of these students continued to take the CAHSEE despite the dispensation. A final settlement was reached in March 2008 reinstating the requirement that SWD pass the CAHSEE and requiring the California Department of Education (CDE) to conduct a study of SWD who are unable to pass. On September 30, 2008 the legislature enacted AB 2040, establishing *EC* sections 60852.1 and 60852.2, which require an advisory panel be established to develop findings and recommendations for alternative means (from the CAHSEE) for eligible SWD to graduate. In 2009 the AB 2040 Panel, an advisory panel of educators and others with experience in assessment or in working with SWD, developed recommendations that addressed the components of the AB 2040 statute requirements, including the definition of eligible students, specific options, scoring, uniformity, cost, and level of administration.

Independent Evaluation of the CAHSEE

The original legislation mandating the requirements for the graduation examination specified an independent evaluation of the CAHSEE. The CDE awarded the evaluation contract to the Human Resources Research Organization (HumRRO). The original contract period operated from 1999 through 2004; a second contract was awarded to HumRRO to continue the evaluation through 2007, a third contract continued the evaluation through 2010; and a fourth contract continues the evaluation through October 2014.

HumRRO's efforts have focused on analyses of data from tryouts of test questions and from the annual administrations of the CAHSEE. Reports have included analysis of trends in pupil performance, retention, graduation, dropout, and college attendance rates, although no direct causal relationship between the CAHSEE and these various outcomes is assumed. The legislation also specified that evaluation reporting would include recommendations to improve the quality, fairness, validity, and reliability of the examination. The legislation required an initial evaluation report in June 2000 and biennial reports to the Governor, the Legislature, the SBE, and the CDE in February of even-numbered years.

In addition to the legislatively mandated biennial evaluation reports, the contracts for the evaluation required an annual report of evaluation activities. The present report meets the contract requirement for a report of activities and findings during the 2010–11 evaluation. This report adds to results and recommendations included in prior evaluation reports (Wise, Hoffman, & Harris, 2000; Wise, Harris, Sipes, Hoffman, & Ford, 2000a; Wise, Sipes, George, Ford, & Harris, 2001; Wise et al., 2002b; Wise et al., 2003; Wise et al., 2004a; Wise et al., 2004b; Wise et al., 2005; Wise et al., 2006; Becker & Watters, 2007; Becker, Wise, & Watters, 2008; Becker, Wise, & Watters, 2009, Volumes 1 and 2; Becker, Wise, & Watters, 2010a; Becker, Wise, and Watters, 2010b). All of these reports are available on the CDE Web site at <http://www.cde.ca.gov/ta/tg/hs/evaluations.asp>.

Other states are facing similar challenges and issues. The Center for Education Policy (CEP) has been reporting on high school graduation tests across the country since 2002. Recent reports have focused on trends in gaps in pass rates (Zabala and Minnici, 2008), transitions toward end-of-course examinations (Zabala, Minnici, McMurrer, & Briggs, 2008), issues for English Language Learners (Minnici, Zabala, & Bartley, 2007), issues for students with disabilities (Zabala, 2008), alternate pathways (Zhang, 2009), conflicts between state policy and school practice (Zhang, 2009), and graduation requirements in states that do not require students to pass an exit examination in order to graduate (Dietz, 2010).

Summary of 2010 Evaluation Activities

To provide a context for the current study, in this section we summarize the findings and recommendations from our most recent (September 2010) annual report. We reported several major findings, each supported by a discussion of detailed findings throughout the report:

- **CAHSEE test quality is good.** In prior years, HumRRO reviewed the alignment of CAHSEE test forms to the blueprints specifying the content standards to be assessed. Good alignment provides the key evidence for the validity of the interpretation of the CAHSEE test scores as an indicator of competency in the required content. Results indicate that CAHSEE test forms assess the target content standards fairly and fully and, with minor exceptions, measure the depth of knowledge specified in the content standards. This year, we continued analyses of the accuracy with which the essay portion of the ELA test was scored and found acceptable accuracy similar to that observed in prior years. Two-thirds of the time, two independent scorers assigned the exact same score for each essay. Independent scores differed by more than one point less than one percent of the time. We also found that the test forms used in different administrations were of comparable difficulty as indicated by consistency in the raw-to-scale score tables resulting from test form equating.
- **Test scores have been improving.** Among many arguments for instituting the CAHSEE is the belief that this requirement would lead schools to improve the effectiveness of instruction in the content judged important for success after high school and lead students to work harder to master this content. The percentage of students passing both parts on the first try increased steadily from 64.3 percent in 2004 to 71.5 percent in 2010. In addition, since the CAHSEE requirement was implemented for the Class of 2006, the percentage of grade ten students who have already taken Algebra I and are taking even higher level mathematics courses has increased steadily and dramatically, from 56 percent for the Class of 2006 to 72 percent for the Class of 2012. Increases in the grade ten passing rates indicate improved effectiveness of instruction prior to the point at which students take the CAHSEE for the first time. There is also evidence for improved remediation for students who do not initially pass the CAHSEE. Recognizing some difficulty in tracking students across grade levels, HumRRO estimates that cumulative passing rates for grade twelve general education students have increased from 91.2 percent for the Class of 2006 to 94.4 percent for the Class of 2010. One final indication of the impact of the CAHSEE requirement on student achievement is the significant number of students not passing the CAHSEE by the end of grade twelve who continue to work to pass in a fifth or subsequent year of high school.
- **Significant gaps in passing rates persist.** While performance on the CAHSEE has increased for key demographic groups, significant gaps in CAHSEE passing rates persist. Initial passing rates for minority and low income students have

increased but are still 10–15 percentage points below overall passing rates. Initial passing rates for ELs have been relatively flat, with less than a third of these students meeting the CAHSEE requirement in grade ten. Finally, while there has been some improvement for students in special education, less than one quarter of these students met the CAHSEE requirement in grade ten.

- **Students report getting more help and working harder.** As part of the independent evaluation, students complete a brief questionnaire after each part of the CAHSEE. The questions are designed to identify different ways that students are affected by the CAHSEE requirement. Responses to several questions suggest that increases in student CAHSEE scores result from a combination of increased help and increased effort. Responses also indicate that teachers have increasingly focused coursework on the skills tested by the CAHSEE. Responses to some of the questions suggest that students are working harder to learn required material because of the CAHSEE.
- **More students are continuing to grade twelve, but somewhat fewer graduate on time.** We examined trends in other academic indicators to see if there might be changes that could be associated with the implementation of the CAHSEE requirement, beginning with the Class of 2006. While more students are continuing to stay in school, the percentage graduating on time has dropped since the CAHSEE requirement took effect for the Class of 2006. Analysis indicated a 4 percent decline in four-year graduation rates starting with the Class of 2006. While this rate has since recovered somewhat, it is still significantly below the pre-2006 rate.
- **Students are taking and passing advanced courses.** One concern with the CAHSEE requirement was that it might lead to a focus on more basic courses at the expense of advanced coursework. Among other indicators we have tracked, the percentage of students taking and passing Advanced Placement (AP) tests has been an important check of this concern. In fact, participation in AP courses has increased both before and after the CAHSEE requirement took effect.
- **AB 2040 Panel recommendations may be feasible;** further work is needed to implement them uniformly and within available funding levels

The interested reader is referred to the 2010 annual report (Becker, Watters, & Wise, 2010b) for further explication of these findings.

The 2010 evaluation report also included several recommendations:

- *Recommendation 1:* A pilot study is needed to try out specific criteria for meeting the CAHSEE requirement using an approach similar to that recommended by the AB 2040 Panel. One option for alternative assessment of SWD was evaluation of work samples. The study should address the feasibility of collecting and scoring the required work samples. The study should also explore ways to ensure

uniform application of criteria for demonstrating equivalent competency in the knowledge and skills required for passing the CAHSEE.

In 2009 the AB 2040 Panel, an advisory panel of educators and others with experience working with SWD or assessment, developed recommendations for alternative means of meeting the CAHSEE requirement for eligible SWD. The AB 2040 Panel's recommendations addressed the following components of the AB 2040 statute requirements: eligible students, specific options, scoring, uniformity, cost, and level of administration. In 2010 the CDE requested that HumRRO, as part of its independent evaluation of the CAHSEE, conduct an analysis of the Panel's recommended CAHSEE Performance Validation Process (PVP), a two-tier alternative means process. The goal of the analysis was to collect information about (a) the feasibility of the proposed alternative means and (b) how the level of academic achievement demonstrated by those alternative means compares to the level of academic achievement in the content standards required for passage of the CAHSEE. HumRRO's annual report (Becker, Watters, and Wise, 2010b) included the details of this investigation.

- *Recommendation 2:* The CDE should work with its CAHSEE contractor to improve the system used by districts for ordering regular and special needs versions of the CAHSEE.
- *Recommendation 3:* California should ensure that statewide student data systems are as accurate and up-to-date as possible.
- *Recommendation 4:* Collect post-high school outcome information for students who have taken the CAHSEE and use this information in reviewing the content and rigor of the CAHSEE requirements.
- *Recommendation 5:* California education leaders and educators should encourage students who do not pass in four years to continue to master CAHSEE skills and work to improve effectiveness of fifth year programs.
- *Recommendation 6:* New interventions should be targeted at earlier grades, using test scores to identify students who have fallen behind their classmates and are at risk of failing to meet the CAHSEE requirement.
- *Recommendation 7:* Study schools that are doing a better job in helping all and particular groups of students to meet the CAHSEE requirement. Identify approaches and programs that might be effectively adopted in other schools.
- *Recommendation 8:* California should study the impact of fiscal constraints on systems to help students master the skills required by the CAHSEE.

Research Questions

The current evaluation is guided by research questions drawn from three sources. The first is the legislation requiring the evaluation. Three questions are specified in *EC* Section 60855(a):

1. **How have students performed on the examination?** “Analysis of pupil performance, broken down by grade level, gender, race or ethnicity, and subject matter of the examination, including any trends that become apparent over time (Section 60855 (a)(1)).”
2. **What effect has the CAHSEE requirement had on high school completion and college attendance?** “Analysis of the exit examination’s effects, if any, on college attendance, pupil retention, graduation, and dropout rates, including analysis of these effects on the population subgroups (Section 60855(a)(2)).”
3. **Does the CAHSEE requirement have differential effects on different demographic groups?** “Analysis of whether the exit examination is likely to have, or has, differential effects, whether beneficial or detrimental, on population subgroups (Section 60855(a)(3)).”

The second source for identifying specific research questions is the information requested by CDE in the Request for Proposals (RFP) for this evaluation. While the RFP does not include a clearly defined list of research questions for the evaluation, the requirements for the biennial reports suggest the following three general questions in addition to those specified in the *EC*:

4. **Is the examination a valid, fair, and efficient assessment of competency in the knowledge and skills specified in the test blueprints?** This question underlies all of the activities specified under RFP Section 3.3 (pp. 13-14) involving review of test development, administration, scoring, and equating.
5. **What programs or strategies are schools using to help students prepare for and pass the CAHSEE, from middle school through grade twelve and beyond, and how effective are the programs or strategies?** This question is implied by requirements 2, 3, and 4 for the biennial reports specified in RFP Section 3.3.C (p. 16).
6. **How effective are test variations for students with disabilities and for English learners?** This question is implied by requirements 5 and 6 for the biennial reports specified in RFP Section 3.3.C (pp. 16-17).

The final source for identifying specific research questions was HumRRO staff's professional judgment as evaluators, based on having talked with stakeholders and policy-makers during the more than 10 years of the CAHSEE evaluation:

- 7. Is the CAHSEE requirement sufficiently rigorous to ensure that students receiving a diploma are ready for college or work?** This question is at the heart of the current national debate over common standards for K–12 student achievement.

Organization and Contents of 2011 Annual CAHSEE Evaluation Report

The 2011 Annual CAHSEE Evaluation Report covers activities performed in the independent evaluation from November 1, 2010 through June 30, 2011. It covers results from CAHSEE administrations during the 2010–11 school year as well as findings from HumRRO's 2011 review of CAHSEE test items for content alignment and accessibility.

Chapter 2 reports findings from HumRRO's in-person observations of two operational examination processes in 2011, test administration and essay scoring, and recommendations for improving standardization, quality, efficiency, or security of these program areas. Also included in this chapter are findings from our analyses of scoring consistency results for the essays and the results of our independent replication of score equating for the March 2011 administration.

Chapter 3 reports findings from HumRRO's in-person observations of the CAHSEE test item development process by the administration contractor, ETS, with respect to content, bias and sensitivity review sessions. It also presents HumRRO's spring 2011 review of CAHSEE test items for content alignment and accessibility. The alignment review investigated the match between the CAHSEE test items and the ELA and mathematics content standards measured by the CAHSEE, while the accessibility review involved an evaluation of universal test design relative to various student populations.

Chapter 4 analyzes results from the 2010–11 CAHSEE administrations, reporting results for grade twelve students in the Class of 2011 and comparing their passing rates to those of grade twelve students in the classes of 2006, 2007, 2008, 2009, and 2010. In addition, we report passing rates for grade ten students in the Class of 2013 in comparison to passing rates for grade ten students in previous classes, and passing rates and score gains for grade eleven students in the Class of 2012 who did not meet the CAHSEE requirements during their sophomore year. This chapter also analyzes the rates of persistence and progress of students from the classes of 2006 through 2010 who did not meet the CAHSEE requirement in time to graduate with their classes.

Chapter 5 investigates the challenges and impacts of the CAHSEE program from the student perspective. Brief questionnaires were administered to students upon completion of each CAHSEE test. Analyses include comparisons of current year responses to response patterns in previous years, as well as comparisons among

distinct groups of students (e.g., students who passed the CAHSEE versus those who did not).

Chapter 6 presents trends in educational achievement and perseverance through analyses of data on year-by-year high school enrollment trends, graduation and dropout rates, college preparation, and Advanced Placement (AP) test achievement. While these do not directly reflect effects of the CAHSEE, trends over time can be informative in assessing shifts in student achievement. These analyses draw on publicly available data from external sources such as the CDE's DataQuest, which provides access to the California Basic Educational Data System (CBEDS). This chapter also describes the early stages of a study currently underway to evaluate the relationship between student performance on the CAHSEE and subsequent post-high school outcomes such as college, military, and careers.

Finally, Chapter 7 presents our findings and recommendations based on the data analyses and results presented in previous chapters.

Chapter 2: Test Administration, Essay Scoring, and Score Equating

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Introduction

In 2011 HumRRO conducted in-person observations for the purpose of evaluating two areas of the CAHSEE program: test administration and essay scoring. Our goals for the observations were to evaluate (a) the CAHSEE test administrations conducted at two high school sites for conformance to established standardized procedures and (b) the CAHSEE test administration contractor's (ETS's) process for scoring essays with respect to the range-finding session. We also analyzed scoring consistency results for the essays. As a final step in evaluating test administration and scoring procedures, HumRRO conducted an independent replication of score equating for the March 2011 administration.

This chapter presents key findings from our observations and analyses as well as recommendations for improving standardization, quality, efficiency, or security of these program areas.

Test Administration

Under ETS's current contract with CDE, auditing of CAHSEE test sites (conducted by a subcontractor) was resumed this year, with a small percentage of high schools audited for compliance with criteria for pre-administration activities, administration plans, testing facilities, administration activities, and post-administration activities. HumRRO's test administration site visits were designed to complement ETS's audits and to include site personnel interviews in addition to observations. The selection of the two Local Educational Agencies (LEAs) HumRRO visited was made by CDE. The CAHSEE coordinators of the selected LEAs facilitated HumRRO's site visit arrangements, informing school site personnel several weeks prior to test administration about the purpose and procedures for HumRRO's visit.

HumRRO observed test administrations of ELA and mathematics on March 8-9, 2011 in two southern California high schools. Our goals for the site visits were to use observation and interview outcomes (a) to evaluate the procedures followed at each test site relative to the procedures described in the administration manuals published by ETS and (b) to make quality control recommendations that could improve standardization or achieve greater efficiency or security.

As has been customary in the past, HumRRO conducted the site visits in such a way as to avoid interfering with the operational administration. Our data collection methods involved observing from a distance (e.g., remaining seated at the back of the testing classrooms for the duration of each session without interacting with students), "looking over the shoulder" (e.g., to see how test materials were handled), and inquiring

about particular aspects of the administration (e.g., asking test examiners about accommodations provided). We also conducted a structured interview with each test site coordinator about security, test examiner training, test variations, and general site logistics.

In preparation for the site visits, HumRRO staff reviewed the *California High School Exit Examination District and Test Site Coordinator's Manual* and the *Directions for Administration* and *Directions for Administration – Special Test Versions* manuals. These are the documents provided to school site personnel by ETS as the means of communicating requirements for all aspects of test administration. Key findings from our observations of the test administrations and our interviews with test site coordinators are described below.

Observations During Testing

Testing Environment. Conditions at both sites were adequate with respect to lighting, ventilation, space and a writing surface for each student, and minimal noise, although at one site students were seated at round tables instead of the standard front-facing setup. Most testing rooms were classrooms, though a gym and library were used for larger groups at one site. “Quiet—Do not Disturb” signs were posted on the testing room doors, and examiners established a tone of seriousness, focus, and discipline appropriate for the assessment.

Test Materials Distribution/Collection. At both sites the test examiners distributed materials in accordance with standard procedures; since the examiners were teachers who knew the students, student identification was not checked. Both sites used Pre-ID answer documents; examiners asked students to verify they were given the correct answer documents by checking their printed names. After testing, examiners completed the ten-digit field for each student’s statewide student identifier (SSID).

Directions. Test examiners at one high school read the *Directions for Administration* bold faced script verbatim, with the exception of the sentence within ELA Session 2, “Do NOT go back to your answers for Session 1,” which was not read. At the other high school, examiners omitted several key portions of the script (e.g., “Pens cannot be used because the ink cannot be read by the scanners” and “Look at the birth date and the other information that is printed in this area. If these are not correct, raise your hand”). At both sites, test examiners either collected or reminded students to put away cell phones. At one site, students were warned that use of cell phones was forbidden and would cause a test to be invalidated.

Testing Variations, Accommodations, and Modifications. At one school, we observed the administration of the ELA test to a group of 15 students with disabilities, (SWD) with the “test questions read aloud” modification. With this modification, every passage, test question, and answer choice is read aloud by the examiner to the students. Although two test examiners were assigned to this group, they were not both present throughout the testing, and when only one was in the room student monitoring declined. Also, at one point in Session 2, the examiner stumbled a bit when reading a

passage and mentioned that she was getting tired of reading. Most students looked in their booklets and seemed to follow along, though a few looked at the examiner while she read aloud. On several occasions, when one student would ask for a question to be repeated, other students would be confused about which question was being read. At one point, noticing that students were turning pages and looking confused; the examiner then checked student test booklets and discovered they did not all have the same version of the test. Students were told to raise their hands if they needed help, and the examiner would come to their desks to read aloud from their booklets. That same group of students was offered another ELA modification, use of a dictionary. At the same school, for mathematics testing, we observed a group of 20 SWD who were each provided calculators as a modification. At the other school, two students were seated at separate tables that provided extra space for their large print booklets.

Timing. As the CAHSEE is an untimed but not unlimited time test, the sessions were observed to be adequately conducted with respect to the approximate testing times listed in the manuals, with allowance for additional time as needed by individual students or early dismissal when all students were finished. With regard to additional time within a test, however, one examiner told students in the ELA and mathematics testing that they could return to any part that was not completed in Session 1 after they finished Session 2. At one site, several rooms either had no clock or had a clock that did not display the correct time.

Monitoring. At one school, two examiners were assigned to the group of about 15 students; at the other school, a large group administration of almost 50 students had 5–6 examiners. For the most part, examiners monitored students to ensure that they were complying with the directions (e.g., not communicating with other students); however, there were occasions at both sites when students were not closely supervised. At one school several students wore earphones from music players or phones during testing, and one student was observed recording an essay response in the ELA Session 1 portion of the booklet during administration of Session 2. At the other school, students who had completed Session 1 were allowed access to their textbooks to work on homework assignments. However, since their test materials had not been collected, this allowed a possible opportunity for cheating. At both schools examiners responded quickly to students' questions.

Student Motivation. For the most part, students approached the tests seriously and appeared to be concentrating on their work and quietly responding to CAHSEE questions. However, several students at one site were dismissed from testing due to their disruptive behavior (i.e., talking, eating noisily).

Incidents. The *Directions for Administration* script indicates that a student's score can be invalidated if the student is found cheating or compromising test security, and the Test Administration Incident Report Form provides for local determination of when an answer document should be invalidated due to cheating. At one school, the test examiner was observed collecting the test materials of several students caught using cell phones or talking during test administration, telling the students their scores would be invalidated, and dismissing them from the testing room.

Findings from Interviews with Test Site Coordinators

Materials. One test site coordinator indicated she submitted her order for special versions (e.g., large print) materials to her district, which took care of the ordering process with ETS. The other test site coordinator personally ordered materials from ETS, but he was unfamiliar with the special test versions available, such as the audio CD option for the “test questions read aloud” ELA modification. He was therefore unaware that conducting this type of session without using ELA booklet Version 001 for all students tested would be problematic, due to the multiple versions of the test a group of students would normally have. No testing materials were missing or defective at either site.

Maintaining Security. Both test site coordinators we interviewed provided controlled access to a secure locked storage area or room for testing materials at the school; they ensured all examiners had signed the Test Security Agreements. At one site, the test materials were monitored in a secure manner throughout the two testing days HumRRO observed. At the other, the test site coordinator merely asked the test examiners to sign in and out the quantity of test booklets they took to the testing rooms, instead of recording both the quantity and test booklet ID numbers using the inventory form in the *Director and Test Site Coordinator’s Manual*. When two booklets were missing at the end of the ELA testing day, all examiners, their returned test materials, and testing rooms had to be checked again to locate the secure materials (they were found). Also at this site, a student who was not taking the test was recruited to assist in organizing the collected answer documents, which directly contradicts one of the Test Security Agreement provisions.

Training Test Examiners. One test site coordinator provided a one-hour training session two weeks prior to testing for all the school’s examiners using the *Directions for Administration* manual and an answer document; she also met with the examiners four to five times to plan the optimal testing environment for each student (e.g., which teacher each student would feel most comfortable with as an examiner). The other test site coordinator provided no formal training, but met the day before testing for about an hour with all examiners, some of whom had proctored before, to review the procedures (e.g., how to deal with tardiness and misconduct, what the Pre-ID documents looked like and what examiners needed to fill out); he also offered them the manual to review. This same test site coordinator explained his school’s decision (and thus his training of test examiners) to take a hard line against cheating by invalidating the test of any student caught using a cell phone during testing, without investigation into whether the phone was actually being used to cheat. Neither test site coordinator had heard of the ETS training video. One test site coordinator praised the support she received from her district coordinator, with whom she meets three to four times a year and from whom she receives training documents, such as reminders about the administrations and how to avoid common errors.

Preparing for Administration. Both test site coordinators described the time-consuming tasks of coordinating rooms, test examiners, students, supervised breaks,

and bell schedules for this census administration; approximately 500 students were tested at one site, and 200 at the other. Coordinators took care to help provide students with a testing environment that would best support their optimal performance on the test (e.g., honor students were assigned the larger group sessions such as the gym, so the more intimate classroom environment could be used by other students for whom passing would be more challenging). Alternative room arrangements were made for students who might need extended time to complete the tests and for late arrivals.

Providing Testing Variations, Accommodations, and Modifications. Each test site coordinator met with his or her school’s special education teacher to determine what variations, accommodations, or modifications were needed according to the students’ IEPs or 504 plans so that the appropriate materials could be ordered, and the correct options provided. Neither site had a need for English learner variations. At one site, two students were provided the large-print test booklet accommodation. At the other site, all SWD taking the test were provided with the “test questions read aloud” ELA modification and the mathematics calculator modification. Although achieving the equivalent of a passing score (350 or higher) on one or both parts of the CAHSEE with a modification means a student is eligible to request a waiver, it is not the same as passing the test. Based on our interview, it seemed that test site staff was unaware of the difference between modifications and accommodations, relative to CAHSEE passing status, as neither had heard of the waiver process. Perhaps this is due to the current exemption in place for SWD. If the exemption is eliminated in the future, it will be vital for test site coordinators and special education teachers to understand the implications of providing students with modifications.

Evaluation of Test Administration

Overall, the March 2011 CAHSEE test administrations we observed at two high schools in southern California were conducted in accordance with the required procedures, and no significant security problems were observed. However, we did observe several areas in which the standardization and quality of the administration could be improved if specific recommendations were addressed.

Recommendations for LEAs and test sites:

- Engage the IEP decision-making team for SWD in the test preparation process to ensure appropriate testing variations, accommodations, and modifications (in terms of test materials, facilities, and proctoring) are offered to students.
- Ensure adequate training is provided to test site coordinators and examiners. This training should emphasize the importance of reading the complete script verbatim from the *Directions for Administration* as well as monitoring of students at all times and ensuring that students do not have books or other reference materials on their desks.

- Ensure that students requiring additional time in one session of a subject area (e.g., Session 1 of ELA) are given that time before they start the next session, though this may require moving them to a different testing room.
- Use ETS-provided forms for securely monitoring test materials distributed to and collected from test examiners.
- Ensure each testing room has a functioning clock or that the amount of time remaining is posted by the proctor periodically.

Recommendations for ETS:

- Communicate more clearly in the *Director and Test Site Coordinator's Manual* and in the *Directions for Administration* how to handle students who need extended time, to ensure answers will only be recorded for the session in progress.
- Provide clarification in the *Director and Test Site Coordinator's Manual* about how the "test questions read aloud" modification should be conducted, in terms of test materials, facilities, and proctoring required. Currently, the instructions do not seem to inform LEA and test site coordinators that they should order and use only the Version 001 test booklet if the *teacher* is doing the reading to more than one student (this point is clearly made for use of the audio CD special version).
- Add information to the *Director and Test Site Coordinator's Manual* and the *Directions for Administration* to recommend that two readers be assigned to share, perhaps in alternation, the task of reading aloud the passages (for ELA), questions, and answer choices during the administration of "test questions read aloud" sessions, since this task is critical to student performance.
- In the opening bold faced script of the *Directions for Administration*, add critical information, such as encouraging students to do their best and telling them that they cannot have books, cellular phones, or any other materials on their desks, to help ensure that this information is conveyed to the students.

Given the variety of anomalies observed during just two site visits, we recommend that CDE continue to provide for HumRRO's independent observations of test administration for purposes of monitoring quality control processes. Additionally, perhaps the number of future site visits could be increased to allow incorporation of visits to special settings (e.g., alternative schools), observations of ETS's subcontractor audits, or fall test administrations for students in grades eleven or twelve.

Essay Scoring

Two HumRRO staff attended the CAHSEE Range-Finding Session facilitated by Educational Testing Service (ETS) staff at their Sacramento office on May 13, 2011. The purpose of this meeting was to review a sample of student responses to the CAHSEE ELA writing prompt from the fall 2009 field test and select a set of exemplar responses that represent the scoring guide points and also exemplify the range of possible student approaches. The papers chosen to train and qualify scorers of student responses to the July 2011 CAHSEE administration would serve a critical role in standardizing application of the generic CAHSEE essay scoring rubric to responses to this particular prompt. HumRRO's goals in observing the meeting were to understand the processes ETS uses to achieve scorer consistency and to recommend possible areas for improvement. HumRRO staff used a checklist of best practices for training and manual scoring, shown in Appendix A, to guide their observations.

Observations of Range-Finding Session

Two ETS facilitators led the meeting. Participants included four experienced scoring leaders and one new scoring leader; all scoring leaders had former experience as readers (scorers of actual student responses). The CDE's CAHSEE ELA consultant also attended. ETS established a collegial atmosphere with introductions, distributed training materials, and explained the goals of the meeting: (a) to designate as anchor papers the clearest and most straightforward of the reviewed responses and (b) to designate as range-finding papers the responses that represented unusual approaches to the prompt.

ETS guided the participants through the training materials, which included the writing prompt, the scoring guide, five sets of 15 student essays, and range-finding score sheets. After having the prompt read aloud and emphasizing that it functioned merely as a stimulus or gateway to the essay, the facilitator led the participants through an in-depth review of the four-point scoring guide handout, shown in part in Figure 2.1. Discussion of what could be considered "responsive" to this particular prompt (e.g., the acceptability of a fictitious instead of a real-life person) was an important step in calibrating the participants to apply the scoring guide to the specific prompt at hand. In reviewing the scoring guide, the facilitator explained that even if a response failed to meet one or two of the six bulleted criteria at a particular score point, the response might still qualify for that holistic score. For example, a response that meets all of the criteria for a score level of 2 should not be lowered to a score level of 1 solely because the response contains errors in English language conventions. The ETS facilitator also explained that no one bulleted criterion takes precedence over the others for raising or lowering the score (e.g., a very strong essay that is less directly responsive to the task can still achieve a score of 4). After all participants indicated thorough understanding of the general content of the scoring guide, the facilitator proceeded to the next activity.

California High School Exit Examination SCORING GUIDE

Response to Writing Prompt

4 The essay—

- provides a *meaningful* thesis that is responsive to the writing task.
- *thoroughly* supports the thesis and main ideas with *specific* details and examples.
- demonstrates a consistent tone and focus, and illustrates a *purposeful* control of organization.
- demonstrates a *clear* sense of audience.
- provides a *variety* of sentence types and uses *precise, descriptive* language.
- contains few, if any, errors in the conventions* of the English language. (Errors are generally first-draft in nature.)

3 The essay—

- provides a thesis that is responsive to the writing task.
- supports the thesis and main ideas with details and examples.
- demonstrates a consistent tone and focus; and illustrates a control of organization.
- demonstrates a *general* sense of audience.
- provides a *variety* of sentence types and uses *some descriptive language*.
- may contain some errors in the conventions* of the English language. (Errors do not interfere with the reader's understanding of the essay.)

2 The essay—

- provides a thesis or main idea that is related to the writing task.
- supports the thesis or main idea(s) with *limited* details and/or examples.
- demonstrates an *inconsistent* tone and focus; and illustrates *little, if any*, control of organization.
- demonstrates *little* or **no** sense of audience.
- provides *few, if any*, types of sentences, and uses *basic, predictable* language.
- may contain several errors in the conventions* of the English language. (Errors may interfere with the reader's understanding of the essay.)

1 The essay—

- *may* provide a *weak* thesis or main idea that is related to the writing task.
- *fails* to support the thesis or main ideas with details and/or examples.
- demonstrates a *lack of* tone and focus; and illustrates **no** control of organization.
- may demonstrate **no** sense of audience.
- may provide **no** sentence variety and uses *limited* vocabulary.
- may contain *serious errors* in the conventions* of the English language. (Errors interfere with the reader's understanding of the essay.)

* *Conventions of the English language refer to grammar, punctuation, spelling, capitalization, and usage.*

This guide describes the attributes of student writing at each score point. Each paper receives the score that best fits the overall evidence provided by the student in response to the prompt. However, papers that do not meet the standard for conventions at a 4 or a 3 score point receive a score that is at most one point lower.

Figure 2.1. CAHSEE Response to Writing Prompt Scoring Guide.

The facilitator explained the goal of the session was to identify a total of 12 anchor papers and 12 range-finding papers. The two types of papers served different purposes:

Anchor papers As a set, the anchor papers would clearly demarcate acceptable types of papers within a single score point and would help readers differentiate between adjacent score points. Therefore, the student responses selected as anchor papers needed to represent each of the four score points as well as scores at the high and low ends of the score points, as indicated by a plus sign (+) for high and a minus sign (-) for low.

Range finding papers Range-finding responses were to be selected to illustrate a variety of unusual approaches and the appropriate score point for each; these would be recorded as whole number point scores.

ETS posted a chart, modeled in Table 2.1, to be used to record the selected anchor and range-finding papers. The chart was a helpful visual indicator of meeting progress, and it enabled the facilitator to target the review of remaining responses to gaps in coverage.

Table 2.1. Anchor and Range-Finding Paper Selection Chart

Anchor Papers		Range-Finding Papers	
Score Points	Response ID	Score Points	Response ID
4		4	
4		4	
4-		4	
3+		3	
3		3	
3-		3	
2+		2	
2		2	
2-		2	
1+		1	
1		1	
1-		1	

The facilitator next directed participants to their packets of pre-screened (already scored by the facilitator and chosen for this session) student responses, asking them to independently read and record scores for the first set of 15 papers on their range-finding score sheets. Readers were told to add plus sign (+) or a minus sign (-) to a score if a paper mostly exhibited a particular score point's standards but for one or two bulleted criteria was above or below that score point. ETS allowed adequate time for everyone to finish scoring and then collected each participant's score for each paper, with a different participant being first to call out his or her score each time. In this approach, the facilitator established a cooperative tone of equality and accountability among the readers, creating a transparent setting for training discussions. The scores were recorded in a spreadsheet, as modeled in Table 2.2, and projected on a screen for discussion.

Table 2.2. Spreadsheet Used to Record Readers' Scores¹

#	Paper Number:	Reader 1	Reader 2	Reader 3	Reader 4	Reader 5	Comments
1	131533379	2+	2	3-	3	2	
2	131829504	4-	3+	3	4	4	
3	131441715	1	1	1	1	1	
4	131534349						
5	131848519	3	3	3-	3	2+	
6	131544295						
7	131848345						
8	131848524	3	4-	3	3	4	
9	131813789						
10	131542993	2	2	2	2-	2	
11	131842897	3	2	2	2+	2	
12	131541993	2	2	2	2-	2	
15	131489444						

¹ Note: Data are fictitious for purposes of illustration.

ETS determined the order of papers to discuss, intentionally beginning with those for which there was disagreement at the score point, then proceeding to those for which there was agreement on the score point but disagreement as to whether it should include a plus or minus sign. ETS facilitated the following steps in the process for discussing each paper:

1. A volunteer read the entire student response aloud.
2. Readers on the high and low ends presented the rationale for their judgments.
3. Readers discussed the ideas presented regarding the appropriate score.
4. Readers were asked if they wanted to change their initial score as a result of listening to the discussion.
5. Changes to scores were recorded on the spreadsheet.

Based on the discussion, ETS staff recorded preliminary notes about why a paper received a particular score. These notes would be included in the annotations or scoring notes to be used during actual scoring of July responses. To help evaluate the readers' differing decisions and to determine the final score level, the ETS facilitator sometimes read aloud the score-point description of each bulleted criterion in the scoring guide. As the session progressed, he also occasionally invited readers to refer to papers that had already been discussed to help guide scoring decisions.

Once the group reached consensus on a paper's score, the facilitator suggested that the response be assigned as an anchor paper or a range-finding paper, or neither,

asking the readers if they had any objections; he then recorded the nine-digit ID number of the response in the appropriate column of the posted chart. The facilitator chose several range-finding papers to help readers learn to avoid allowing personal bias to influence scoring, and he reviewed some responses in the packet for purposes of illustrating what should or should not be considered a “crisis” paper. When there were several papers under consideration for a particular cell of the chart, the facilitator stressed that the chosen paper should be the one that best teaches future readers to apply the scoring guide to this prompt. This process was repeated until all anchor and range-finding papers had been selected; not all 75 papers in the training packet were reviewed.

A discussion arose during this meeting regarding ETS’s ability to identify evidence of cheating. ETS staff explained that their system of “alerts,” whereby scoring leaders and readers are alerted to watch for specific wording or patterns in student responses, helps to identify any suspect responses early on in the scoring process. For example, an alert would be issued if several responses include elephants when elephants have nothing to do with the writing prompt. Another “red flag” could be a response that includes several paragraphs that are extremely well-worded and well-organized, preceded or followed by a paragraph of markedly lesser-quality writing.

ETS staff offered assurances that their policy of fostering open communication between readers, lead scorers, master lead scorers, and supervisory ETS staff facilitates the flow of information and encourages questions if something unusual is encountered during scoring. In addition, due to low reader turnover, most of the readers are experienced and know to ask questions if something suspicious arises. Also, the number of people reading each response (every response is scored independently by two readers, and a percentage of responses are scored a third time by supervisory staff) increases the likelihood that evidence of potential cheating would be brought to the attention of senior staff.

Evaluation of Range-Finding Session

Overall, the May 2011 CAHSEE Range-Finding Session was excellently managed and professionally conducted. The time allowed for the tasks seemed adequate, and the ETS facilitators used that time efficiently for the most part. The discussions were always collegial and thorough—there was no indication that any comments or opinions were disregarded.

In HumRRO’s quality assurance work with other assessments scored by human readers, for example constructed response items in the National Assessment of Educational Progress (NAEP), we have encountered differing definitions of “anchor” versus “range finding” papers than those used by ETS for CAHSEE essay scoring. For example, we are familiar with anchor papers used to represent unambiguous examples of a particular score point and range-finding papers used to represent the range or scope of possible types of papers with nuances that illustrate the high or low end of a score point.

We observed ETS staff using several techniques that were effective in guiding readers to consistently apply the scoring guide to the prompt and in ensuring selection of appropriate anchor and range-finding papers for future reader training.

Key observations regarding ETS training techniques:

- Discussing key aspects of applying the scoring guide (e.g., what number and type of errors are acceptable for a particular score point, what types of errors are construct irrelevant) before scoring responses in the training packet made efficient use of the time available in the session.
- Letting readers evaluate training papers independently at their own pace ensured that all had adequate time to decide on a score for every paper prior to discussion.
- Asking readers to explicitly describe the score point criteria that matched the paper under discussion ensured that scoring decisions were consistently driven by the scoring guide.
- Asking readers to read aloud the student responses helped train them to avoid unintentionally correcting or filling in blanks of the student's writing; it also highlighted solid writing skills of students whose poorer handwriting or misspellings could bias scoring decisions.
- Leading discussion of particular aspects of one or more responses to arrive at specific guidance relative to the session's prompt created important notes for training.
- Cross-checking scores on papers to confirm or refine current and prior scoring decisions was an important step to achieving reliability.

Based on our observations of this range-finding session we offer the following:

Recommendations on quality assurance and process improvement:

- Consider using a short sequential number to identify the selected response, rather than the nine-digit ID number. Readers occasionally had difficulty locating a paper by its long ID number, leading to confusion about which paper was under discussion.
- Provide more time at the beginning of the meeting to explain the criteria for categorizing a response as an anchor as opposed to a range-finding paper. On occasion the facilitator would ask readers only whether or not they agreed with his categorization of a paper as anchor versus range-finding, without providing a rationale for why he categorized it as he had.

- During training and calibration for scoring, some readers, especially those new to CAHSEE, might prefer seeing the scoring rubric in a matrix format, as shown in Table 2.3. Once trained, readers tend to internalize the scoring guide and use a more holistic approach in their ratings; however, the matrix scoring guide could still be easier for some readers to use when scoring essays on the borderline between score points because it allows direct comparison of differences between bulleted criteria of parallel content.

Consistency in Scoring the Essays

We analyzed data on essay scoring results to determine the degree of consistency in the scoring of the student essays used with the 2010–11 CAHSEE administrations and compared the results to indicators of scoring consistency from 2004–05 through 2009–10. Prior to the 2003–04 school year each student taking the ELA test was required to write two essays, the first involving analysis of an associated text and the second in response to a freestanding question that did not involve text processing. Beginning in 2004, the ELA test was shortened and students were required to write only one essay. In the 2004–05 test year the type of essay prompt (text-based versus stand-alone) varied across administrations. In the 2005–06 through 2010–11 testing years, stand-alone prompts were used in each administration.

As in prior years, each essay was graded by at least two different readers (scorers) using a four-point rubric that indicated the essay response characteristics required for each score level. Four was the highest score; a score of zero was assigned to responses that were off-topic, illegible, or left blank. Since the scoring rubrics vary from one essay topic to another and different topics were asked in different administrations, we monitored the level of agreement between independent readers for the question used with each administration. Table 2.4 and 2.5 show agreement rates by grade for each of the 2010–11 test forms and for test forms from prior years. Agreement is measured by: (a) how often (what percentage of the time) there was exact agreement versus (b) how often there was a difference of more than one score point. Whenever there was an initial difference of more than one score point, the essay was read again by a third, more experienced reader and, if necessary, a fourth so that all operational scores resulted from two readers who agreed to within a single score point.

Table 2.3. Recommended Revised Format for Scoring Guide

Score Level	Thesis An essay at this level...	Support An essay at this level...	Focus & Organization An essay at this level...	Audience An essay at this level...	Variety of Language An essay at this level...	EL Conventions An essay at this level...	Persuasive Composition An essay at this level...
4	provides a <i>meaningful</i> thesis that is responsive to the writing task.	<i>thoroughly</i> supports the thesis & main ideas with <i>specific</i> details & examples.	demonstrates a consistent tone & focus, & illustrates a <i>purposeful</i> control of organization.	demonstrates a <i>clear</i> sense of audience.	provides a <i>variety</i> of sentence types & uses <i>precise, descriptive</i> language.	contains <i>few, if any, errors</i> in the conventions of the English language. (Errors are generally first-draft in nature.)	states & maintains a position, authoritatively defends position with precise & relevant evidence, & convincingly addresses the reader's concerns, biases, expectations.
3	provides a thesis that is responsive to the writing task.	supports the thesis & main ideas with details & examples.	demonstrates a consistent tone & focus; & illustrates a control of organization.	demonstrates a <i>general</i> sense of audience.	provides a <i>variety</i> of sentence types & uses <i>some descriptive language</i> .	may contain some errors in the conventions of the English language. (Errors do not interfere with reader's understanding.)	states & maintains a position, generally defends that position with precise & relevant evidence, & addresses reader's concerns, biases, expectations.
2	provides a thesis or main idea that is related to the writing task.	supports the thesis or main idea(s) with <i>limited</i> details &/or examples.	demonstrates an <i>inconsistent</i> tone & focus; & illustrates <i>little, if any,</i> control of organization.	demonstrates <i>little or no</i> sense of audience.	provides <i>little, if any, variety in</i> sentence types, & <i>basic, predictable</i> language.	may contain several errors in the conventions of the English language. (Errors may interfere with the reader's understanding.)	may contain several errors in the conventions of the English language. (Errors may interfere with reader's understanding.)
1	may contain <i>several</i> errors in the conventions of the English language. (Errors <i>may</i> interfere with reader's understanding.)	<i>fails</i> to support the thesis or main ideas with details &/or examples	demonstrates a <i>lack of</i> tone & focus; & illustrates <i>no</i> control of organization.	may demonstrate <i>no</i> sense of audience.	may provide <i>no</i> sentence variety & uses <i>limited</i> vocabulary.	may contain <i>serious errors</i> in the conventions of the English language. (Errors interfere with reader's understanding.)	<i>fails</i> to defend a position with any evidence & <i>fails</i> to address reader's concerns, biases, & expectations.

As shown in Table 2.4, we again analyzed scoring consistency separately for grade ten, eleven, and twelve students. While the questions and the scoring process were identical for these groups, the quality of the papers they produced was not. Tenth grade students generated many more essays rated as 3 or 4 in comparison to grade eleven and twelve students, none of whom had passed the CAHSEE ELA when they were in grade ten. The greater range of scores increases the possibility that readers may disagree by more than one point, leading to lower agreement rates for the grade ten essays. The Kappa statistic¹ shown in Table 2.4 takes differences in chance agreement rates into account. The statistic has a value of 1.0 when there is perfect agreement and a value of 0.0 when agreement is at chance levels. Kappa values were not computed in prior years and so are not included in Table 2.5.

Table 2.4. 2010–11 Scoring Consistency for Student Essays by Administration and Grade

Admin.	Grade Ten			Grade Eleven			Grade Twelve		
	Percent Exact Agreement	Percent > 1 Score Point Different	Coefficient Kappa	Percent Exact Agreement	Percent > 1 Score Point Different	Coefficient Kappa	Percent Exact Agreement	Percent > 1 Score Point Different	Coefficient Kappa
July 2010	n/a	n/a	n/a	n/a	n/a	n/a	79.3	0.2	0.55
October 2010	n/a	n/a	n/a	77.0	0.4	0.59	78.6	0.4	0.58
November 2010	n/a	n/a	n/a	74.0	0.5	0.53	75.8	0.6	0.55
December 2010	n/a	n/a	n/a	75.6	0.7	0.53	80.5	0.2	0.51
February 2011	63.2	1.4	0.48	77.0	0.5	0.57	78.2	0.4	0.57
March 2011	67.6	0.9	0.49	82.1	0.2	0.60	82.6	0.2	0.62
May 2011	71.2	0.6	0.65	77.7	0.3	0.60	80.1	0.3	0.61
All 2010–11	66.7	1.0	0.49	76.7	0.4	0.57	78.6	0.4	0.58

Agreement rates were consistently high across grades and administrations/test forms, with Kappa values ranging from about .50 to .65. Agreement rates were somewhat lower for grade ten students in the two main census administrations, particularly for the February 2011 administration. The exact agreement rate was less than 65 percent, the rate of significant disagreement (more than one score point) was well above one percent, and the Kappa value was less than .50. It is likely that ETS had to bring in new scorers to handle the large volume of scoring of this administration. ETS may wish to review scorer training, qualifying, and monitoring procedures to see if agreement rates can be increased in future years.

Table 2.5 provides a comparison of agreement rates across years. Overall, the frequency of significant disagreements (more than one score point) was about the same in 2010–11 as it was in 2009–10 at each grade level. The exact agreement rate for grade ten this year was 66.7 compared to 66.6 percent the last year. The exact agreement rate for grade eleven dropped slightly from 77.1 to 76.7 percent, and the agreement rate for grade twelve also dropped a bit, from 80.0 to 78.6 percent. Previously, we suggested

¹ See Cohen, Jacob (1960). "A coefficient of agreement for nominal scales". *Educational and Psychological Measurement* 20 (1): 37–46.

targets of at least 70 percent exact agreement with no more than 0.5 percent disagreement by more than one score point. ETS did not meet these targets in the 2010–11 testing year for the grade ten essays. While agreement rates are generally acceptable, there is a slight trend toward less agreement and ETS may wish to review their scorer training and monitoring processes to see if further improvements are possible.

Table 2.5. Comparison of Scoring Agreement Rates from 2004–05 through 2010–11

Admin.	Grade Ten		Grade Eleven		Grade Twelve	
	Percent Exact Agreement	Percent > 1 Score Point Different	Percent Exact Agreement	Percent > 1 Score Point Different	Percent Exact Agreement	Percent > 1 Score Point Different
All 2004–05	66.5	0.9	70.3	0.9	-	-
All 2005–06	66.9	0.7	73.5	0.4	73.6	0.4
All 2006–07	69.9	0.4	77.4	0.2	77.7	0.3
All 2007–08	67.2	0.9	76.8	0.4	77.9	0.4
All 2008–09	66.9	0.8	77.4	0.3	79.5	0.3
All 2009–10	66.6	0.8	77.1	0.2	80.0	0.2
All 2010–11	66.7	1.0	76.7	0.4	78.6	0.4

Tables 2.6 and 2.7 provide more detailed information on scores assigned by each of the two independent readers for grade ten students last year in the February through May 2010 administrations and this year in the February through May 2011 administrations respectively. There was perfect agreement on the essays judged to be unscorable (score level 0). There was generally good agreement on essays assigned to score levels 1 through 3. If the first reader assigned a score at one of these levels, the second reader was most likely to assign the same score. Agreement at the highest level was lower than at other levels. If the first reader assigned a score of 4, the second reader was most likely to assign a score of 3. Nearly all of the serious (more than 1 point) disagreements involved one reader assigning a score of 2 and the other a score of 4. The average ratings were similar, 2.5 for last year and 2.4 for this year, and the pattern of disagreement between independent readers was very similar.

Table 2.6. Percentage of Grade Ten Essays Assigned Each Score Level by Each Reader in the February Through May 2010 Administrations

First Reader	Second Reader				
	0	1	2	3	4
0	1.01	0.00	0.00	0.00	0.00
1	0.00	1.21	0.77	0.01	0.00
2	0.00	0.75	36.52	12.19	0.38
3	0.00	0.01	12.13	25.31	3.43
4	0.00	0.00	0.39	3.35	2.53
Average score from first reader					2.5
Average score from second reader					2.5
Percent Exact Agreement (sum of diagonal elements)					66.6
Percent with differences greater than one point					0.8

Note. Bolded numbers indicate perfect agreement between the two readers.

Table 2.7. Percentage of Grade Ten Essays Assigned Each Score Level by Each Reader in the February Through May 2011 Administrations

First Reader	Second Reader				
	0	1	2	3	4
0	0.84	0.00	0.00	0.00	0.00
1	0.00	1.64	1.05	0.02	0.00
2	0.00	1.03	41.09	11.94	0.49
3	0.00	0.02	12.02	21.02	3.06
4	0.00	0.01	0.50	3.20	2.07
Average score from first reader					2.4
Average score from second reader					2.4
Percent Exact Agreement (sum of diagonal elements)					66.7
Percent with differences greater than one point					1.0

Note. Bolded numbers indicate perfect agreement between the two readers.

In summary, scoring consistency was similar to consistency rates in prior years and was generally acceptable. Nonetheless, ETS should review the training, qualification, and monitoring procedures used when new scorers are brought in to handle the large volume of essays in the February administrations, so as to make scoring consistency more comparable across administrations.

A final point about the accuracy of the essay scores that will be addressed further in subsequent evaluation reports is that there is no way of directly estimating how much a student’s score would vary across different essay prompts, since each student only responds to a single prompt. Prior analyses of similar tests (Wise, 2011) suggests that differences in student scores for different essay prompts could be significant. Currently, this facet is not addressed in assessing the accuracy of the overall ELA scores and the consistency in classifying students as meeting or not meeting the CAHSEE ELA requirement.

Verification of Score Equating

After each test administration, ETS analyzes item response patterns to determine the exact difficulty of each test question and then equates scores from the new administration to scores from prior test administrations.² The result of this equating is a conversion table showing the scale score to be reported for each number-correct (raw) score. The equated scale scores for a given number-correct score vary slightly across test forms, reflecting slight differences in the difficulty of achieving the number-correct score on each of the test forms. In 2007, HumRRO independently replicated ETS’ equating analyses for one administration (Wise & Rui, 2007) and found exact

² Equating is necessary to compensate for minor differences in difficulty in the forms used in different CAHSEE administrations. More detailed information about operational equating procedures may be found in technical documentation provided by ETS (see www.ets.org/cahsee).

agreement. As part of the continuing CAHSEE evaluation, CDE requested that HumRRO conduct another replication of CAHSEE equating and scaling procedures.

The first step in the equating process is to review classical item statistics, including percent correct and item-total correlations, to identify any poor performing items. Classical statistics were found to be acceptable for all operational items. The second step is to estimate item response theory (IRT) difficulty values for each multiple choice item and graded response step values for the different essay score levels. HumRRO's replication differed from the operational procedures used by ETS in two significant ways. First, we used the MULTILog program to estimate item difficulties, while ETS uses proprietary software that is slightly different. We wanted to see if the choice of IRT software made any noticeable difference. Second, ETS uses a number of steps to trim the samples used for calibration, eliminating incomplete data and cases with inconsistent essay and multiple choice item scores. We used all of the students who received scores in our analyses. These two differences led to small mean differences in the estimated item difficulties which were eliminated through equating. Figure 2.2 shows a plot of the item difficulty values that we estimated in comparison to the values estimated by ETS.

The next step in the equating process is to compare item difficulties estimated from the current administration with item difficulties estimated for each item in prior administrations. A subset of the current items is designated as linking items. To put item difficulty estimates on the prior scale, initial item difficulty estimates for these linking items are adjusted by adding a linear constant that makes them as similar as possible to the prior difficulties estimated for these items. The same adjustment is then applied to all operational items on the current form. As part of this step, it is important to check that all of the linking items are providing similar information about differences between the current and prior administrations. Figures 2.3 and 2.4 show how the new difficulty levels estimated by HumRRO compared to the prior difficulty estimates provided by ETS for mathematics and ELA respectively. For ELA, one linking item was found to have a different relationship to its prior difficulty than was found for all of the other linking items. HumRRO confirmed that ETS had also identified this same item as an outlier and dropped it from the equating analyses.

The final step in the equating analyses is to use the adjusted item difficulties to create a scoring table. The IRT model provides an expected number correct score for each value on the underlying reporting scale. This relationship is inverted to map the expected number correct score onto the underlying scale score. The scoring tables that we estimated differed slightly from the tables estimated by ETS due to round-off differences at a few points. Given slight differences in the calibration samples, these differences were to be expected. None of the differences affected the passing levels.

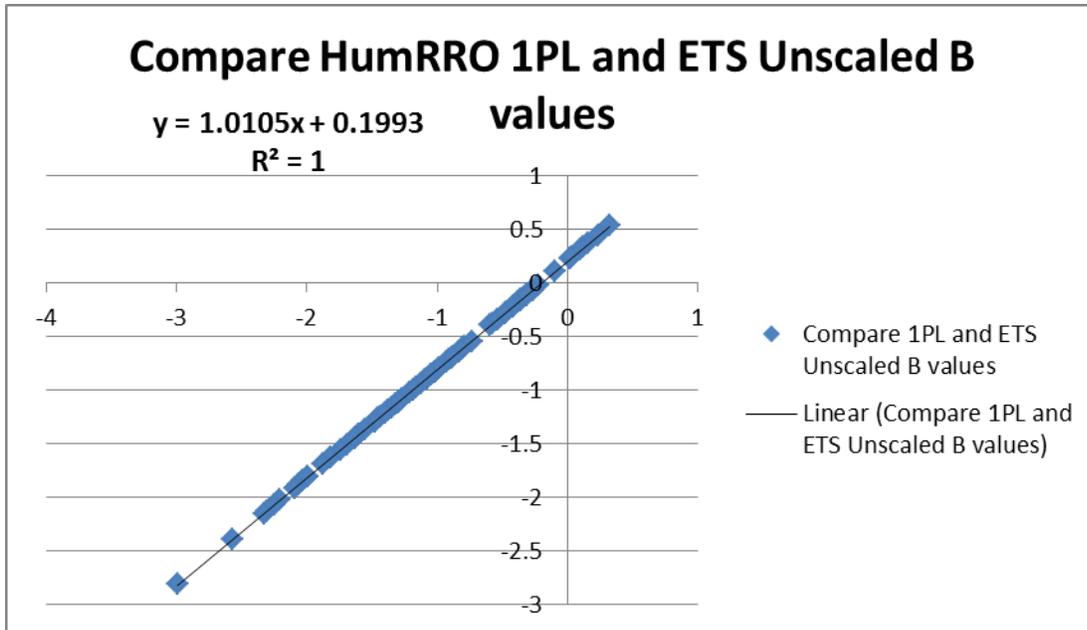


Figure 2.2. Comparison of IRT difficulties estimated by HumRRO and ETS.
 Note: HumRRO estimated item difficulties for a one-parameter logistic (1PL) model using Multilog and compared these to ETS difficulty estimates (b-values).

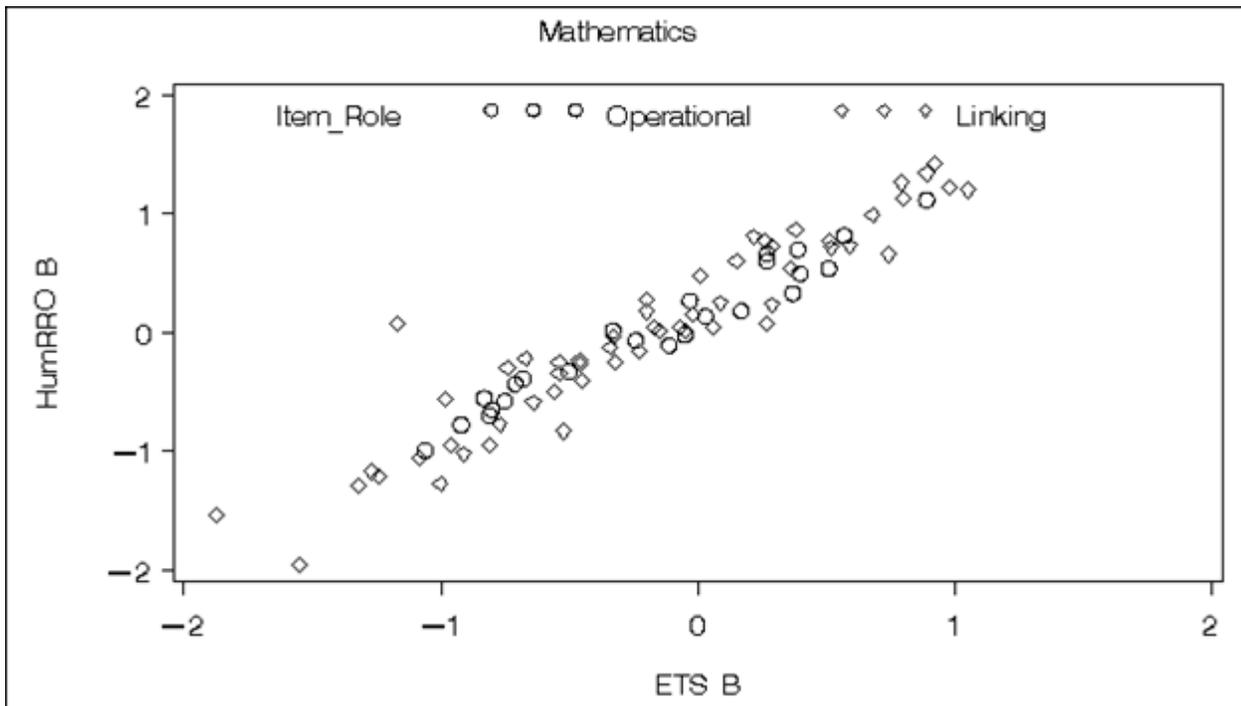


Figure 2.3. Comparison of Current and Prior IRT difficulty estimates for linking (L) and other operational items (O) on the March 2011 test form—Mathematics.

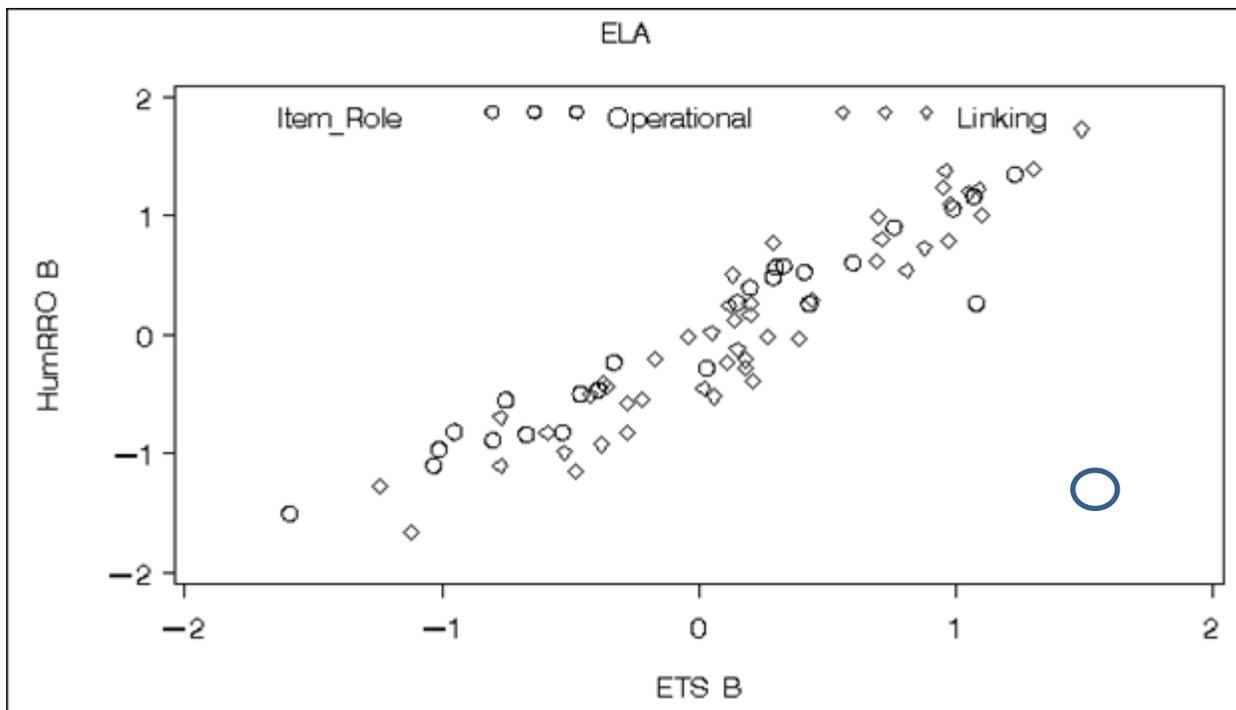


Figure 2.4. Comparison of Current and Prior IRT difficulty estimates for linking (L) and other operational items (O) on the March 2011 test form—ELA.

Tables 2.8 and 2.9 show the operational raw-to-scale score conversions used for each of the 2010–11 test forms. For mathematics, a student guessing at random will average 20 correct responses corresponding to scale scores ranging from 304 to 310. Guessing is less of an issue with the ELA test because of the substantial weight given to the essay. The number of correct items needed to reach a score of 350 and pass varies from 55 to 56 for ELA and 42 to 44 for mathematics. The number of correct answers needed to reach a score of 380 and be judged proficient for accountability purposes varies from 68 to 69 for ELA and 58 to 59 for mathematics.

In summary, HumRRO’s replication of score equating procedures provided an independent verification of the procedures used by ETS. Importantly, neither the choice of IRT estimation software nor the procedures used to trim the calibration sample were found to have any significant effect on the resulting score tables.

Table 2.8. Raw-to-Scale Score Conversions for the 2010–11 ELA Tests

Raw Score	Scale Score							Raw Score	Scale Score						
	Jul 10	Oct 10	Nov 10	Dec 10	Feb 11	Mar 11	May 11		Jul 10	Oct 10	Nov 10	Dec 10	Feb 11	Mar 11	May 11
0-15	275	275	275	275	275	275	275	51	342	342	342	342	343	343	342
16	275	275	275	275	275	275	275	52	344	344	343	344	344	345	344
17	275	277	275	275	277	275	276	53	346	346	345	346	346	347	346
18	<u>276</u>	<u>279</u>	<u>277</u>	<u>275</u>	<u>279</u>	<u>275</u>	<u>278</u>	54	348	348	347	348	348	349	348
19	278	281	279	277	281	278	280	55	350	350	349	350	350	352	350
20	280	283	282	279	283	280	283	56	352	352	351	352	353	354	352
21	283	285	284	281	285	282	285	57	354	354	354	354	355	356	354
22	285	287	286	283	287	284	287	58	356	356	356	356	357	358	356
23	287	289	288	286	289	287	289	59	358	358	358	358	359	361	358
24	289	291	290	288	291	289	291	60	360	360	360	360	361	363	360
25	291	293	292	290	293	291	293	61	362	362	362	363	363	365	362
26	293	295	294	292	295	293	295	62	365	365	364	365	365	368	364
27	295	297	296	294	297	295	297	63	367	367	367	367	368	370	366
28	297	299	298	296	299	297	299	64	369	369	369	369	370	373	369
29	298	301	299	298	301	299	300	65	371	371	371	372	372	375	371
30	300	302	301	300	303	301	302	66	374	374	374	374	375	378	373
31	302	304	303	302	305	303	304	67	376	376	376	377	377	381	376
32	304	306	305	304	307	305	306	68	379	379	379	379	380	383	378
33	306	308	307	306	308	307	308	69	381	381	381	382	382	386	381
34	308	310	309	308	310	309	310	70	384	384	384	385	385	389	383
35	310	312	311	310	312	311	312	71	387	387	387	387	388	392	386
36	312	314	313	312	314	313	314	72	390	390	389	390	391	395	389
37	314	315	315	314	316	315	316	73	393	393	392	393	394	399	392
38	316	317	317	316	318	317	318	74	396	396	395	396	397	402	395
39	318	319	319	318	320	319	319	75	399	399	399	399	400	406	398
40	320	321	320	320	322	321	321	76	402	402	402	403	404	410	401
41	322	323	322	322	323	323	323	77	406	406	406	406	408	414	405
42	324	325	324	324	325	325	325	78	409	410	409	410	411	418	409
43	326	327	326	326	327	327	327	79	413	414	413	414	416	422	413
44	328	329	328	328	329	329	329	80	418	418	418	418	420	427	417
45	330	331	330	330	331	331	331	81	422	423	422	423	425	433	422
46	332	332	332	332	333	333	332	82	427	428	427	427	430	439	427
47	334	334	334	334	335	335	334	83	432	433	433	431	436	445	433
48	336	336	336	336	337	337	336	84	438	439	439	436	442	450	439
49	338	338	338	338	339	339	338	85	445	446	446	442	450	450	446
50	340	340	340	340	341	341	340	86-90	450	450	450	450	450	450	450

Note. Shaded numbers reflect minimum scores for passing the diploma requirement (the first [blue] shaded number in each column) and for proficiency as used in school accountability (the second [yellow] shaded number); bold underlined scale scores indicate expected scores from guessing alone (chance).

Table 2.9. Raw-to-Scale Score Conversions for the 2010–11 Mathematics Tests

Raw Score	Scale Score							Raw Score	Scale Score						
	Jul 10	Oct 10	Nov 10	Dec 10	Feb 11	Mar 11	May 11		Jul 10	Oct 10	Nov 10	Dec 10	Feb 11	Mar 11	May 11
0-8	275	275	275	275	275	275	275	43	350	349	349	349	352	352	352
9	275	275	275	276	275	275	276	44	352	351	351	351	353	354	354
10	276	277	276	277	279	277	280	45	353	353	353	353	355	356	355
11	280	281	279	280	282	281	284	46	355	355	355	355	357	357	357
12	284	284	283	284	286	285	287	47	357	356	356	357	359	359	359
13	287	288	286	287	289	288	290	48	359	358	358	358	361	361	361
14	290	291	289	290	292	291	293	49	361	360	360	360	362	363	363
15	293	293	292	293	295	294	296	50	362	362	362	362	364	365	364
16	296	296	295	296	298	297	299	51	364	364	364	364	366	367	366
17	298	299	298	298	300	300	301	52	366	366	366	366	368	369	368
18	301	301	300	301	303	302	304	53	368	367	368	368	370	371	370
19	303	304	303	303	305	305	306	54	370	369	370	370	372	373	372
20	<u>306</u>	<u>306</u>	<u>305</u>	<u>306</u>	<u>308</u>	<u>307</u>	<u>309</u>	55	372	371	372	372	374	375	374
21	308	308	307	308	310	309	311	56	374	373	374	374	376	377	376
22	310	310	310	310	312	312	313	57	376	375	376	376	378	379	378
23	312	313	312	312	314	314	315	58	379	378	378	378	380	381	380
24	314	315	314	314	316	316	317	59	381	380	380	380	383	384	382
25	317	317	316	316	318	318	319	60	383	382	382	383	385	386	385
26	319	319	318	318	321	320	321	61	385	384	385	385	387	388	387
27	321	321	320	320	322	322	323	62	388	387	387	387	390	391	389
28	323	322	322	322	324	324	325	63	390	389	390	390	392	393	392
29	324	324	324	324	326	326	327	64	393	392	392	393	395	396	394
30	326	326	326	326	328	328	329	65	396	395	395	395	397	399	397
31	328	328	328	328	330	330	331	66	399	397	398	398	400	402	400
32	330	330	330	330	332	332	333	67	402	400	401	401	403	405	403
33	332	332	331	332	334	334	334	68	405	404	404	405	407	408	406
34	334	333	333	333	336	336	336	69	408	407	408	408	410	411	409
35	336	335	335	335	337	337	338	70	412	411	411	412	414	415	413
36	337	337	337	337	339	339	340	71	416	415	415	416	418	419	417
37	339	339	339	339	341	341	341	72	420	419	420	420	422	424	422
38	341	341	340	341	343	343	343	73	425	424	425	425	427	429	426
39	343	342	342	342	344	345	345	74	431	430	430	431	433	434	432
40	344	344	344	344	346	347	347	75	438	436	437	437	439	441	438
41	346	346	346	346	348	348	348	76	445	444	445	445	447	449	446
42	348	347	347	348	350	350	350	77-80	450	450	450	450	450	450	450

Note. Shaded numbers reflect minimum scores for passing the diploma requirement (the first [blue] shaded number in each column) and for proficiency as used in school accountability (the second [yellow] shaded number); underlined scale scores indicate expected scores from guessing alone (chance).

Chapter 3: 2011 Review of CAHSEE Test Quality

Leslie Taylor, Christopher Johnstone³, and Michele M. Hardoin

Introduction

Reviews of CAHSEE test quality during 2011 were organized around three main issues:

1. How effective are item development processes in detecting and correcting for weaknesses in item content and potential bias prior to field testing?
2. How well do the English-language arts (ELA) and mathematics CAHSEE test forms administered in 2011 align with the content standards they are designed to measure?
3. How well do the ELA and mathematics CAHSEE test forms administered in 2011 demonstrate conformance to principles of universal design to provide for student access to item content?

Our analyses answer each of these questions in turn. Results for item development processes are based on independent observations of ETS-led reviews, while analyses of ELA and mathematics CAHSEE test forms for alignment and universal design are based on data collection from a panel of experts.

Independent Review of Item Development Processes

HumRRO conducted in-person observations for the purpose of evaluating the CAHSEE contractor's (ETS's) item development process with respect to (a) a content review session and (b) a bias and sensitivity review session. In this chapter, we present key findings from our observations as well as recommendations for improving standardization, quality, efficiency, and security of these program areas.

The quality of a test is substantially dependent on the quality of the content of its items. This review was a new aspect of HumRRO's independent evaluation of the CAHSEE, incorporated into this year's activities to help determine whether the training and monitoring of item reviewers is sufficient to identify and improve concerns with item content and potential bias as early as possible in the development process.

Independent Review of Test Form Alignment and Accessibility

HumRRO performed two additional test quality tasks on *administered* test forms independently of the ETS review process. These tasks were conducted in a single workshop with panels of reviewers, one for ELA and one for mathematics. During the

³ National Center for Educational Outcomes (NCEO)

workshop, HumRRO first led an alignment review to investigate the match between CAHSEE test items and the subset of the California content standards to which the CAHSEE assessment is written. Second, we worked with the National Center on Educational Outcomes (NCEO) to facilitate an accessibility review to evaluate universal test design relative to the various student populations who take the CAHSEE. HumRRO conducted these reviews April 12–13, 2011, in Sacramento, California.

Reviews of alignment and accessibility contribute to accurate estimations of test validity. An alignment study evaluates the extent of content overlap between the test items and the content standards to determine whether the material on which students are assessed is the same as what they are expected to know. Content alignment results should demonstrate that the assessments (a) represent the full range of the content standards and (b) measure student knowledge in the same manner and at the same level of complexity as specified in the content standards. In addition, assessments must be accessible to the widest possible range of students for whom the test was designed. A review of test accessibility falls under the domain of universal test design with the purpose of determining that test items are appropriate in format, scope, and content (e.g., unbiased language) for all student groups, such as English learners and students with disabilities (SWD).

CAHSEE items undergo substantial review during the test development phase as part of standard procedures imposed by the test vendor. However, state and federal requirements call for *independent* evidence of the validity of the assessments used to calculate Adequate Yearly Progress (AYP). Furthermore, all states receiving Title I funds must present evidence from an external evaluator that they have established a fair and consistent assessment system based on rigorous standards, sufficient alignment between standards and assessments, and high-quality educational results.

HumRRO previously conducted item reviews of the CAHSEE for the CDE in 2002, 2005, 2008, and 2009. In 2002, the development of substantial new CAHSEE test items in ELA and mathematics led to the need for the first alignment review. In 2004, the CAHSEE test specifications underwent modest revision, and the examination was restarted for the Class of 2006, prompting additional alignment evaluations. HumRRO began applying the alignment method of Norman Webb (1997; 1999; 2005) beginning in 2005. In addition, we added an evaluation of universal design under the guidance and assistance of the National Center on Educational Outcomes (NCEO) in 2005 and in 2008. We applied similar methods in the 2009 review, although the focus was limited to English-language arts (ELA) and the universal design review was reduced in scope.

For the current alignment and accessibility reviews, CDE requested a review of CAHSEE mathematics and ELA items based on forms administered during the 2010–11 school year. We will summarize the method and outcomes of the alignment and universal design evaluations in separate sections of this chapter after the Test Development section.

Test Development

In this section, we describe the methods and observations made by HumRRO to evaluate separate ETS-led reviews of item content and bias and sensitivity.

Observation of Content Review Session

One HumRRO staff person attended the first day of the March 2–4, 2011 CAHSEE Content Review meeting held at ETS offices in Sacramento. The purpose of the meeting was to collect suggestions from current California ELA and mathematics high school teachers (in their respective subject areas) for content revisions to items that had just been reviewed for bias; some members of the content review group had participated in the bias review session.

In recruiting subject matter experts for these sessions, ETS first solicited recommendations from sources such as departments within CDE, CAHSEE coordinators, superintendents, other district or school contacts, and past participants. ETS then requested applications from recommended individuals, collecting information about their employment, subject-area experience, credentials, degrees, ethnicity, and languages spoken, as well as their teaching experience with English learners, students with diverse socioeconomic and cultural backgrounds, and SWD. After ETS screened applicants to form a diverse group of educators representative of the state as a whole (geographically, demographically, and in terms of experience), CDE provided final approval of all participants.

Six ETS staff members provided meeting facilitation for approximately 40 subject matter experts. Three CDE staff (one Administrator, one Education Research and Evaluation Consultant, and one Education Programs Consultant) attended portions of the meeting. The group reviewed approximately 750 items. The intent was for those items that survived the review to become operational in 2013.

Training of Content Reviewers. ETS presented an orientation to the CAHSEE item review process, including an overview of the entire CAHSEE test development process, general guidelines for content experts' review of items (e.g., each item should have only one correct response), the need for item alignment with the specified California content standard, and the central principles of universal design. After the orientation, reviewers worked in two groups, one for each subject area, for the remainder of the meeting. ETS staff provided additional handouts of guidelines for reviewers' reference and conducted additional training specific to the subject area. In the mathematics group, for example, reviewers were advised to check for clear and concise labels on graphs and charts. In the ELA group, the ETS facilitator emphasized that the answer choices for each item should be based on the associated passage, and she explained that there are two different types of passages. Commissioned passages were written for the CAHSEE and could be edited, but "permissioned" passages – copyrighted passages for which ETS obtained permission to use in the CAHSEE – could not be revised. After the subject-specific training, the ELA and mathematics

groups were further subdivided into two smaller groups of about 10 members each to review the items.

Security. ETS collected signed security agreements from all participants prior to distributing the binders of confidential test materials. The facilitators used an inventory sheet to document the sign-in and sign-out of binders. ETS staff repeatedly emphasized the criticality of maintaining security of item content, both during and after the session.

Facilitating Content Revisions. We observed the two subject-area groups during their review of items. In the binders, each item was presented with the content standard it was intended to measure (by number and brief description), its Depth-of-Knowledge (DOK) level, and its estimated difficulty. DOK levels, developed by Norman L. Webb⁴, are by definition distinct from difficulty and designate the type of cognitive processing required to answer items. ETS provided reviewers a handout with bulleted descriptions and examples of DOK Levels, ranging from a low of 1 (e.g., recall) to a high of 3 for mathematics (e.g., using concepts to solve problems) or 4 for the ELA writing task. DOK levels are discussed extensively later in this chapter with regard to HumRRO's independent content alignment review.

ETS asked reviewers to consider eight questions in a Summary Checklist for each item (e.g., "Does the item measure the specified standard?" "Are the DOK and Difficulty Levels correct?"). The item review process followed these steps:

1. ETS facilitators directed reviewers to independently read through and make notes on a subset of items in the binder.
2. Once all reviewers had completed their reviews, ETS staff led the group through that subset of items one by one.
3. Reviewers moved to the next item if no revisions were suggested, or discussed the ideas presented regarding possible item revisions.
4. Changes to the item were recorded in three locations: by ETS in its master binder, by CDE in its binder, and by a subject matter expert (asked by ETS to be a scribe) in a third binder.

In the ELA group, additional resources for the reviewers included ELA content standards, a Core Vocabulary booklet with grade level indicators, a thesaurus, and a dictionary. The vast majority of items to be reviewed were associated with passages. Reviewers found several items mismatched to the content standards they were said to measure; for some of these items, ETS asked the content experts to help find a standard "home" for them, indicating that the interpretation of the initial standard had narrowed over time and resulted in the mismatch. ETS also clarified that one standard could be broadly interpreted to work with an item associated with a single passage, although the standard was phrased as requiring "synthesis of content from several

⁴ Adapted from Norman L. Webb, Wisconsin Center for Education Research, Depth-of-Knowledge Level Definitions <http://facstaff.wcer.wisc.edu/normw/state%20alignment%20page%20one.htm>

sources.” Reviewers suggested a number of revisions for some passages; ETS reminded reviewers that only commissioned passages could be edited. One of the reviewers asked if DOK levels assigned to items in the bank were available to help guide them in their review and revision of this item information. ETS replied that DOK information was not assigned earlier in the CAHSEE program.

In the mathematics group, the binders included an additional piece of information about each item: the rationale for each answer choice. The rationales assisted reviewer evaluation of plausible distractors (i.e., incorrect responses that capture typical mathematical errors related to the knowledge being assessed). As an additional step in the review process, ETS brought forward the concerns the bias reviewers had identified. Reviewers had several discussions that were not about item content, but about style (e.g., when to show a numeral versus spell out the word, how a coordinate graph should be presented). They also discussed terms that were used repeatedly in items, and likely were already used in the item bank (e.g., fair number cubes), to decide on their appropriateness. Many suggestions were made to improve distractors by incorporating more common errors or more relevant mathematical errors, rather than leaving original distractors that were similar “looking” values to the correct response. For several items, a fair amount of time was spent discussing what might be stronger distractors, but in the end the group concluded that the originals targeted likely student errors and were actually fine. At times the group halted its discussion so the content expert scribe could renumber and rearrange the order of answer choices, based on revisions to the distractors. The group discussed what criteria qualify items to be assigned to the Math Reasoning strand, and asked ETS staff to help clarify the distinction between the standards for grade seven Algebra and Algebra I.

Evaluation of Content Review Session

Overall, the portion of the Content Review Session we observed was very well facilitated and professionally conducted. Though the time allowed for the tasks seemed somewhat less than adequate, given the number of content criteria to evaluate for each item, the ETS facilitators tried to use that time as efficiently as possible. ETS facilitated discussions in a manner that encouraged all content experts to participate, and we seldom observed that any comments or opinions were disregarded. Security of all test materials was tightly controlled.

We observed ETS staff using several techniques that were effective in guiding reviewers to provide substantive suggestions to improve item content. In particular, we observed the following:

- ETS encouraged reviewers to critique the items and did not display any defensiveness about item weaknesses, leading reviewers to very openly identify needed item improvements.
- Frequently after several differing opinions had been voiced as to the direction of revisions for an item, ETS summarized the opinions and asked those who hadn't yet contributed to help resolve the disagreement.

Listed below are several recommendations relevant to quality assurance and process improvement that emerged from our observations of this content review session:

- Accurate review and revision of items could be improved by spending additional time in subject-area specific training to discuss DOK levels as they relate to the content standards. The DOK handout describes the levels generically, but does not relate them to the specific standards assessed by the CAHSEE and does not provide examples of CAHSEE items at various DOK levels. The goal of this additional training would be to yield greater content alignment, relative to the dimension of complexity, between item content and the standards measured by the CAHSEE.
- The focus of the experts' time should be on content. The time spent reviewing style guidelines (e.g., avoid negative stems and repetition of text in stem and answer choices), discussing style issues, or noting non-content related revisions to items (e.g., answer choice order) reduces the limited reviewer time available to address critical content concerns. ETS staff should be addressing the style issues and other non-content aspects of the items, which are important to accessibility, using the staff's test development expertise to ensure consistency of style across the full item bank.
- It was unclear whether ETS was seeking group consensus on revisions or collecting all possible issues about the items for later adjudication by ETS and CDE staff. Several of the more outspoken content reviewers were observed to dominate some item discussions, and their suggested changes at times seemed more to reflect personal preference than content accuracy requirements.
- Consider using a projector to display substantive item revisions during the review session; this would enable content experts to see and evaluate suggested changes, and the changes would be accurately captured. While time does not permit this approach for all items, and it is likely unnecessary for items for which changes are minor, this might facilitate review of more substantive revisions.

Observation of Bias and Sensitivity Review Session

One HumRRO staff person attended the first day of the March 14–15, 2011 CAHSEE Bias and Sensitivity Review meeting held at the ETS offices in Sacramento. Five ETS staff provided meeting facilitation for approximately 20 subject-matter experts; four CDE staff (an Administrator, an Education Research and Evaluation Consultant, an Education Programs Consultant, and a Consultant from Special Education) attended portions of the meeting. The purpose of the meeting was to collect suggestions from California ELA and mathematics high school teachers for revisions to approximately 675 items to address issues of potential bias. The reviewers were recruited by ETS, in accordance with the procedures described earlier, to include subject-matter experts who

represented a variety of educational backgrounds (e.g., expertise with English learners, SWD, low socioeconomic status students) and current teaching roles (e.g., CAHSEE preparation class). Items that survived this review would go through a content review immediately after this session; some members of this group of reviewers would continue on to participate in that session.

Training of Bias Reviewers. ETS presented an orientation to the CAHSEE bias and sensitivity review process, including an overview of the entire CAHSEE test development process, the principles of universal design, and descriptions of common forms of bias and stereotyping. ETS directed reviewers to consider the following four “guiding questions” when evaluating each test item:

- “Is the language appropriate for the standards being tested?”
- “Is there anything controversial, inflammatory, or insensitive?”
- “Are there any apparent biases or stereotypes?”
- “Would students of a particular group, background, or region have a distinct advantage or disadvantage?”

ETS reviewed several sample items and used reviewer feedback to illustrate how fairness could be improved by identifying and removing stereotypes, potential sources of linguistic or content bias, and emotionally sensitive content. Facilitators pointed out the distinction between simplifying linguistic content where possible and adhering to the appropriate vocabulary called for by the standards being measured.

Facilitating Bias and Sensitivity Revisions. After the training, ETS allowed the content experts to self-select into one of two groups, the ELA or mathematics review subgroups. ETS facilitated the following steps in the item review process:

1. Reviewers were directed to independently read through and make notes on a subset of items in the binder.
2. Once all reviewers had completed their review, ETS staff led the group through that subset of items one by one.
3. Reviewers moved to the next item if no revisions were suggested; if item revisions were suggested, they discussed the ideas presented.
4. Changes to the item were recorded by ETS in its master binder, by CDE in its binder, and by a subject matter expert who was asked by ETS to be a scribe in a third binder.

During observation of the ELA group, we noted that discussion of the passages occasionally raised concerns that were later dismissed due to the actual content of the items associated with the passage. Some of the revisions to passages suggested by the

reviewers were rejected by ETS, as staff informed reviewers, because the permissions for passages did not allow the passages to be edited. For commissioned passages, ETS provided strategies to help resolve concerns about vocabulary, such as footnoting and defining terms or changing them. Reviewers determined one passage to be biased against visually impaired students and potentially against economically disadvantaged students, and the group recommended it be deleted from further consideration. After discussing possible ways to make the passage more accessible, so that it and its associated items could be retained, ETS asked the group members to vote on deletion. HumRRO did not observe all members voting and was unsure whether the passage was noted by ETS as rejected.

During observation of the mathematics group, ETS emphasized that reviewers should watch for and revise the use of passive voice in stems, topics that might not be universally accessible to all students, and terms that might be intended one way in an item but be interpreted another way as offensive. ETS encouraged reviewers to identify and replace text that might be an obstacle to English learners; they pointed out that accessible language was important for text used to determine the correct response, as well as for text not critical to choosing the answer.

Security. ETS collected signed security agreements from all participants prior to distributing the binders of confidential test materials; an inventory sheet was used to document the sign-in and sign-out of binders. ETS staff repeatedly emphasized the criticality of maintaining security of item content, both during and after the session.

Evaluation of Bias and Sensitivity Review Session

Overall, the portion of the Bias and Sensitivity Review Session we observed was very well managed and professionally conducted. The time allowed for the review of the items seemed not quite sufficient, but the ETS facilitators used the time as efficiently as possible. On the whole, the reviewers' diverse ethnic, cultural, and educational backgrounds and their range of current teaching roles suited them well to the task of the session.

We observed ETS staff using several techniques that were effective in guiding reviewers to consider potential sources of bias, stereotyping, or lack of sensitivity and to suggest improvements if possible. In particular, we observed the following:

- ETS provided an excellent description of the nature of sources of bias that set the stage for the types of item revisions that the group should recommend.
- ETS provided excellent facilitation of the discussion of context in mathematics items, working with the reviewers to eliminate construct-irrelevant sources of item difficulty.

Listed below are recommendations relevant to quality assurance and process improvement that emerged from our observations of this bias and sensitivity review session:

- For training purposes, provide additional sample items that address CAHSEE content standards and include examples of weaknesses with respect to English learner access.
- For efficiency purposes, consider providing more specific direction to writers of ELA passages about the nature of acceptable content relative to bias and sensitivity issues. Although ETS indicated such rejection to be a rare occurrence, the group rejected one passage, associated with about 15 items, for bias or sensitivity reasons.
- When creating bias review subgroups for ELA and mathematics, ensure that each subgroup includes reviewers who can address the concerns of student populations that historically struggle with the CAHSEE (e.g., English learners, SWD, economically disadvantaged students). Though the full set of reviewers was representative in this regard, it was possible – due to self-selection into ELA and mathematics subgroups – that the subset of reviewers for each content area was not.
- The focus of the experts' time should be on bias and sensitivity issues. The time spent discussing style issues or issues of item bank consistency (e.g., presentation of numbers, names of individuals, balancing use of “he” versus “she” versus “student”) reduces the limited time available to address critical bias concerns that are unique to the particular passages and item content being reviewed. ETS staff should address the generic bias aspects of the items to ensure consistency of style across the full item bank or to balance these aspects within a given form.

Alignment Review

In this section of the report, we provide the details of the alignment review, including method and materials used to conduct the review, statistical results, and discussion of outcomes.

Method

Reviewers. HumRRO and NCEO staff served as expert reviewers to establish a fully independent evaluation, with four reviewers for mathematics and five for ELA. Initially, mathematics included a fifth reviewer; however, this reviewer (a HumRRO staff member directing the review) was not able to complete all item ratings because she was attending to workshop issues. All reviewers included in the alignment process were highly familiar with large-scale assessment and standards, including CAHSEE. In

addition, the reviewers had extensive content knowledge relevant to the portion of the CAHSEE they evaluated.

Content Alignment Method. The Webb Alignment method (2005) includes four major dimensions to evaluate content alignment. These alignment dimensions correspond with statistical procedures used to assess how well individual portions of the assessments match state standards documents. Each dimension provides different information about the degree of alignment between the assessment and content standards; hence, all four of Webb's dimensions must be considered for a complete picture of alignment. The four alignment criteria are as follows:

1. *Categorical concurrence* is a broad measure of content match between the test and state standards indicating the number of items assessing each general content strand. Webb suggests that the mean number of items per strand should be at least six for acceptable content coverage.
2. *Depth-of-knowledge (DOK)* measures the type of cognitive processing required by items compared to the processing expected by the content standards. The purpose of using depth of knowledge as a measure of alignment is to determine whether a test item (or performance task) and its corresponding standard are both written at the same level of cognitive complexity. Webb recommends that at least 50 percent of the test items in the assessment should match the DOK expected in the content standards.
3. *Range-of-knowledge correspondence* examines the breadth of content assessed compared to the state standards. The range indicates the number of standards assessed by at least one item. The minimum level of acceptability is that at least 50 percent of the objectives must be matched to one or more items.
4. *Balance-of-knowledge representation* focuses on the specific number of items matched to each content standard per strand. The balance-of-knowledge representation is determined by calculating an index, or score, for each standard. The number of items should be distributed relatively evenly between standards to achieve good balance. According to Webb, the minimum acceptable index for a single strand is 0.70 (on a scale of 0 to 1, with 1 representing perfect balance). An index of 0.70 or higher suggests that items broadly assess the standards matched to items by reviewers instead of clustering around one or two standards.

These criteria serve as guidelines for determining extent of alignment, and they must be considered within the context of available state documentation (e.g., test blueprints; grade-level expectations). There are cases when assessments may not meet the minimum criteria on some Webb dimension, but the assessments do meet the expectations of the state content standards. If a state provides sufficient rationale for the content emphasis given in the standards and on the assessment, failure to adhere to certain Webb alignment criteria is of less concern.

Materials. Reviewers evaluated the alignment of the CAHSEE by comparing the March 2011 test form with the current CAHSEE test blueprint⁵. Reviewers received specific instructions on how to rate these documents along with preconstructed electronic rating forms. These documents are described below.

CAHSEE Test Blueprints. The CAHSEE test blueprints for mathematics and ELA represent a subset of the California State content standards. The blueprints for ELA target state content standards in grades nine and ten, while the mathematics blueprints cover state standards in grades six and seven and Algebra I. The published test blueprints include the potential number of test items linked to each standard. For the purposes of this study, HumRRO removed item specification information from the printed test blueprints distributed to reviewers in order to ensure maximum objectivity.

Table 3.1 presents the number of assessed strands and standards included in the CAHSEE test blueprints for mathematics and for ELA. One particular standard for ELA, Writing Applications, varies per test administration in the specific standard(s) assessed. One Mathematics strand, Mathematical Reasoning, is assessed with items that each are also linked to one other Mathematics strand. On individual student score reports, performance on Mathematical Reasoning items is not reported separately but is reported under the linked strands.

Table 3.1. Number of Strands and Standards in Mathematics and ELA CAHSEE Test Blueprints

Content Area	Strands	Standards
ELA	6	33
Mathematics	6	53

Test Forms. Each reviewer evaluated one full 2011 test form from the March administration. Table 3.2 describes item composition of these test forms alongside the number of assessment reporting categories. The ELA test form contained 73 operational items, including 25 linking items anchored across multiple year forms. The mathematics form consisted of 80 total operational items with 24 linking items.

Table 3.2. Characteristics of the CAHSEE Test Forms

Subject	Total Items per Form	Operational Items		Field-Test Items	Selected Response Items	Constructed Response Items	Number of Reporting Categories
		Non-anchor	Anchor linking items				
ELA	80	48	25	7	79	1	6
Mathematics	92	56	24	12	92	0	6

⁵ Approved by the State Board of Education on July 9, 2003. These blueprints can be accessed on the CDE website: <http://www.cde.ca.gov/ta/tg/hs/resources.asp>.

Rating Forms and Instructions. Reviewers received printed instructions on how to perform the alignment tasks. For the CAHSEE blueprints, reviewers completed a DOK rating sheet electronically. A different spreadsheet was used to rate each test item on several dimensions (item DOK, standard match, and overall alignment and quality). Examples of these materials can be found in Appendix B.

Procedures. HumRRO conducted a two-day alignment workshop in Sacramento to review CAHSEE mathematics and ELA items. On the first day reviewers focused on content alignment; on the second day they focused on evaluating universal design elements of the same test form (described later in this same chapter).

The workshop began with an introduction of staff and observers. Reviewers then read and signed an affidavit of nondisclosure regarding any secure materials they would be reviewing during the workshop. HumRRO and NCEO staff each provided a brief presentation on tasks reviewers would perform.

Following the general introduction, reviewers split into content groups to begin alignment tasks. A HumRRO staff member facilitated each group by (a) discussing the rating procedures in more detail relative to the content area and (b) training reviewers on sample assessment items. Each reviewer received a laptop with the rating forms already uploaded and formatted. Reviewers received brief instructions on using the electronic forms.

After reviewing sample DOK evaluations as a group, reviewers proceeded to make DOK ratings of content standards from the California blueprint document. They first made independent evaluations without discussion. Once all reviewers had completed their ratings, the HumRRO facilitator led the group through a discussion of the objectives to achieve consensus DOK ratings. Reviewers entered consensus ratings into the laptop spreadsheet.

Next, staff provided more specific instructions for rating the assessment items. In particular, staff instructed reviewers to assign a *primary standard* to an item based on a judgment that the item clearly measured this content expectation. Reviewers could assign an *additional standard* only if the item seemed to assess another standard as clearly as the primary standard. Reviewers then evaluated and discussed released items as a group. After completing released items, reviewers proceeded to rate the 2011 test form. Again, they entered these ratings individually into electronic rating forms on their laptops. Group leaders conducted item rating calibration checks periodically to evaluate the level of agreement between raters.

Many reviewers continued their ratings into the beginning of the second day, particularly in the ELA group. Once all reviewers finished alignment ratings, they completed a debriefing survey asking for general comments on alignment of the test form overall. Reviewers were allowed to discuss their perspectives as a group.

Results

In this section, we present the results of the alignment analyses, including agreement analyses, the Webb measures, and accessibility analyses. We include results only on operational items (not field-test items) in this report because it is these items that are used in calculating AYP. More detailed numeric results can be found in Appendix C.

Inter-Rater Agreement. HumRRO performed two types of agreement analyses on reviewer alignment ratings. Reviewers rated the alignment of each item on two major dimensions: DOK and content match. The DOK rating required reviewers to rank items using a scale, while the content rating involved a categorical judgment on the standards assessed by items. In each case, it is important to determine the extent to which reviewers tended to provide exactly the same ratings on items (Shavelson, Webb, & Rowley, 1989; Tinsley & Weiss, 1975).

For item DOK ratings, Webb (2005) uses the intraclass correlation (ICC) coefficient. This type of agreement statistic involves the calculation of the ICC (C, k) statistic (Shrout & Fleiss, 1979). This statistic indicates the amount of agreement by producing a statistic between 0 and 1 (similar to a correlation coefficient). An ICC (C, k) result approaching 1 represents high agreement. Conversely, as the ICC approaches 0, we interpret this outcome to mean that reviewers assigned quite different ratings to the same dimension, resulting in weak agreement. Generally, ICC outcomes can be interpreted based on the following decision criteria:

- Exact agreement - 1.00
- Good agreement - 0.80 to 0.99
- Adequate agreement - 0.70 to 0.79
- Weak agreement - 0.69 or less

Table 3.3 presents inter-rater agreement outcomes (ICC) for item DOK ratings on the March 2011 CAHSEE test form. The ICC (C, k) results in Table 3.3 indicate the reviewers consistently applied the same DOK ratings to the same items. All ICCs indicate “good agreement” between reviewers.

Table 3.3. Intraclass Correlation Coefficients on Item DOK Ratings for March 2011 CAHSEE Test Form

Content Area	ICC Agreement Level
Mathematics	0.87
ELA	0.84

Evaluating agreement between categorical ratings, such as standards matched to items, requires a different form of agreement statistic. Several agreement measures exist to analyze categorical ratings (see Gwet, 2001; Webb, 2005). Webb uses a

statistic that essentially estimates the percentage of agreement between reviewers.⁶ This analysis involves a pairwise comparison (one-to-one) of each reviewer’s ratings with all other reviewers per item. Results are averaged across reviewers per test form. Webb’s decision criteria for pairwise comparisons are comparable to those for the ICC, although calculations leading to these agreement categories are slightly less stringent.

- Exact agreement — 1.00
- Good agreement — 0.70 to 0.99
- Adequate agreement — 0.60 to 0.69
- Weak agreement — 0.59 or lower

Table 3.4 includes content match results at two levels of agreement. The first correlation presented for each content area presents exact agreement results, reflecting agreement between reviewers at the Strand, Substrand, and Standard levels. The second correlation indicates degree of partial agreement, reflecting an evaluation of agreement between reviewers at the Strand level only. Reviewers were quite consistent in their determination of content assessed by items.

Table 3.4. Pairwise Comparisons for Reviewer Content Agreement on CAHSEE Items

Test Form	Exact Content Match (Strand, Substrand, Standard)	Partial Content Match (Strand only)
Mathematics	0.81	0.92
ELA	0.77	0.87

Webb Alignment Statistics. This section reviews the general outcomes of item analyses on the CAHSEE based on the four Webb alignment indicators. All of Webb’s measures begin with calculations for each reviewer and build up to a summary of results across both raters and standards. First, we calculated item frequency ratings per standard for each reviewer. Next, we calculated descriptive statistics (means and standard deviations) across reviewers for each content strand. For categorical concurrence, the statistic presented is the mean number of items matched to each strand. Note that, in some cases, the number of items matched to each strand can be higher than the target number listed in the test blueprint because reviewers could match items to *two* different content strands/standards; hence, some items essentially are counted twice. For depth of knowledge (DOK), the statistic is the mean percentage of items with complexity levels at or above the level of the standards within each strand. Regarding range of knowledge (ROK), the statistic is the mean percentage of standards matched with at least one item per strand. Finally, the balance of knowledge representation (Balance Index) column indicates the mean balance index per strand, which provides a measure of how evenly items are distributed among standards. Table 3.5 provides a summary of the minimum decision criterion for each alignment indicator.

⁶ Refer to Webb, N. L. (2005). *Webb Alignment Tool (WAT): Training Manual* for a detailed discussion of the agreement analysis based on pairwise comparisons.

Table 3.5. Decision Criterion per Alignment Statistic

Alignment Level	Categorical Concurrence	Depth of Knowledge Consistency	Range of Knowledge	Balance of Representation (index from 0 to1)
Acceptable	Min 6 items per strand	≥ 50% of items match standard DOK	≥ 50% of standards assessed by at least 1 item	≥ 0.70 (reasonably balanced item content emphasis across standards)
Weak	4-5 items per strand	40%-49% of items match standard DOK	40%-49% of standards assessed by at least 1 item	0.60-0.69 (some narrow or clustered content emphasis on assessment)
Unacceptable	< 4 items per strand	< 40% of items match standard DOK	< 40% of standards assessed by at least 1 item	< 60% (extensive narrow or clustered content emphasis on assessment)

Note: These criteria are adapted from Webb (2005).

Table 3.6 includes summative statistical outcomes for each alignment measure per strand for mathematics (see Appendix C for more detailed results). These outcomes indicate that the 2011 CAHSEE mathematics test form aligns well overall to the standards covered in the CAHSEE test blueprint.

Table 3.6. CAHSEE Mathematics Results on Webb Alignment Measures per Strand

Strand	Number of Standards per Strand	Target Number of Items per Strand	Webb Alignment Indicators			
			Categorical Concurrence	DOK Consistency	Range	Balance Index
Statistics, Data Analysis, and Probability	7	^a 12	13.50	55%	79%	0.88
Number Sense	10	14	14.00	66%	90%	0.77
Algebra and Functions	10	17	18.75	63%	85%	0.79
Measurement and Geometry	10	17	16.25	64%	88%	0.82
Mathematical Reasoning	6	8	4.25	23%	50%	0.90
Algebra I	10	12	13.25	81%	77%	0.76
Total Alignment Outcomes Across Standards			5 of 6	5 of 6	6 of 6	6 of 6

Note: Shaded regions denote means falling below minimum criterion for that alignment measure.

^a Combined item total from Statistics, Data Analysis, and Probability standards under grade 6 and grade 7.

As demonstrated in Table 3.6, the one exception to the positive alignment trend is coverage of the standards targeting Mathematical Reasoning. Reviewers found only a small number of items (M=4.25 of 8 targeted) clearly tapping into mathematical reasoning skills in addition to primary content strands. Of items matched to mathematical reasoning, reviewers determined that approximately one to two items assessed students at the same DOK level as expected by the corresponding standards. Mathematical Reasoning is a process strand, and items targeting reasoning also assess other content strands.

Table 3.7 presents alignment results for ELA. Results for categorical concurrence indicate that the 2011 test form corresponds well with the CAHSEE test blueprint in terms of overall breadth of content coverage. Furthermore, the test assesses a broad range of standards in a relatively even manner within four (of six) strands.

Table 3.7. CAHSEE ELA Results on Webb Alignment Measures per Strand

Strand	Number of Standards per Strand	Target Number of Items per Strand	Webb Alignment Indicators			
			Categorical Concurrence	DOK Consistency	Range	Balance Index
Word Analysis, Fluency, Systematic Vocabulary Development	2	7	7.60	60%	70%	0.74
Reading Comprehension	6	18	16.40	37%	43%	0.86
Literary Response and Analysis	12	20	19.00	^a 47%	68%	0.85
Writing Strategies	5	12	9.00	58%	72%	0.89
Writing Applications	6	1	1.00	20%	17%	^b --
Written and Oral English Language Conventions	3	15	17.60	44%	100%	0.84
Total Alignment Outcomes Across Standards			5 of 6	2 of 6	4 of 6	5 of 6

Note: Shaded regions denote means falling below minimum criterion for that alignment measure.

^a This mean increases to 59 percent if we add percentage of items assessing students above standard, which is consistent with Webb’s method.

^b No balance index was generated due to the single item match by reviewers.

Two aspects of ELA items fell short of sufficient breadth and depth of content coverage relative to the CAHSEE test blueprint. First, items targeting Reading Comprehension and Writing Applications seemed to assess this content rather narrowly, as noted by the shaded percentages under the Range column. For Reading Comprehension, reviewers found a small number of standards (two to three) assessed by approximately 17 items. Reviewers found the same issue for Writing Applications; the essay item seemed to target only a couple of standards clearly. Second, a substantial number of items across the test form assessed student knowledge at a different (mostly lower) level of complexity than expected in the corresponding content standards. In this case, only the set of items matched to the Word Analysis, Fluency,

and Systematic Vocabulary Development strand and the Writing Strategies strand met the minimum alignment criterion.

Summary and Recommendations

This review examined alignment of operational items assessed on the March 2011 version of the CAHSEE to the designated California content standards for mathematics and ELA. The results of these reviews provide evidence towards the content validity of the CAHSEE. In this section of the report, we present conclusions and recommendations based on the results of this review.

Table 3.8 summarizes outcomes on the test forms by each *content strand* based on statistical results. These judgments of alignment relate to criteria presented in Table 3.5. As shown in the table, the extent of CAHSEE test alignment to the California content standards varied some per content area with higher levels of alignment evidenced for the mathematics test form compared to the ELA test form.

Clearly, the mathematics operational items assessed most strands broadly and at an appropriate level of complexity, except for Mathematical Reasoning. During item ratings, we instructed reviewers to be mindful of the Mathematical Reasoning strand as an option in addition to other content strands. Of course, standards for mathematical reasoning skills do require a higher level of processing (i.e., DOK level 3 or 4), and the CAHSEE, like most standardized tests, includes only a handful of items assessing such higher-order thinking. Furthermore, the DOK expected in the standards represents a “ceiling” for the assessment, and some items can assess students at a lower level. However, the fact remains that the test form includes half the number of mathematical reasoning items, and at lower levels of complexity, than expected in the California standards. Knowledge of mathematical reasoning is crucial for students, as evidenced by research indicating that those students with higher reasoning skills tend to perform better on more difficult and complex mathematics. Thus, these skills become integrated into content knowledge, especially at higher grade levels. California (and some other states) decided to separate these skills as a process strand, as opposed to integrating across primary content strands. The test vendor handles this situation by developing items intended to meet a content strand as well as the mathematical reasoning process strand. However, the stand-alone process strand in the California state standards and test blueprint may artificially tease out reasoning skills from math content because, in a sense, most items should assess mathematical reasoning at some level. This circumstance could impact how teachers provide instruction on this content as well as make it difficult for alignment reviewers to apply this strand when reviewing items. As a result, content alignment may appear diminished.

Table 3.8. Alignment Conclusions for 2011 CAHSEE Test Form per Content Strand (Based on Minimum Criterion per Webb Alignment Measure)

Content Strand	Summary Alignment Outcomes per Webb Criteria			
	Categorical Concurrence	DOK Consistency	Range	Balance
Mathematics				
1 Statistics, Data Analysis, and Probability	Acceptable	Acceptable	Acceptable	Acceptable
2 Number Sense	Acceptable	Acceptable	Acceptable	Acceptable
3 Algebra and Functions	Acceptable	Acceptable	Acceptable	Acceptable
4 Measurement and Geometry	Acceptable	Acceptable	Acceptable	Acceptable
5 Mathematical Reasoning	Weak	Unacceptable	Acceptable	Acceptable
6 Algebra I	Acceptable	Acceptable	Acceptable	Acceptable
ELA				
1 Word Analysis, Fluency, and Systematic Vocabulary Development	Acceptable	Acceptable	Acceptable	Acceptable
2 Reading Comprehension	Acceptable	Unacceptable	Weak	Acceptable
3 Literary Response and Analysis	Acceptable	Weak	Acceptable	Acceptable
4 Writing Strategies	Acceptable	Acceptable	Acceptable	Acceptable
5 ^a Writing Applications	Unacceptable	Unacceptable	Unacceptable	Unacceptable
6 Written and Oral English Language Conventions	Acceptable	Weak	Acceptable	Acceptable

^a Writing Applications intentionally is assessed by a single constructed response item, although this item is weighted (4 points). Thus, results for this strand always will fall below a strict application of Webb’s minimum decision criterion relative to categorical concurrence, range, and balance measures due to test blueprint design with a single assessment item.

In comparison, ELA operational items showed lower alignment to some ELA standards, particularly on DOK assessed. In addition, items targeting Reading Comprehension and Writing Applications may have narrowly covered standards within these strands. In fact, while reviewers had few problems matching items to strands, they expressed considerable difficulty finding relevant standards under Reading Comprehension during the adjudication period. They wrestled extensively as a group with how to deal with these issues fairly. One particular problem raised by these reviewers concerned items targeting informational text compared to literary text. In some cases, they could not locate standards under informational text (e.g., items targeting “tone” or “imagery”), although standards that are more relevant could be identified under Narrative Analysis or Literary Criticism.

The Writing Applications strand warrants some discussion. The test blueprint intentionally assesses this strand with a single item – a writing prompt. While this design does not meet the minimum criterion of six items, the single constructed response item is weighted more heavily than selected response items, and it does map to several standards within this strand. In responding to this item, students should need to demonstrate multiple writing skills. Furthermore, the test blueprint indicates that assessed standards vary per administration cycle. Nevertheless, CDE and the test vendor may wish to consider whether any additional selected response items should be linked to these standards. For any given test administration, students are required to demonstrate knowledge around only one to two standards, although they are responsible for six Writing Applications standards. Thus, the CAHSEE ELA test may not adequately assess students on the full range of this content, as required by NCLB. Students’ knowledge of writing standards may be assessed more comprehensively in class.

As a longitudinal comparison, we present alignment results for each year in which HumRRO has conducted studies for CAHSEE. Figure 3.1 displays results for mathematics on each Webb alignment measure from studies in 2005, 2008, and 2011. Figure 3.2 shows results for ELA studies conducted in 2005, 2008, 2009, and 2011.

Figures 3.1 and 3.2 show comparable patterns between studies for mathematics and for ELA, although some results have varied slightly between years. This picture is positive overall because most outcomes surpass the minimum criterion per alignment measure. Results on categorical concurrence, range of correspondence, and DOK consistency do consistently show some lower alignment outcomes for Mathematical Reasoning (Figure 3.1) and for Writing Applications (Figure 3.2) across years. Thus, CAHSEE test form alignment has been largely stable, irrespective of reviewers, over time.

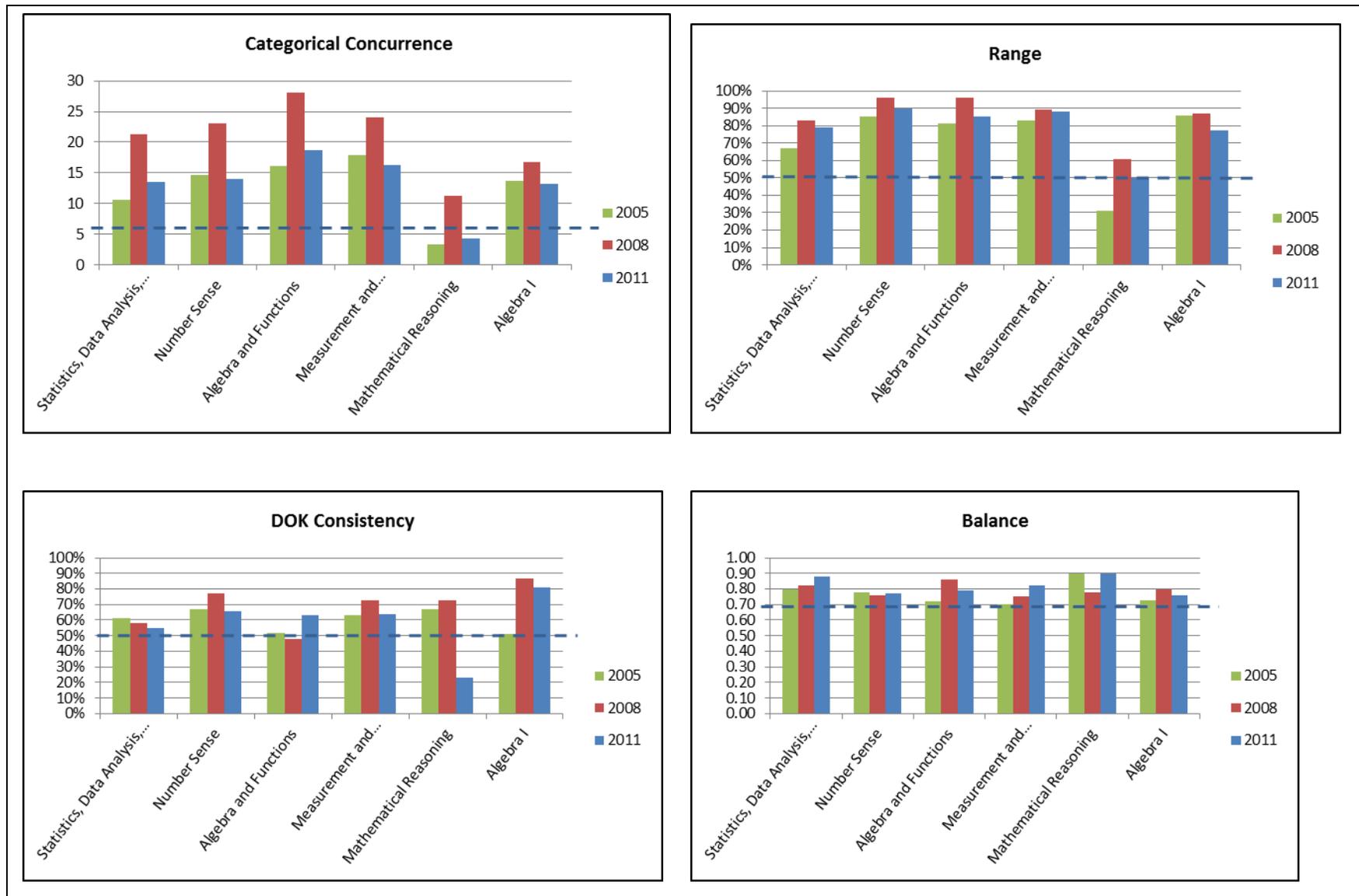


Figure 3.1. CAHSEE Alignment Results for Mathematics from 2005, 2008, and 2011.

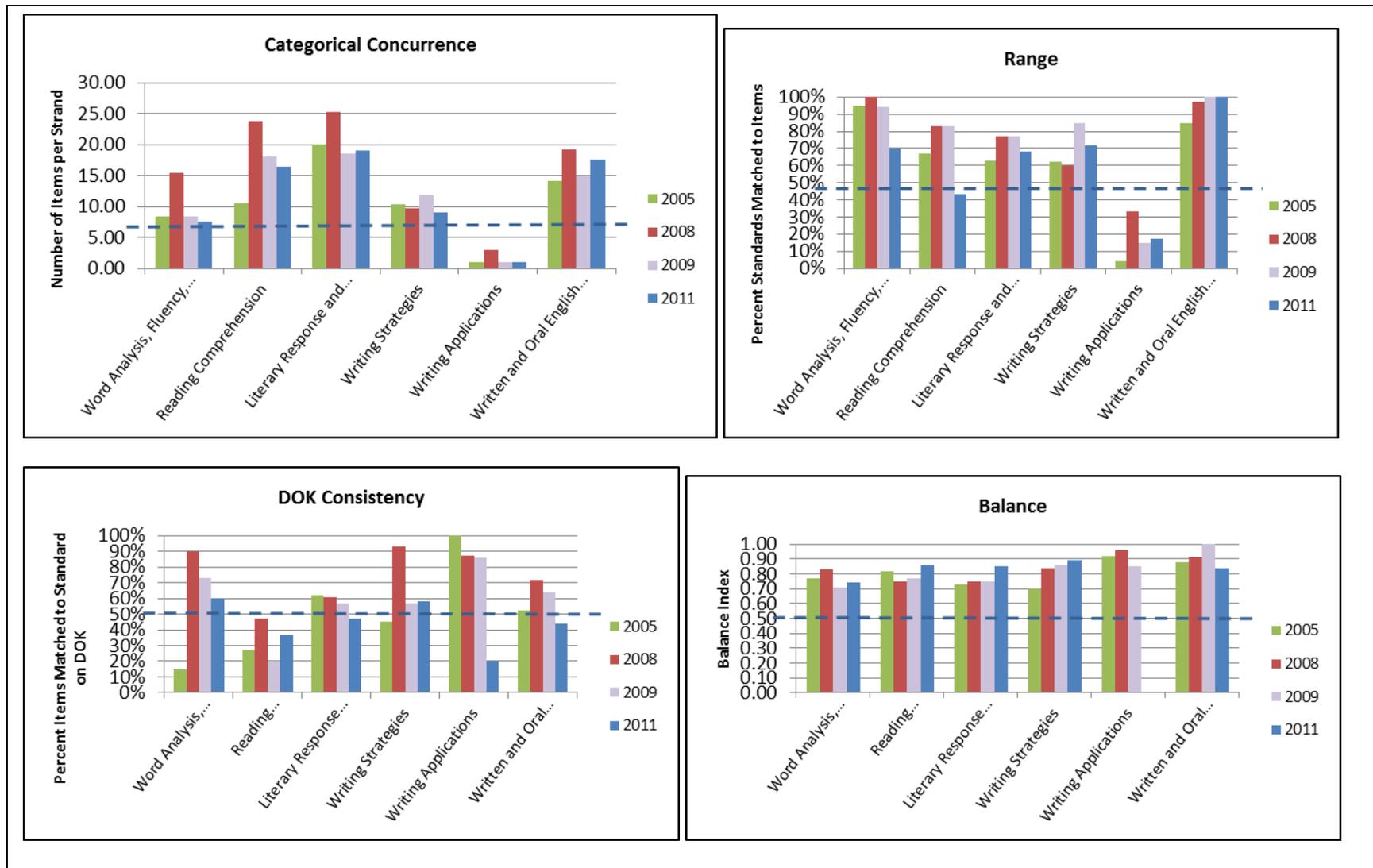


Figure 3.2. CAHSEE Alignment Results for English-language arts from 2005, 2008, 2009, and 2011.

Table 3.9 provides summary conclusions for mathematics and ELA *across* content strands. These conclusions specify the total percent of content strands represented well by the assessment based on Webb’s (2005) scale:

- Fully aligned – assessments align to all content strands (100 percent)
- Highly aligned – assessments align to the majority of strands (70–99 percent)
- Partially aligned – assessments align well to some strands (50–69 percent)
- Weakly aligned – assessments align to less than half the strands (below 50 percent)

Table 3.9. Summary Alignment Conclusions per Webb Measure for Operational Items on 2011 CAHSEE Test Form

	Alignment Conclusions per Webb Measure			
	Categorical Concurrence	DOK Consistency	Range	Balance
Mathematics	Highly aligned (83%)	Highly aligned (83%)	Fully aligned (100%)	Fully aligned (100%)
ELA	Highly aligned (83%)	Weakly aligned (33%)	Partially aligned (67%)	Highly aligned (83%)

Caveat. The 2011 alignment review incorporated a reviewer process different than the one used in previous alignment studies of the CAHSEE. Specifically, we included a smaller number of reviewers (four to five per panel). In addition, we developed panels of external, expert reviewers. This procedure was implemented to increase consistency in ratings due to their national experience (across states) with alignment and UDA research, as well as previous experience with CAHSEE for most. Thus, no California teachers were included in this study.

Recommendations. HumRRO makes the following recommendations on alignment per CAHSEE content area. These recommendations may increase the alignment of the CAHSEE test to the California state content standards:

General Recommendation

- **Expand panels to include current, highly qualified California teachers from across the state.** While there is no evidence that the use of only external panelists impacted the type of ratings provided by reviewers, the inclusion of California educators would likely increase study validity and generalizability. The CAHSEE serves a diverse student population in terms of ethnicity and needs; thus, educators who participate in future studies should better reflect the diversity of these students.

Mathematics Recommendation

- **Consider reviewing items assessing Mathematical Reasoning for clarity of item target.** We offer three options to handle the persistent alignment issues with mathematical reasoning. The first option, which would present the easiest

(although not guaranteed) solution, focuses on a potential methodological change to future alignment reviews. Specifically, reviewers could evaluate each item for degree of math reasoning skills in addition to identifying a primary content strand. This strategy may lead reviewers to be more focused and intentional in their evaluations, which could produce increased alignment. A second option is to review items assessing Mathematical Reasoning for clarity of item target.

Finally, CDE could consider integrating mathematical reasoning skills more explicitly for each content strand. We recognize that the latter option would require revision to the California content standards and approval by the State Board of Education; thus, CDE may choose to entertain this option as part of the next round of standards reviews, which likely would occur within the next few years.

English-Language Arts Recommendations

- ***Review depth-of-knowledge across ELA items.*** The 2011 test form appropriately assessed two (of six) ELA strands with 60 percent of Word Analysis and 58 percent of Writing Strategies items respectively, while items assessed the remaining four strands at a lower DOK level than specified in ELA standards. This outcome suggests that the CAHSEE may assess students on ELA content at a lower level of rigor than expected.
- ***Review items assessing Reading Comprehension and possibly Writing Applications.*** For Reading Comprehension, we recommend a review of the language of these standards for possible revision for two reasons. First, reviewers matched items to only two to three Reading Comprehension standards assessed, although a number of items are supposed to target this strand based on the test blueprints. Second, reviewers found that many items targeting Reading Comprehension did not clearly match the California content standards. Reviewers agreed that item structure and content was appropriate in most cases; thus, the source of difficulty seemed to stem from the clarity and organization of the standards. Regarding Writing Applications, we suggest that CDE consider reassigning a few selected response items to assess Writing Applications, thus more fully representing this strand on the assessment. However, we recognize that this strand may be assessed more comprehensively in the classroom, which can be communicated in various other documentation forms.

Universal Test Design Review

This section of the chapter describes the methods and results of the universal test design review led by NCEO.

Federal legislation requires states to include all students in statewide assessment. Students with disabilities, students who are English learners, and other

students with learning challenges may not be excluded from examinations. States are required to report participation performance data on large-scale assessments for all students. Some states (21 at last count) also require that all students pass an exit examination before graduating from high school. Three additional states require that SWD pass such exams (these states have alternative options for SWD) (Johnson, Thurlow, & Stout, 2007).

Because of the high-stakes nature of these measurements, states and test companies have begun to explore options for creating higher quality assessments that more accurately measure the learning of a wide variety of students, including SWD. One option for improving assessments that has gained the attention of policy makers is the concept of Universal Design for Assessment (UDA). According to Federal Regulations, Universally Designed Assessments are tests that are “designed to be valid and accessible for use by the widest range of students, including students with disabilities” (Elementary and Secondary Education Act, 2002).

The term universal design was first used in the field of architecture by Ron Mace. Mace, a wheelchair user, became frustrated with watching his colleagues design structures that later had to be retrofitted to meet the needs of diverse users. In citing the need for creating structures from the beginning to be maximally accessible, Mace began advocating for structures that could meet the needs of wheelchair users, elderly people, children, and people with sensory disabilities that were, at the same time, easily accessible to non-disabled users. In structures using this design philosophy, ramps, elevators, expanded doorways, signs, bathrooms, and other features do not have to be added or modified at additional expense after the completion of a building.

In assessment, the goal of universal design is to provide the most valid assessment possible for the greatest number of students, including SWD. This means designing assessments from the beginning to ensure that intended constructs are measured, text is concise and readable and in a clear format, and that the assessment respects the diversity of the assessment population (Johnstone, Altman, & Thurlow, 2006). Such tests are not intended to make tests easier for some groups or replace accommodations and the use of an alternate assessment for students who are particularly difficult to assess.

Although UDA has great promise, it is also limited in that it can only provide broader access to students to a point. If access begins to interfere with test constructs, it can invalidate the test. Therefore, UDA typically refers to tests that are as accessible and remove as many barriers as possible while maintaining intended constructs (Johnstone, Thompson, Bottsford-Miller & Thurlow, 2008).

Despite this limitation, there are many ways to produce assessments that align with UDA policy. The Center for Accessible Special Technology, for example, has defined Universal Design of Assessments as presenting assessments with “multiple means of representation and multiple means of response” in order to help students access assessments (Dolan, Hall, Banerjee, Chun, & Strangman, 2005). Thompson,

Johnstone, and Thurlow (2002), of the National Center on Educational Outcomes, synthesized literature from a variety of fields and concluded that Universally Designed Assessments had several *Elements* that could be examined to determine if a test is accessible. Universally designed assessments

- are designed for an inclusive population,
- have precisely defined constructs,
- have accessible, non-biased items,
- are amenable to accommodations,
- provide simple, clear, and intuitive instructions and procedures,
- use maximally readable and comprehensible language and print, and
- use maximally legible print and diagrams.

In an effort to operationalize the above *Elements*, Thompson, Johnstone, Anderson, and Miller (2005) surveyed experts in a variety of fields. Through a series of Delphi surveys, Thompson et al.'s (2002) *Elements* were transformed into a series of UDA *Considerations* which could be used for item review purposes. Expert reviews using UDA *Considerations* are one part of a larger item review process described by Johnstone et al. (2008). This process also includes statistical analysis of items, and cognitive lab exercises with students. For the purpose of this study, expert reviews were conducted and data were compared with field-based study evidence and standards alignment workshop data collected by HumRRO.

Method

The process of reviewing items for UDA Considerations is a time-consuming activity. The UDA process is similar to the way in which states and vendors conduct sensitivity reviews of items to ensure that they align with content standards and are not biased against particular populations. In this section, we describe the review process applied by NCEO to evaluate the test forms on universal test design principles. ***The same reviewers and test forms incorporated into the alignment study were used for the accessibility review of universal test design. We include characteristics about these reviewers and test forms here as a reminder to the reader.***

Reviewers. The participants in the UDA workshop were the same content and instructional experts in the fields of mathematics (n = 4) and ELA (n = 5) who conducted the alignment review. All reviewers included in the alignment process were highly familiar with large-scale assessment and standards, including CAHSEE. Two reviewers also served as facilitators to answer questions related to universal design principles.

Materials. Reviewers evaluated test form design based on NCEO's Considerations. NCEO provided specific instructions on how to rate items using these UDA *Considerations* to complete rating forms. These documents are described below.

UDA Guidelines. NCEO's *Considerations for Universally Designed Assessments*, which take into account several features of assessment accessibility. *Considerations*

include: items measuring their intended constructs, items that respect diversity, items that have clear formats for text, items that have clear pictures and graphics, and items that are both readable and comprehensible. Figure 3.3 provides details of these considerations.

Measure what it intends to measure

- Reflect the intended content standards (reviewers have information about the content being measured).
- Minimize skills required beyond those being measured.

Respect the diversity of the assessment population

- Accessible to test takers (consider gender, age, ethnicity, socio-economic level)
- Avoid content that might unfairly advantage or disadvantage any student subgroup

Have clear format for text:

- Standard typeface
- Twelve (12) point minimum for all print, including captions, footnotes, and graphs (type size appropriate for age group)
- Wide spacing between letters, words, and lines
- High contrast between color of text and background
- Sufficient blank space (leading) between lines of text
- Staggered right margins (no right justification)

Have clear pictures and graphics (when essential to item)

- Pictures are needed to respond to item
- Pictures with clearly defined features
- Dark lines (minimum use of gray scale and shading)
- Sufficient contrast between colors
- Color is not relied on to convey important information or distinctions
- Pictures and graphs are labeled

Have concise and readable text

- Commonly used words
- Vocabulary appropriate for grade level
- Minimum use of unnecessary words
- Idioms avoided unless idiomatic speech is being measured
- Technical terms and abbreviations avoided (or defined) if not related to the content being measured
- Sentence complexity is appropriate for grade level
- Question to be answered is clearly identifiable

Allow changes to its format without changing its meaning or difficulty (including visual or memory load)

- Allows for the use of braille or other tactile format
- Allows for signing to a student
- Allows for the use of oral presentation to a student
- Allows for the use of assistive technology
- Allows for translation into another language

Source: Thompson, S.J., Johnstone, C.J., Anderson, M. E., & Miller, N. A. (2005). *Considerations for the development and review of universally designed assessments* (Technical Report 42). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes.

Figure 3.3. Considerations for Universally Designed Assessments.

Rating Forms and Instructions. Reviewers received printed rating forms on which to make their evaluations of each item. In addition to verbal instructions, the rating form provided detailed instruction for making ratings. A sample of this rating form is provided in Appendix B.

Test Forms. Each reviewer evaluated one full 2011 test form from the March administration. Table 3.10 describes item composition of these test forms alongside the number of assessment reporting categories. The ELA test form contained 73 operational items, including 25 linking items anchored across multiple year forms. The mathematics form consisted of 80 total operational items with 24 anchor items.

Table 3.10. Characteristics of the CAHSEE Test Forms

Subject	Number of Reporting Categories	Total Items per Form	Total Passages per Form	Operational Passages		Field-Test Passages	Operational Items		Field-Test Items	Selected Response Items	Constructed Response Items
				Non-anchor	Anchor		Non-anchor	Anchor			
ELA	6	80	17	6	5	1	48	25	7	79	1
Mathematics	6	92	0	0	0	0	56	24	12	92	0

Procedures. NCEO facilitated the UDA review as part of the two-day review workshop in Sacramento at the CDE offices. The workshop began with an introduction of staff and observers. Reviewers then read and signed an affidavit of nondisclosure regarding any secure materials they would be reviewing during the workshop. HumRRO and NCEO staff each provided a brief presentation on tasks reviewers would perform. On the second day, reviewers focused on evaluating universal design elements of the same test forms.

The UDA review began by familiarizing participants with NCEO's Considerations. Next, panels reviewed items using a form designed to facilitate easy item rating by consideration (see Appendix B). As part of the review, each participant was asked to individually rate items on their fidelity to universal design considerations. For each item, reviewers rated aspects of items with a "Y" (if the test item appeared to have fidelity to the universal design consideration), and an "N" (if the item did not meet the requirements of a universal design consideration). Reviewers were also given the option of choosing "DK" (if the rater did not have the knowledge or expertise to comment on a particular consideration) or "NA" (if the consideration was not applicable, e.g., if there was not a visual image in an item).

In order to ensure that all test items per form were rated, NCEO spiraled items on the test form rated for ELA and for mathematics. Thus, each reviewer began rating items at different points within the form (e.g., Rater 1 started at Item 1, while Rater 2 started at Item 30). However, all reviewers ultimately reviewed all items on a test form. In addition, NCEO assigned different categories of UDA considerations to reviewers at the beginning of the review process to guarantee that all categories were covered. As part of this process, reviewers proceeded sequentially through all items on the initial

UDA categories assigned to them. Once reviewers completed this category, they moved to rate all items on additional categories, and they continued in this manner until the workshop end. As a result, some items were reviewed on a subset of UDA considerations instead of all six domains because several reviewers did not have time to complete ratings on all categories.

Results

In this section, we present the results of the UDA analyses. We include results on all items per form. We first describe the method for calculating results, followed by outcomes of these analyses.

For each item and each consideration of universally designed assessments, we summed the number of Y's and N's. The review established descriptive patterns in an effort to "flag" particular items that may appear contrary to universal design principles. We used the following criteria to flag items with which reviewers found potential problems:

1. If four or more reviewers examined a consideration per item, at least two responses of "N" were needed to flag an item.
2. A rating of "N" ("No") indicated that a reviewer did not perceive the item to contain or display a particular consideration of universal design.
3. If fewer than four reviewers examined a consideration per item, only one response of "No" was necessary to flag the item.

By using these decision rules we attempted to strike a balance between consensus and qualitative data that reviewers with particular expertise brought to the task.

In addition, we aggregated narrative comments and yes and no responses across areas of consideration, as well as for particular items, to determine if there were cross-cutting patterns across forms. Typically, reviewers only commented when they saw an area of concern.

The combination of qualitative and descriptive statistical information provides insights into the overall perception of reviewers about CAHSEE's fidelity to UDA *Considerations*. We report the results below, and offer recommendations for the State of California in reference to UDA *Considerations* for the CAHSEE.

Mathematics Assessment. Table 3.11 shows each consideration of universal design flagged by reviewers, listing how many items (of 92 total items) represented areas of concern for reviewers for that consideration.

Table 3.11. Number of Mathematics Items Flagged, by UDA Consideration

Consideration	Items Flagged
Visuals are needed to answer the question.	54
Twelve- (12) point minimum size for all print	24
Visuals have clearly defined features.	20
Visuals are clearly labeled.	18
Minimum use of unnecessary words	14
High Contrast Between Visuals and Background	12
Avoids content that might unfairly advantage or disadvantage any student subgroup	12
Sufficient blank space	7
Question to be answered identifiable	5
Sensitive to test taker characteristics and experiences (gender, age, ethnicity, socio economic status, region, disability, language)	3
Standard typeface	2
Vocabulary appropriate for grade level	1
Technical terms and abbreviations avoided unless tested	1
High contrast between text and background	1

For the mathematics assessment, the Universal Design (UD) category with the most flagged items (54) was “Visuals are needed to answer the question.” For most items, three reviewers examined the items in this category. In this instance, the items flagged largely resulted from one reviewer, so the impact of flagged items should be examined carefully, with perhaps a follow-up review from a vision expert. No comments were provided as to why these items were problematic.

Twenty-four items in the category “Twelve- (12) point minimum size for all print” were flagged as problematic. In all cases, reviewers deemed the font size in question to be too small. Small text was present in exponents, answer choices, graph labels, and grid values.

Twenty items in the category, “Visuals have clearly defined features,” were flagged. According to reviewer feedback, common problems included missing labels, excessive wordiness, small text, and other textual features that make distinguishing the visual difficult (i.e., negative sign is difficult to read, a multiplication “dot” that was too low, axis labels too similar to bar labels, etc.).

In the category, “Visuals are clearly labeled,” reviewers flagged 18 items. According to reviewer feedback, problematic items for this UD category had missing labels, small text, wording problems, unclear labels, and missing information.

Fourteen items were flagged in the category “Minimum use of unnecessary words.” As the UD category’s title implies, all items flagged by reviewers were deemed to have unnecessary words. In most cases, the reviewer provided a comment indicating which word or words could be deleted.

Twelve items were flagged in the category “High contrast between visuals and background.” One reviewer, who found problems with grid lines competing with other lines for some items, commented that only one item is exemplary for this UDA category.

In the category, “Avoids content that might unfairly advantage or disadvantage any student subgroup,” 12 items were flagged as problematic. Reviewers commented that these items may be biased towards or against certain students, such as students of high socioeconomic status (SES), students who travel, English language learners, and students who have had previous experiences relevant to a specific item.

Seven items were flagged for the category “Sufficient blank space,” though no comments were provided by reviewers for these items. Six items were flagged for the category “Commonly used words (except vocabulary tested).” For these items, reviewers commented that rewording was necessary.

Five items were flagged for the category “Question to be answered identifiable.” For two items, one reviewer commented that rewording was necessary to make the item clearer; for another item, one reviewer commented that the correct answer will be obtained even if the specified method for finding the answer is not used. One reviewer commented that the area of the resulting grid in one item could be made clearer.

In the category “Sensitive to test taker characteristics and experiences (gender, age, ethnicity, SES, region, disability, language),” three items were flagged as problematic. For example, one reviewer indicated that use of the word “gigabyte” might benefit students with experience with that vocabulary. One reviewer commented “boys and girls” should be used in place of “gender.”

Two items were flagged in the category “Standard typeface.” One reviewer indicated that an exponent is too high on the page in one item. One reviewer commented that the text in another item looked double-spaced. One item was flagged in the category “Vocabulary appropriate for grade level.” One item was flagged in the category “Technical terms and abbreviations avoided unless tested.”

In the category “High contrast between text and background,” a reviewer indicated that the shading in the bars in one item might not be different enough. One item was flagged in the category “Braille or other tactile format.” One reviewer indicated that another item should be reprinted so the student sees the original along with the choices.

No items were flagged for the following considerations:

- Commonly used words (except those tested)
- Sentence complexity appropriate for grade level
- Staggered right margins
- Allows for delivery in braille or other tactile format without changing content
- Allows for delivery in American Sign Language without changing content
- Allows for delivery with Assistive Technology without changing content
- Allows for translation into another language without changing content

English-Language Arts Assessment

Table 3.12 represents each consideration of universal design flagged by reviewers. The number of items (out of 79 total) and passages (out of 17 total) listed represent areas of concern identified by reviewers.

Table 3.12. Number of ELA Items Flagged, by UDA Consideration

Consideration	Items Flagged	Passages Flagged
Standard typeface	79	all
High contrast between text and background	79	all
Twelve-point (12) minimum size for all print	17	8
Sensitive to test-taker characteristics	2	5
Avoids content that might unfairly advantage or disadvantage any student subgroup	2	3
Minimum use of unnecessary words	3	3
Visuals are needed to answer the question		4
Braille or other tactile format		2
Question to be answered identifiable	1	
Sufficient blank space	1	

All items were flagged in the category “Standard typeface.” Reviewers indicated that there were problems such as bold stems, “M”-dashes at the end of stems, italics in stems, underlined text, capitalizations, and serifs. Reviewers commented that one passage used italics and variation in type, bold, italics, and capitalizations. One reviewer indicated italics in another passage; another reviewer commented on reference numbers that are less than twelve-point font.

Seventeen items were flagged in the category “Twelve- (12) point minimum size for all print.” For these items, reviewers commented that the text in the item, and in particular, in the boxes, was too small.

Reviewers flagged two items and five passages in the category “Sensitive to test taker characteristics and experiences (gender, age, ethnicity, SES, region, disability, language).” Reviewers commented that one item might advantage students who have had experiences with snow and might disadvantage students with visual impairments. For example, reviewers indicated that an item may be of advantage to students of high SES or may disadvantage deaf students, due to the word “thundering.” One reviewer indicated that one sentence was offensive. Another reviewer commented that another passage might unfairly advantage students of high SES.

In the category “Avoids content that might unfairly advantage or disadvantage any student subgroup,” two items and three passages were flagged as problematic for possible SES bias, as well as hearing bias for the word “thundering.” Reviewers commented that one item contains a long stem and may contain SES bias. Additionally, one reviewer commented that a passage contains several visual references.

Three items and three passages were flagged in the category “Minimum use of unnecessary words,” on the basis that sentences and passages were too long, and that certain words could be deleted. Reviewers flagged five passages in the category “Visuals are clearly labeled,” but provided comments for only two of those passages. For the passage on page 5, reviewers commented that the visual is not labeled. For the passage on page 45, one reviewer indicated that the visual was difficult to depict.

Four passages were flagged in the category “Visuals are needed to answer the question.” In one case, reviewers commented that the visual was not necessary and in other cases a single reviewer felt that the border surrounding the text was unnecessary.

Two passages were flagged in the category “braille or other tactile format.” One reviewer commented that the italics and bold in one passage would be difficult to translate to braille, and that the cursive in the passage for other items would also be difficult to translate.

One item was also flagged in the category “Question to be answered identifiable.” One reviewer felt that students might skip the second part of one prompt. In the category, “High contrast between text and background,” one reviewer felt the paper should be whiter for the entire test (the paper color appeared a bit gray to the reviewer).

Additionally, an item was flagged for use of italics. For this item, the reviewer recommended that the vocabulary should be in bold. One passage was flagged in the category “Sufficient blank space,” though no comments were provided by reviewers.

No items were flagged for the following considerations:

- Commonly used words (except vocabulary tested)
- Vocabulary appropriate for grade level
- Technical terms avoided except if tested
- Sentence complexity appropriate for grade level
- Visuals have clearly defined features
- Allows for delivery with assistive technology without changing content
- Allows for translation into another language

Summary and Recommendations on Universal Test Design

The CAHSEE test form demonstrated many instances of fidelity to universal design considerations. For the mathematics portion, there were no flagged items in several categories and only a few flagged items in other categories. Across the test, however, reviewers found features that were worrisome in relation to universal design. A majority of the items flagged had issues related to visual components. On many items (54), reviewers questioned whether diagrams were necessary to complete the item or might pose a distraction. On fewer, but still a noteworthy number of items, reviewers

found that items' visual features were not clearly defined (20 items) or were not labeled (18 items). Such vagueness may present challenges for students without the cultural knowledge, visual capacity, or experiences to understand the context of a visual. Further, reviewers found that the type size was too small on 24 items, which may present further problems for students with visual or reading challenges.

The visual presentation of the test was similarly problematic for ELA reviewers. All 79 items of the ELA assessment were flagged for not having a standard typeface. Unusual or serif typefaces may present challenges to students who have difficulty reading print. Further, 17 items and 8 passages were flagged for having small text size. In four passages, reviewers questioned the necessity and value of visual aids, while in some other cases, they questioned the lack of visual aids to help students comprehend text. Finally, five passages were flagged by reviewers because of possible insensitivities to test-taker characteristics. These passages were believed to present barriers to students by causing distraction or loss of motivation, or by eliciting other emotional or cognitive responses in students during assessments.

Limitations. This study was limited for three reasons. First, there were a limited number of reviewers. There were only four reviewers for the mathematics assessment and five reviewers for ELA assessment. Therefore, decisions on flagged items were often made with very small sample sizes (sometimes as small as one). The second limitation to the study was the lack of diversity of participants. Although content and general disability experts were present, a full review would also contain experts in assistive technology, sign language, braille, under-represented populations, and so forth. Even small review panels containing diverse expertise often have informative comments on items. While the CAHSEE panel was diverse, it was not as inclusive as other panels that have used this process.

Finally, when reporting, it was sometimes difficult to provide context to reviewers' comments without seeing actual items (forms were collected for security reasons immediately following the UDA review). Therefore, reviewers' comments are reported directly as written. Reviewing comments with a test booklet should help to contextualize reviewer perspectives.

Recommendations. NCEO offers two primary recommendations to the CDE as it moves into its next versions of the CAHSEE.

- CDE and its assessment provider should examine the visual presentation of the CAHSEE closely for print size, contrast, and value of visuals. The California publication specifications are an excellent starting point for this examination. Further, engaging the help of a vision expert may help in determining the validity and actual impact of small or unclear visuals flagged by reviewers. Another way to evaluate the visual components of the exam would be through a series of cognitive lab interviews with targeted students.
- Standard sensitivity reviews should continue to examine whether small changes to passages (especially those not copyrighted) can reduce construct-irrelevant

variance introduced by a passage that is insensitive to particular students. Following the concerns raised by reviewers, additional evaluations by content reviewers with a range of backgrounds, as well as interviews of targeted student groups, may be useful in understanding potential impacts on student engagement and achievement.

Of the two recommendations, the one urging a closer examination of the CAHSEE's visual presentation may be the easier one to implement. Small changes in the visual presentation of items should not impact the validity of the item's ability to measure certain California state standards. Realigning visual presentation, however, will likely have cost implications, so further study and data on presentation needs of particular populations may be helpful. As new versions of tests emerge, test designers should focus more closely on visual and sensitivity aspects of the assessment to help create assessments that closely align with universal design principles.

Chapter 4: Results from the 2010–11 Administrations

Lauress L. Wise

Introduction

The legislation establishing the California High School Exit Examination (CAHSEE) called for the first operational forms of the examination to be administered in spring 2001 to grade nine students in the Class of 2004. At the first administration grade nine students could volunteer, but were not required, to take both portions of the examination. Students who did not pass the examination in that administration were required to take the examination as grade ten students in spring 2002. Preliminary results from the CAHSEE spring 2001 and 2002 administrations were reported in the 2001 and 2002 evaluation reports (Wise et al., June 2001; Wise et al., June 2002b). Results from the 2001 administration were reported more fully in the first of the biennial evaluation reports to the Legislature, the Governor, the State Board of Education (SBE), and the California Department of Education (CDE) (Wise et al., Jan. 2002a).

The CAHSEE was administered six more times from July 2002 through May 2003 to students in the Class of 2004 who had not yet passed one or both parts. In addition, students from the Class of 2005 were required to take the CAHSEE for the first time as grade ten students in March or May of 2003. Analyses of results from these administrations were reported in the 2003 evaluation report (Wise, et al., Sep. 2003) and in the second biennial evaluation report (Wise et al., 2004).

Subsequent to the 2002–03 administrations, the requirement to pass the CAHSEE was deferred to the Class of 2006. In the 2003–04 school year, the CAHSEE was modified slightly and administered in spring 2004 to all grade ten students in the Class of 2006. Results from the 2004 administrations were reported in Chapter 2 of the 2004 evaluation report (Wise, et al., Sep. 2004).

The 2004–05 administrations included both grade ten students in the Class of 2007 taking the CAHSEE for the first time and grade eleven students in the Class of 2006 who had not passed the CAHSEE as grade ten students. The grade eleven students took the CAHSEE one or more times in September and November 2004, or February, March, and May 2005. The grade ten students participated in the February, March, or May 2005 administrations. In addition, a small number of adult education (AE) students took the CAHSEE during the 2004–05 school year. Analyses of results from the 2004–05 administrations were reported in Chapter 3 of the 2005 evaluation report (Wise, et al., Sep. 2005).

The 2005–06 CAHSEE administrations included grade ten students in the Class of 2008, grade eleven students in the Class of 2007, and grade twelve students in the Class of 2006. Except for students in special education programs who could meet the CAHSEE requirement in other ways, grade twelve students who

still had not passed the CAHSEE by the end of the 2005–06 test year were denied diplomas. Analyses of results from the 2005–06 administrations were reported in Chapter 2 of the 2006 evaluation report (Wise, et al., Sep. 2006).

The 2006–07 CAHSEE administrations were more complex still. Three separate classes of high school students, 2007 through 2009, as well as many students from the Class of 2006 who had not passed the CAHSEE by the end of their senior year, took the tests. Essentially, all grade ten students in the Class of 2009 were tested for the first time in February, March, or May of 2007. Grade eleven students in the Class of 2008 who had not yet passed the CAHSEE had multiple opportunities to take the CAHSEE in the July, October, November, or December 2006 administrations and in the February, March, or May 2007 administrations. Grade twelve students in the Class of 2007 who still needed to pass the CAHSEE had as many as three opportunities to take the CAHSEE during these same administrations. In addition, many students from the Class of 2006 continued to take the CAHSEE, either as students repeating grade twelve or as AE students. Analyses of results from the 2006–07 administrations were reported in the 2007 evaluation report (Becker and Watters, 2007).

In 2002, a lawsuit (Kidd et al. vs. O'Connell et al., formerly referred to as the Chapman case) was filed on behalf of students with disabilities (SWD). While the suit was pending, the parties agreed that SWD in the classes of 2006 and 2007 could receive a diploma even if they did not pass the CAHSEE, as long as they met all other local and state requirements, although many of these students continued to take the CAHSEE. A final settlement was reached in March 2008 reinstating the requirement that SWD pass the CAHSEE and requiring the CDE to conduct a study of SWD who are unable to pass. Analyses of results from the 2007–08 and 2008–09 CAHSEE administrations, including passing rates for SWD in the Classes of 2008 and 2009 were reported in our 2008 and 2009 annual reports (Becker and Watters, 2008; Becker and Watters, 2009). All of these reports are available on the CDE Web site at <http://www.cde.ca.gov/ta/tg/hs/evaluations.asp>.

Key Analysis Questions

Analyses of results from the 2010–11 CAHSEE administrations are organized around four main issues.

1. How many first-time grade twelve students in the Class of 2011 who had not passed the CAHSEE were able to pass in their senior year, and how many did not meet the CAHSEE requirement by June 2011? How did these numbers compare to the results for the classes of 2006 through 2010?
2. How did the performance of grade eleven students in the Class of 2012 who had not yet passed the CAHSEE change and what can we expect for those who have not yet passed by the end of grade eleven? Also, how did improved performance for grade eleven students in the Class of 2012

- compare to improvements seen in our previous analyses for grade eleven students in the classes of 2006 through 2011?
3. How did this year's results for grade ten students in the Class of 2013 compare to results for the classes of 2006 through 2012 when those students took the CAHSEE for the first time as grade ten students in 2004 through 2010 respectively?
 4. How many students from the classes of 2008 through 2010 who had not met the CAHSEE requirement continued to try to pass the CAHSEE? How many of them passed?

Our analyses answer each of these questions for students in specific demographic categories defined by gender, race/ethnicity, economic disadvantage, and English-learner or special education status. Results for AE students are reported briefly, but are not the primary policy focus of these analyses except for AE students who were previously in the Classes of 2006 through 2009.

Test Result Data

Two sources of data were used to analyze CAHSEE test results. First, following each test administration, we received item-analysis files from the testing contractor, Educational Testing Service (ETS). These data were analyzed and documented in brief reports with cumulative results through each separate administration. These data files contain test item and student questionnaire responses for each student who took the CAHSEE, but do not include corrections to demographic information and may exclude a small number of students whose test results were not processed in time to be included in these files.

The second source was a complete, end-of-year detail file, also supplied by ETS. This file contained preliminary, but not final, corrections to demographic information and included records for additional students not included on the item analysis files. The detail file does not, however, contain responses to individual test questions or to the student questionnaire.

Table 4.1 shows the number of answer document records in the files received from ETS for each of the 2010–11 CAHSEE administrations.⁷ For this report, data from July 2010 through May 2011 administrations are included. For each CAHSEE test, Table 4.1 also shows the number of answer documents and the number of documents with passing scores by administration date and current grade. The July 2010 CAHSEE administration included students in grade twelve and in AE. The October through December 2010 administrations also included students in grade eleven. Grade ten students are included in the February, March, and May administrations, along with students in grades eleven and twelve, and AE students

⁷ Note that the data analyzed here are preliminary results prior to final review and correction of demographic information by schools and districts.

who are still trying to pass. Cumulative passing rates are estimated in this report for current grade ten, eleven, and twelve students (Classes of 2013, 2012, and 2011 respectively), as well as for students who were previously in the Classes of 2008 through 2010. Passing rates for students in AE programs are not analyzed further except for those students who were previously in the Classes of 2008 through 2010.

Some students used more than one answer document in the same CAHSEE administration (usually one for the ELA test and one for the mathematics test), resulting in multiple test records on the ETS files for the same student. In addition, many grade eleven and grade twelve students participate in more than one administration during the year. We matched answer documents within and across the 2010–11 administrations to avoid counting the same student more than once. Table 4.2 shows the resulting estimates of the number of different students participating in one or more of the 2010–11 CAHSEE administrations and the numbers and percentages of these students passing each of the two tests. There are minor discrepancies in the numbers passing between Table 4.1 and Table 4.2 because grade codes were corrected for a small number of students who had more than one answer document and had inconsistent grade codes across the different answer documents.

We matched the 2010–11 CAHSEE test data to test results from the 2005–06, 2006–07, 2007–08, 2008–09, and 2009–10 CAHSEE administrations. Matches were found for 81 percent of the current grade eleven students, 87 percent of the current grade twelve students, and 20 percent of the students currently enrolled in AE programs⁸. Starting with the July 2010 analyses, we made minor changes to the criteria for accepting matches, requiring somewhat more compelling evidence than in past analyses. This change resulted in a slightly lower match rate, but also reduced the number of false matches. The stricter matching criteria had little or no impact on estimates of cumulative passing rates.

⁸ Note that students who did not have any matching prior-year records are treated as additions to their respective high school class, increasing the counts of students in the class who had not passed the CAHSEE by May 2010.

Table 4.1. Number Answer Documents from Each 2010–11 CAHSEE Administration and Number with Passing Scores

Test Date	Grade ¹	Total Answer Documents	Blank Answer Documents	ELA		Math	
				Number Taking ²	Number Passing	Number Taking ²	Number Passing
Jul-10	11	0	0	0	0	0	0
	12	16,915	5,606	7,388	1,752	7,246	1,562
	Adult Education	2,506	239	1,351	537	1,477	568
	Total	19,421	5,845	8,739	2,289	8,723	2,130
Oct-10	11	27,545	2,870	18,423	7,093	18,454	5,912
	12	41,727	5,264	25,727	8,116	25,473	6,463
	Adult Education	3,203	105	1,955	845	2,095	637
	Total	72,475	8,239	46,105	16,054	46,022	13,012
Nov-10	11	100,786	7,669	70,227	28,756	69,422	23,975
	12	56,586	7,321	34,725	10,448	34,564	8,964
	Adult Education	5,635	312	3,520	1,511	3,538	1,107
	Total	163,007	15,302	108,472	40,715	107,524	34,046
Dec-10	11	452	40	307	153	271	108
	12	3,792	813	1,796	508	1,815	408
	Adult Education	763	42	427	201	483	186
	Total	5,007	895	2,530	862	2,569	702
Feb-11	10	122,021	6,816	112,466	92,351	112,676	92,556
	11	30,167	3,902	18,517	5,119	19,399	5,549
	12	45,360	7,719	24,538	5,132	26,036	6,228
	Adult Education	4,693	247	2,770	1,178	3,106	1,180
	Total	202,241	18,684	158,291	103,780	161,217	105,513
Mar-11	10	378,069	15,596	355,731	294,003	355,807	293,758
	11	47,002	4,239	29,940	9,774	31,772	10,437
	12	33,807	5,262	18,460	4,214	19,989	5,088
	Adult Education	4,828	195	2,907	1,332	3,196	1,290
	Total	463,706	25,292	407,038	309,323	410,764	310,573
May-11	10	16,920	3,856	9,450	5,542	9,363	5,162
	11	24,550	3,743	14,246	4,212	14,946	4,555
	12	28,943	6,122	14,847	2,534	15,113	3,042
	Adult Education	4,516	241	2,631	1,061	2,985	1,099
	Total	74,929	13,962	41,174	13,349	42,407	13,858
Total All Records		1,000,786	88,219	772,349	486,372	779,226	479,834

¹ Grade ten students are in the Class of 2013, grade eleven students are in the Class of 2012, and grade twelve students are in the Class of 2011.

² Students with blank answer documents are not counted as taking either test. Many, but not all grade ten students took both tests. Students who took a test with a modification are included in the counts of the number of students taking each test but not counted as having passed. Note that in DataQuest these students are not counted as having taken the test.

Table 4.2. Counts of Unique Students and Passing Rates by Grade Level in the 2010–11 CAHSEE Administrations

Count ¹	Grade			Adult Education	Total
	10	11	12		
Total Unique Students	495,643	145,841	97,124	17,587	756,195
Blank Answer Documents ²	15,185	8,519	11,739	807	36,250
Number Taking ELA	475,226	106,216	57,536	11,324	650,302
Number Passing ELA	391,369	55,131	29,353	6,338	482,191
Percentage Passing ELA	82.4%	51.9%	51.0%	56.0%	74.1%
Number Taking Math	475,187	105,328	52,462	12,134	645,111
Number Passing Math	390,841	50,752	28,041	5,739	475,373
Percentage Passing Math	82.2%	48.2%	53.5%	47.3%	73.7%

¹ Counts of students passing by grade level may differ from those in Table 1 because of corrections to inconsistent grade codes across answer documents for the same student and because a number of students appear to have passed the same test more than once. Counts of students taking each test *include* students who took the test with a modification.

² Both blank and non-blank answer documents were found for some students. These students were not counted as having blank answer documents in Table 4.2, resulting in lower counts of blank answer documents in comparison to Table 4.1.

Table 4.3 shows the relationship of the high school class based on the grade reported last year during 2009–10 testing to the high school class and grade indicated in the 2010–11 test records for students with matching prior-year records. Seventy-seven percent of the grade twelve students testing this year (Class of 2011) were in grade eleven last year (56,913 of the 74,154 current grade twelve students were matched to last year’s records). A substantial number (11,388) of students shown as grade twelve this year were first-time grade twelve students last year (Class of 2010). Some others of this year’s examinees were from even earlier high school classes. When AE students were also included, data showed 107 students who were originally in the Class of 2006, 224 who were originally in the Class of 2007, 418 who were in the Class of 2008, 3,573 who were in the Class of 2009, and 13,050 who were in last year’s Class of 2010.

Table 4.3. Number of 2010–11 Examinees (Excluding Blank Answer Documents) Matched to Prior-Year Records by Current and Prior High School Class

Grade and High School Class in 2009–10	Grade and High School Class in 2010–11 School Year				
	Grade 10 (Class of 2013 ¹)	Grade 11 (Class of 2012)	Grade 12 (Class of 2011 ²)	Adult Education	Total Matched
Grade 9 (Class of 2013 ¹)	474,757				474,757
Grade 10 (Class of 2012)	5,143	106,714	2,972	95	114,924
Grade 11 (Class of 2011)	809	4,211	56,913	510	62,443
Grade 12 (Class of 2010)	116	410	11,388	1,136	13,050
Grade 12 in 2008–09 (Class of 2009)	27	86	2,754	706	3,573
Grade 12 in 2007–08 (Class of 2008)	0	0	22	396	418
Grade 12 in 2006–07 (Class of 2007)	0	0	0	224	224
Grade 12 in 2005–06 (Class of 2006)	0	0	0	107	107
Adult Education	16	33	105	149	303
Total Matched	480,868	111,454	74,154	3,323	669,799

¹ Current grade ten students not matched to 2009–10 CAHSEE records were assumed to have been in the Class of 2013 last year as well as this year.

² Current grade twelve students include students previously in the Classes of 2006 through 2010 as well as the Class of 2011.

Note: Shaded cells indicate normal grade progression. Normal progression for grade twelve students who did not pass is either to repeat grade twelve or to enter AE.

It is important to note that some students were retained in or skipped a grade and thus moved to a different high school class between the 2009–10 and 2010–11 school years. If students who changed to a different class had previously passed only one of the CAHSEE tests, they had to be removed from the prior counts of students passing that test for their original class and added to the corresponding counts for their new class. For this reason, counts of students in a given class who had passed either the ELA or mathematics test in previous years were subject to change. Counts of students who passed both tests did not change, so long as these students did not participate in further CAHSEE testing. Some of the students previously meeting the CAHSEE requirement might have changed to a different high school class, but we would have no way of verifying such a change. We also deleted a few records for students who appeared to be taking a CAHSEE test even though they had already been counted as meeting the CAHSEE requirement.

We corrected all of the CAHSEE records with missing or inconsistent gender or race/ethnicity codes from the 2010–11 CAHSEE administrations. For records with missing or inconsistent gender codes, we assigned the gender most common to their first name. In a very few cases, a first name was not shared with 10 or more others, so we selected a gender code randomly. For records with missing or inconsistent race/ethnicity codes, we assigned the race/ethnicity code with the highest frequency for their first or last name, whichever one had a higher frequency among a single racial/ethnic group. We also corrected inconsistencies in first and last names by selecting the most frequent first or last name among different names found for a given student. Name corrections did not affect statistical analyses directly but did have some impact on efforts to match student records across administrations and years.

Computing Passing Rates

A key issue in computing and reporting passing rates for the CAHSEE is what to use as the denominator. The two main choices are (a) the number of students who took each test and (b) the number of students subject to the CAHSEE requirement. In this report, as in our prior reports, we have opted for the latter, reporting the proportion of all students in the target populations who have passed. However, the number of students in the target populations fluctuates with daily enrollment changes. Table 4.4 compares fall enrollment counts (reported by DataQuest), enrollment counts from the Standardized Testing and Reporting (STAR) Program tests that occurred closer in time to the CAHSEE testing dates, and record counts from the CAHSEE. The CAHSEE is now also being used for grade ten accountability under the federal Elementary and Secondary Education Act (ESEA) requirements. Essentially all students must be tested to meet ESEA participation requirements, so the CAHSEE counts appear to be reasonably complete. We used total CAHSEE record counts in computing grade ten passing rates for this report. STAR reports include the number of students tested in different demographic groups, but do not include separate enrollment counts for these groups.

Table 4.4. Grade Ten Enrollment Estimates from California Basic Education Data System (CBEDS), STAR, and CAHSEE¹

Source	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
Fall enrollment (CBEDS)	490,465	497,203	515,761	517,873	513,707	509,157	506,042	502,452
STAR reported enrollment	475,201	482,164	502,616	500,655	495,912	495,705	497,957	495,310
STAR students tested (Grade Ten ELA)	452,242	462,795	482,781	481,950	478,582	479,510	482,333	466,929
CAHSEE examinees ²	459,199	470,891	505,045	502,106	493,559	496,688	498,187	480,868
Percentage of fall enrollment	93.7%	94.7%	97.9%	96.9%	96.0%	97.6%	98.4%	95.7%

¹ CBEDS and STAR data were retrieved online through CDE's Dataquest facility at <http://dq.cde.ca.gov/dataquest>.

² CAHSEE student counts, after merges to remove duplication, were used in computing passing rates. Students with blank answer documents are included in the ^h grade ten counts.

The denominators used in computing passing rates for grade eleven and twelve students were adjusted to reflect students who moved between high school classes, transferred out of state, or dropped out. The denominator used was the number of students in the class who had passed the CAHSEE in prior years plus the number still taking the CAHSEE during 2009–10. Some of the students who passed in prior years may also have changed classes or dropped out, but were not in our data files because they did not take the CAHSEE again. In the future, the California Longitudinal Pupil Achievement Data System (CALPADS) will provide better data on students who do not participate in further CAHSEE testing, including both those who have passed the CAHSEE and those who have not.

We recognize that excluding students who dropped out before grade twelve from the computation of passing rates may overstate student success in meeting the CAHSEE requirement. There is no way of knowing, however, how many of the students who dropped out might have passed the CAHSEE had they kept trying. The high rate of high school dropouts is a serious and costly problem (Alliance for Excellence, 2007) that is somewhat beyond the scope of the present evaluation. While there is no evidence that the CAHSEE has led to increased dropout rates prior to grade twelve, there is some evidence (described in Chapter 6) that the CAHSEE requirement has prevented or delayed between one and four percent of seniors from graduating.

The denominators used in computing passing rates for the classes of 2006 through 2010 were unchanged from the numbers estimated during their original senior year. For these classes, we report the number of students not continuing to take the CAHSEE separately, but retain them in the denominator.

Test Results

Class of 2011 — This Year's Seniors Struggle to Meet Graduation Deadline

HumRRO worked with CDE to analyze test results for seniors after each of the 2010–11 administrations. Unlike students in the Classes of 2008 and 2009, SWD in the Classes of 2010 and 2011 may have received an exemption from the CAHSEE requirements while a panel of experts and the SBE considered alternative ways that they might demonstrate competency in the CAHSEE requirements. Because SWD received exemptions in some years (2006, 2007, and 2010) and not others (2008 and 2009), different tables are needed for comparison of this year's results to those of prior years. We provide tables that include and tables that exclude SWD from all demographic categories.

Tables 4.5 through 4.10 show cumulative passing rates for students in the Class of 2011, this year's first-time seniors. In the primary tables, SWD are excluded from all rows, due to the exemption currently reinstated for these students. To avoid duplication, students who had been seniors in 2006, 2007, 2008, 2009, or 2010 were excluded from the counts in Tables 4.5 through 4.10. We also provide an alternative to each table where SWD are included in all rows, allowing for direct comparison to prior-year results in some cases.

In computing the estimates shown in these tables, adjustments were made to previous estimates of the numbers who had passed each part in prior years.

- We removed students who appeared to shift from the Class of 2011 to a different high school class, because they were retained in grade eleven between the 2009–10 and 2010–11 school years, or in a few cases dropped back to grade ten.
- We added in a few students who joined the target class because of grade skipping (from grade ten in the 2009–10 school year to grade twelve in the 2010–11 school year). We also added students who could not be matched to any prior-year records. We did not, however, add students from the Class of 2010 who were retained in grade twelve. These students are included in the tables below for the Classes of 2008 through 2010. ***Adding students moving into the Class of 2011 may have increased the number of students in the class who had passed one but not both parts of the CAHSEE by May 2010.***
- Finally, we removed Class of 2011 and Class of 2012 students who had not passed both parts, but were not matched to a test record from the July 2010 through May 2011 administrations.⁹ We did also include grade twelve students who participated in the 2010–11 administrations but could not be matched to any prior records. Most of these students were likely new to the state, although some were students who could not be matched to their prior records because of coding errors in key student identifiers.

In the tables that follow, we believe that the most important values are the estimates of the numbers of students who have not yet passed either or both parts of the CAHSEE. The percentages shown are subject to some debate due to differences of opinion as to the appropriate denominator (the base for computing the percentages). For example, students who passed the CAHSEE but subsequently left the state or dropped out are included in the denominator, since we have no basis for estimating the number of these students.

⁹ Beginning with the February 2011 administration, we are excluding students who are ***not*** still trying to pass the CAHSEE from estimates for the Classes of 2011 and 2012. Students who have not passed both parts and did not participate in any of the 2010–11 test administrations were dropped from the denominator used in computing passing rates. Some of these students left the state or enrolled in a private school; others may have given up trying to earn a California high school diploma. This approach is consistent with procedures used in prior years and leads to comparable results.

Table 4.5. Estimated Number and Percentage of Students in the Class of 2011¹ Passing Both CAHSEE Tests Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed ²	Percent Pass
All Students	393,316	69,490	30,333	26,081	13,076	423,649	26,081	94.2%
Females	200,137	32,445	14,979	12,013	5,453	215,116	12,013	94.7%
Males	193,179	37,045	15,354	14,068	7,623	208,533	14,068	93.7%
American Indian or Alaska Native ³	2,998	504	199	176	129	3,197	176	94.8%
Asian ³	41,168	3,529	1,777	1,270	482	42,945	1,270	97.1%
Pacific Islander ³	2,732	524	246	204	74	2,978	204	93.6%
Filipino ³	13,437	891	486	298	107	13,923	298	97.9%
Hispanic or Latino	172,865	44,156	18,172	17,396	8,588	191,037	17,396	91.7%
African American or Black ³	26,269	8,645	3,387	3,441	1,817	29,656	3,441	89.6%
White ³	133,701	9,412	5,079	2,493	1,840	138,780	2,493	98.2%
Multiple Races ⁴	134	1,820	986	800	34	-- ⁴	-- ⁴	-- ⁴
Economically Disadvantaged	172,948	44,951	18,560	17,943	8,448	191,508	17,943	91.4%
English Learner	38,622	28,043	10,778	12,122	5,143	49,400	12,122	80.3%
Reclassified Fluent English	84,249	4,853	2,964	1,195	694	87,213	1,195	98.6%

¹ Current grade twelve students who also tested as grade twelve students in 2005–06 (Class of 2006), 2006–07 (Class of 2007), 2007–08 (Class of 2008), 2008–09 (Class of 2009), or 2009–10 (Class of 2010) are **excluded** from this table. Current grade twelve students who tested as grade ten students last year have been moved into counts for the Class of 2011 and are included here along with students who tested as grade eleven students last year. Students in special education programs are **excluded** from all rows.

² Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

³ Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

⁴ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

Explanation of table contents: Line 1 shows that through May of 2010, 393,316 students now in the Class of 2011 who were not in special education classes had passed the CAHSEE and 69,490 had not. This year, 30,333 of the students who had not passed by May 2010 completed the CAHSEE requirement. Another 26,081 of these students took the CAHSEE, but have not yet passed both parts. An estimated 13,076 Class of 2011 students who had not passed by May 2010 did not participate in any administration this year and have been dropped from the cumulative counts. Overall, we estimate that 423,649 students in the Class of 2011 have now passed the CAHSEE, which is 94.2 percent of the general education students in the Class of 2011 after adjusting for students moving into and out of this class and dropping students not continuing to try to pass the CAHSEE.

Table 4.6. Estimated Number and Percentage of Students in the Class of 2011¹ Passing Both CAHSEE Tests Through May 2011, Including Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed ²	Percent Pass
All Students	409,391	95,228	33,445	40,984	20,799	442,836	40,984	91.5%
Females	205,498	41,525	16,068	17,320	8,137	221,566	17,320	92.7%
Males	203,893	53,703	17,377	23,664	12,662	221,270	23,664	90.3%
American Indian or Alaska Native ³	3,177	785	230	326	229	3,407	326	91.3%
Asian ³	42,119	4,216	1,874	1,628	714	43,993	1,628	96.4%
Pacific Islander ³	2,817	657	258	276	123	3,075	276	91.8%
Filipino ³	13,662	1,112	522	427	163	14,184	427	97.1%
Hispanic or Latino	179,413	58,216	19,856	25,692	12,668	199,269	25,692	88.6%
African American or Black ³	27,564	12,673	3,756	5,853	3,064	31,320	5,853	84.3%
White ³	140,486	15,173	5,871	5,522	3,780	146,357	5,522	96.4%
Multiple Races ⁴	140	2,382	1,077	1,256	49	-- ⁴	-- ⁴	-- ⁴
Economically Disadvantaged	180,099	61,332	20,426	27,764	13,142	200,525	27,764	87.8%
English Learner	42,052	36,599	11,724	17,186	7,689	53,776	17,186	75.8%
Reclassified Fluent English	85,647	5,820	3,193	1,676	951	88,840	1,676	98.1%
Special Education	16,075	25,738	3,112	14,903	7,723	19,187	14,903	56.3%

¹ Current grade twelve students who also tested as grade twelve students in 2005–06 (Class of 2006), 2006–07 (Class of 2007), 2007–08 (Class of 2008), 2008–09 (Class of 2009), or 2009–10 (Class of 2010) are **excluded** from this table. Current grade twelve students who tested as grade ten students last year have been moved into counts for the Class of 2011 and are included here along with students who tested as grade eleven students last year. Students in special education programs are **included** in all rows.

² Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

³ Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

⁴ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

For the Class of 2011, more than 56,000 general education students and just over 18,000 special education students took the CAHSEE during the 2010–11 school year. Approximately 54 percent of the general education students who took the CAHSEE this year and 17 percent of the students in special education completed their CAHSEE requirement. As shown in Table 4.5, there are more than 26,000 general education students in the Class of 2011 who are still trying to pass the CAHSEE but have not yet done so. Also, nearly 15,000 special education students did not pass the CAHSEE (Table 4.6). However, those special education students who complete all other graduation requirements may still graduate due to the current exemption.

Tables 4.7 through 4.10 show the number of students passing each of the CAHSEE tests excluding and including special education students. Approximately 17,000 general education students and 11,000 special education students have not yet passed the ELA test. In addition, over 18,000 general education students and nearly 12,000 special education students have yet to pass the mathematics test.

Table 4.7. Estimated Number and Percentage of Students in the Class of 2011¹ Passing the CAHSEE ELA Test Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed ²	Percent Pass
All Students	407,991	54,815	24,841	16,898	13,076	432,832	16,898	96.2%
Females	209,156	23,426	11,066	6,907	5,453	220,222	6,907	97.0%
Males	198,835	31,389	13,775	9,991	7,623	212,610	9,991	95.5%
American Indian or Alaska Native ³	3,108	394	171	94	129	3,279	94	97.2%
Asian ³	41,392	3,305	1,691	1,132	482	43,083	1,132	97.4%
Pacific Islander ³	2,820	436	216	146	74	3,036	146	95.4%
Filipino ³	13,603	725	398	220	107	14,001	220	98.5%
Hispanic or Latino	182,387	34,634	14,467	11,579	8,588	196,854	11,579	94.4%
African American or Black	28,418	6,496	2,771	1,908	1,817	31,189	1,908	94.2%
White ³	135,696	7,417	4,234	1,343	1,840	139,930	1,343	99.0%
Multiple Races ⁴	555	1,399	891	474	34	-- ⁴	-- ⁴	-- ⁴
Economically Disadvantaged	182,540	35,359	14,849	12,062	8,448	197,389	12,062	94.2%
English Learner	42,484	24,181	9,565	9,473	5,143	52,049	9,473	84.6%
Reclassified Fluent English	86,399	2,703	1,562	447	694	87,961	447	99.5%

¹ Current grade twelve students who also tested as grade twelve students in 2005–06 (Class of 2006), 2006–07 (Class of 2007), 2007–08 (Class of 2008), 2008–09 (Class of 2009), or 2009–10 (Class of 2010) are **excluded** from this table. Current grade twelve students who tested as grade ten students last year have been moved into counts for the Class of 2011 and are included here along with students who tested as grade eleven students last year. Students in special education programs are **excluded** from all rows.

² Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

³ Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

⁴ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

Table 4.8. Estimated Number and Percentage of Students in the Class of 2011¹ Passing the CAHSEE ELA Test Through May 2011, Including Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed ²	Percent Pass
All Students	427,321	77,298	28,461	28,038	20,799	455,782	28,038	94.2%
Females	216,013	31,010	12,305	10,568	8,137	228,318	10,568	95.6%
Males	211,308	46,288	16,156	17,470	12,662	227,464	17,470	92.9%
American Indian or Alaska Native ³	3,322	640	198	213	229	3,520	213	94.3%
Asian ³	42,381	3,954	1,796	1,444	714	44,177	1,444	96.8%
Pacific Islander ³	2,918	556	234	199	123	3,152	199	94.1%
Filipino ³	13,862	912	434	315	163	14,296	315	97.8%
Hispanic or Latino	190,495	47,134	16,383	18,083	12,668	206,878	18,083	92.0%
African American or Black ³	30,219	10,018	3,313	3,641	3,064	33,532	3,641	90.2%
White ³	143,445	12,214	5,083	3,351	3,780	148,528	3,351	97.8%
Multiple Races ⁴	666	1,856	1,018	789	49	-- ⁴	-- ⁴	-- ⁴
Economically Disadvantaged	191,437	49,994	17,121	19,731	13,142	208,558	19,731	91.4%
English Learner	46,544	32,107	10,676	13,742	7,689	57,220	13,742	80.6%
Reclassified Fluent English	88,028	3,439	1,748	740	951	89,776	740	99.2%
Special Education	19,330	22,483	3,620	11,140	7,723	22,950	11,140	67.3%

¹ Current grade twelve students who also tested as grade twelve students in 2005–06 (Class of 2006), 2006–07 (Class of 2007), 2007–08 (Class of 2008), 2008–09 (Class of 2009), or 2009–10 (Class of 2010) are **excluded** from this table. Current grade twelve students who tested as grade ten students last year have been moved into counts for the Class of 2011 and are included here along with students who tested as grade eleven students last year. Students in special education programs are **included** in all rows.

² Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

³ Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

⁴ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data..

Table 4.9. Estimated Number and Percentage of Students in the Class of 2011¹ Passing the CAHSEE Mathematics Test Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed ²	Percent Pass
All Students	407,447	55,359	24,148	18,135	13,076	431,595	18,135	96.0%
Females	205,428	27,154	12,781	8,920	5,453	218,209	8,920	96.1%
Males	202,019	28,205	11,367	9,215	7,623	213,386	9,215	95.9%
American Indian or Alaska Native ³	3,062	440	168	143	129	3,230	143	95.8%
Asian ³	42,480	2,217	1,332	403	482	43,812	403	99.1%
Pacific Islander ³	2,826	430	212	144	74	3,038	144	95.5%
Filipino ³	13,660	668	382	179	107	14,042	179	98.7%
Hispanic or Latino	182,611	34,410	13,941	11,881	8,588	196,552	11,881	94.3%
African American or Black ³	27,270	7,644	2,941	2,886	1,817	30,211	2,886	91.3%
White ³	135,120	7,993	4,274	1,879	1,840	139,394	1,879	98.7%
Multiple Races ⁴	406	1,548	895	619	34	-- ⁴	-- ⁴	-- ⁴
Economically Disadvantaged	183,454	34,445	13,855	12,142	8,448	197,309	12,142	94.2%
English Learner	46,996	19,669	7,653	6,873	5,143	54,649	6,873	88.8%
Reclassified Fluent English	85,287	3,815	2,172	949	694	87,459	949	98.9%

¹ Current grade twelve students who also tested as grade twelve students in 2005–06 (Class of 2006), 2006–07 (Class of 2007), 2007–08 (Class of 2008), 2008–09 (Class of 2009), or 2009–10 (Class of 2010) are **excluded** from this table. Current grade twelve students who tested as grade ten students last year have been moved into counts for the Class of 2011 and are included here along with students who tested as grade eleven students last year. Students in special education programs are **excluded** from all rows.

² Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

³ Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

⁴ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data..

Table 4.10. Estimated Number and Percentage of Students in the Class of 2011¹ Passing the CAHSEE Mathematics Test Through May 2011, Including Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed ²	Percent Pass
All Students	426,642	77,977	27,302	29,876	20,799	453,944	29,876	93.8%
Females	211,626	35,397	13,940	13,320	8,137	225,566	13,320	94.4%
Males	215,016	42,580	13,362	16,556	12,662	228,378	16,556	93.2%
American Indian or Alaska Native ³	3,275	687	197	261	229	3,472	261	93.0%
Asian ³	43,598	2,737	1,422	601	714	45,020	601	98.7%
Pacific Islander ³	2,923	551	227	201	123	3,150	201	94.0%
Filipino ³	13,925	849	421	265	163	14,346	265	98.2%
Hispanic or Latino	190,966	46,663	15,684	18,311	12,668	206,650	18,311	91.9%
African American or Black ³	28,865	11,372	3,343	4,965	3,064	32,208	4,965	86.6%
White ³	142,588	13,071	5,005	4,286	3,780	147,593	4,286	97.2%
Multiple Races ⁴	489	2,033	999	985	49	-- ⁴	-- ⁴	-- ⁴
Economically Disadvantaged	192,666	48,765	15,800	19,823	13,142	208,466	19,823	91.3%
English Learner	51,704	26,947	8,668	10,590	7,689	60,372	10,590	85.1%
Reclassified Fluent English	86,847	4,620	2,361	1,308	951	89,208	1,308	98.6%
Special Education	19,195	22,618	3,154	11,741	7,723	22,349	11,741	65.6%

¹ Current grade twelve students who also tested as grade twelve students in 2005–06 (Class of 2006), 2006–07 (Class of 2007), 2007–08 (Class of 2008), 2008–09 (Class of 2009), or 2009–10 (Class of 2010) are **excluded** from this table. Current grade twelve students who tested as grade ten students last year have been moved into counts for the Class of 2011 and are included here along with students who tested as grade eleven students last year. Students in special education programs are **included** in all rows.

² Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

³ Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

⁴ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

Table 4.11 provides a comparison of CAHSEE passing rates for this year’s seniors to passing rates for seniors in 2006 through 2010 as of May of their senior year. The overall passing rate this year is just slightly lower than the passing rate last year. Passing rates for different demographic groups changed by less than half a percentage point except for a decline in the passing rate for English learners from 81.0 to 80.3 percent. However, comparisons for different racial/ethnic groups may be distorted due to the addition of the “Multiple Races” category. Figure 4.1 shows trends for selected groups. Students with disabilities are excluded from all categories except the last. Note that CAHSEE passing rates for SWD were higher in the two years they were required to pass.

Table 4.11. Comparison of Estimated Percentage of Students Meeting the CAHSEE Requirement for the Classes of 2006 Through 2011, Through May of Their Senior Year, Excluding Students with Disabilities¹

Group ¹	Passed Both Parts of the CAHSEE					
	Class of 2006	Class of 2007	Class of 2008	Class of 2009	Class of 2010	Class of 2011 ⁵
All Students	91.2%	93.3%	93.6%	93.4%	94.4%	94.2%
Females	91.6%	93.6%	94.1%	93.9%	94.8%	94.7%
Males	90.7%	92.9%	93.2%	92.9%	93.9%	93.7%
American Indian or Alaska Native ²	-- ²	-- ²	93.6%	94.6%	95.4%	94.8%
Asian ²	95.3%	96.3%	96.5%	96.2%	97.4%	97.1%
Pacific Islander ²	-- ³	-- ³		93.1%	95.3%	93.6%
Filipino ²	-- ³	-- ³		97.2%	98.1%	97.9%
Hispanic or Latino	85.5%	88.6%	89.9%	89.9%	91.4%	91.7%
African American or Black ²	83.7%	88.4%	87.2%	87.5%	89.6%	89.6%
White ²	97.3%	98.4%	98.2%	97.9%	98.1%	98.2%
Multiple Races ³	-- ³	-- ³	-- ³	-- ³	-- ³	-- ³
Economically Disadvantaged	85.7%	88.3%	89.8%	89.5%	91.3%	91.4%
English Learner	76.0%	77.1%	78.6%	78.4%	81.0%	80.3%
Reclassified Fluent English	-- ³	-- ³	-- ³	98.1%	98.5%	98.6%
Special Education ⁴	47.8%	48.8%	54.5%	56.6%	53.3%	56.3%

¹ Note grade twelve students who also tested as grade twelve students in the previous year are **excluded** from this table for all classes except the Class of 2006.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

⁴ Students in special education in the Classes of 2008 and 2009 were required to pass the CAHSEE to receive a diploma. An exemption was available to students in special education in 2006, 2007, and now again in 2010 and 2011. Students in special education programs are **excluded** from all rows of the table except for the last row.

⁵ Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

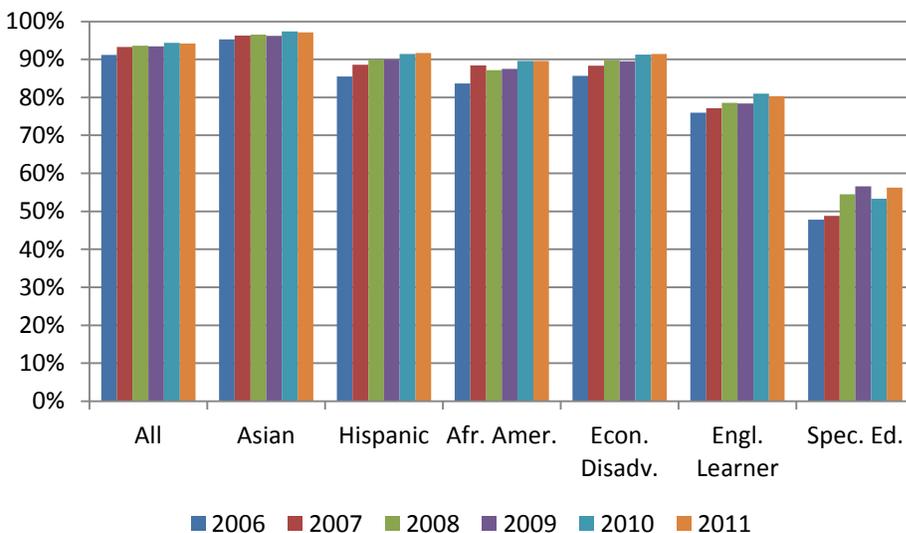


Figure 4.1. Trends in overall grade twelve passing rates for selected groups.

Analysis of Students Who Do Not Continue to Try to Pass the CAHSEE

As noted above, some students who had not passed the CAHSEE by May 2010 did not participate in any of the 2010–11 CAHSEE administrations. Some of these students may have transferred to a private school or out of state. Others dropped out of school altogether. A few others may actually have tested, but coding errors in their data records prevented matching their new records to their records from prior years. Further analyses were conducted of the characteristics of students who did not continue to try to pass the CAHSEE.

Table 4.12 shows a comparison of students in key demographic categories¹⁰ who did and did not continue to try to pass the CAHSEE. Grade eleven students in May 2010 who had not passed both parts of the CAHSEE were divided into three groups: (a) those who had passed the ELA test, (b) those who had passed the mathematics test, and (c) those who had passed neither test. For each of these three groups, the percentage not continuing to take the CAHSEE is shown along with a comparison of the prior year means for students who did not and students who did continue to take the CAHSEE in 2010–11.

The percentage of student not continuing was higher for those who had not passed either test through grade 11 (35.5%) than for those who had passed one of the two tests (21.5% and 18.6%). Within each category, the prior mean on tests yet to be passed was slightly higher for students who continued compared to students who did not, but both groups had mean scores well below the score of 350 required to pass each test. The one exception was for SWD, where the mean for those not continuing was higher than the mean for those who did.

¹⁰ Some race/ethnicity groups are excluded due to small samples sizes that lead to unstable results.

Table 4.12. Comparison of Grade Twelve Students Not Passing by May 2010 Who Did and Did Not Continue to Take the CAHSEE

	Passed ELA			Passed Math			Passed Neither				
	% not Cont.	Prior Year Math Mean Not Cont.	Prior Year Math Mean Cont.	% not Cont.	Prior Year ELA Mean Not Cont.	Prior Year ELA Mean Cont.	% not Cont.	Prior Year ELA Mean Not Cont.	Prior Year ELA Mean Cont.	Prior Year Math Mean Not Cont.	Prior Year Math Mean Cont.
All Students	21.5%	333.6	335.3	18.6%	327.7	331.9	35.5%	317.4	322.9	324.1	327.0
Females	19.6%	333.6	335.6	16.4%	329.6	333.7	32.2%	321.4	326.0	325.2	327.4
Males	24.3%	333.6	334.7	19.8%	326.8	330.9	38.0%	314.9	320.3	323.4	326.7
Asian	22.1%	334.8	336.5	17.0%	326.0	329.7	35.5%	313.3	318.6	326.6	328.8
Hispanic	19.7%	333.7	335.3	17.6%	327.6	332.2	33.8%	317.3	322.8	324.2	327.2
Afr. Am.	26.1%	333.5	335.0	24.0%	328.8	332.7	35.5%	318.4	324.5	322.1	325.1
White	27.4%	333.3	335.6	25.8%	327.7	331.5	46.7%	317.9	322.9	324.6	327.3
E.D.	19.5%	333.4	335.2	16.5%	327.9	331.9	32.2%	317.2	322.8	324.0	327.0
EL	17.1%	333.7	335.0	15.3%	326.6	331.1	30.5%	315.7	321.6	324.7	327.3
RFEP	14.2%	334.6	336.9	14.5%	333.6	336.4	33.7%	322.3	329.4	325.7	330.4
SWD	37.5%	349.8	333.2	29.5%	342.2	329.0	30.9%	316.6	317.1	324.7	323.0

Explanation of table contents: In May 2010, there were 16,761 grade eleven students who had passed the ELA test, but not the mathematics test. Line 1 indicates that 21.5% of these students did not take the CAHSEE this year. The prior mathematics mean (the test yet to be passed) for the students who did not continue was 333.6 compared to a mean of 335.3 for students in this category who did take the CAHSEE this year. Similarly 18.6% of the students who had passed the mathematics test, but not the ELA test, did not continue to try to pass the CAHSEE this year. The prior ELA mean for these students was 327.7 compared to students in this category who did continue to try to pass. Finally, 35.5% of students who had not passed either test did not continue to take the CAHSEE this year. These students had prior ELA and mathematics means of 317.4 and 324.1 respectively, compared to prior means of 322.9 and 327.0 for student who did continue to try to pass. **Note that, for each test, a score of 350 or higher is required to pass.**

Class of 2012 — Improvement for Students Who Retested in Grade Eleven

Tables 4.13 through 4.18 show cumulative passing rates for students in the Class of 2012 (this year's grade eleven students). In the 2010–11 school year, more than 109,000 grade eleven students in general education and more than 28,000 in special education have participated in CAHSEE testing. In the primary tables, SWD are excluded from all rows. To avoid duplication, students who had been seniors in 2006, 2007, 2008, 2009, or 2010 were excluded from the counts in Tables 4.13 through 4.18. For each table, we also provide an alternative table where SWD are included in all rows, allowing for direct comparison to prior-year results in some cases.

Table 4.13. Estimated Number and Percentage of Students in the Class of 2012¹ Passing Both CAHSEE Tests Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed ⁴	Percent Pass
All Students	339,882	126,224	55,751	53,600	16,873	395,633	53,600	88.1%
Females	174,290	59,438	27,196	24,847	7,395	201,486	24,847	89.0%
Males	165,592	66,786	28,555	28,753	9,478	194,147	28,753	87.1%
American Indian or Alaska Native ²	3,356	1,086	412	444	230	3,768	444	89.5%
Asian ²	39,203	5,764	2,800	2,384	580	42,003	2,384	94.6%
Pacific Islander ²	2,384	955	413	391	151	2,797	391	87.7%
Filipino ²	12,222	1,836	1,042	637	157	13,264	637	95.4%
Hispanic or Latino	146,656	80,503	33,461	36,567	10,475	180,117	36,567	83.1%
African American or Black ²	20,803	13,356	4,875	6,039	2,442	25,678	6,039	81.0%
White ²	115,080	19,657	11,084	5,815	2,758	126,164	5,815	95.6%
Multiple Races ³	172	3,055	1,664	1,320	71	-- ³	-- ³	-- ³
Economically Disadvantaged	152,632	81,751	33,299	37,662	10,790	185,931	37,662	83.2%
English Learner	21,411	44,810	14,645	24,745	5,420	36,056	24,745	59.3%
Reclassified Fluent English	81,250	14,620	9,469	3,961	1,190	90,719	3,961	95.8%

¹ Current grade eleven students who also tested as grade twelve students in 2005–06 (Class of 2006), 2006–07 (Class of 2007), 2007–08 (Class of 2008), 2008–09 (Class of 2009), or 2009–10 (Class of 2010), are **excluded** from this table. Current grade eleven students who tested as grade eleven students last year have been moved into counts for the Class of 2012 and are included here along with students who tested as grade ten students last year. Students in special education programs are **excluded** from all rows.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

⁴ Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

Table 4.14. Estimated Number and Percentage of Students in the Class of 2012¹ Passing Both CAHSEE Tests Through May 2011, Including Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed ⁴	Percent Pass
All Students	352,622	164,237	60,719	76,935	26,583	413,341	76,935	84.3%
Females	178,602	72,466	28,772	33,038	10,656	207,374	33,038	86.3%
Males	174,020	91,771	31,947	43,897	15,927	205,967	43,897	82.4%
American Indian or Alaska Native ²	3,543	1,508	452	665	391	3,995	665	85.7%
Asian ²	40,107	6,948	2,969	2,931	1,048	43,076	2,931	93.6%
Pacific Islander ²	2,448	1,164	445	504	215	2,893	504	85.2%
Filipino ²	12,454	2,256	1,098	848	310	13,552	848	94.1%
Hispanic or Latino	151,771	101,101	35,913	49,885	15,303	187,684	49,885	79.0%
African American or Black ²	21,610	18,576	5,332	9,441	3,803	26,942	9,441	74.1%
White ²	120,501	28,831	12,702	10,725	5,404	133,203	10,725	92.5%
Multiple Races ³	182	3,839	1,808	1,933	98	-- ³	-- ³	-- ³
Economically Disadvantaged	158,361	105,815	35,951	53,027	16,837	194,312	53,027	78.6%
English Learner	24,030	57,244	15,840	32,956	8,448	39,870	32,956	54.7%
Reclassified Fluent English	82,557	16,206	9,885	4,784	1,537	92,442	4,784	95.1%
Special Education	12,740	38,013	4,968	23,335	9,710	17,708	23,335	43.1%

¹ Current grade eleven students who also tested as grade twelve students in 2005–06 (Class of 2006), 2006–07 (Class of 2007), 2007–08 (Class of 2008), 2008–09 (Class of 2009), or 2009–10 (Class of 2010), are **excluded** from this table. Current grade eleven students who tested as grade eleven students last year have been moved into counts for the Class of 2012 and are included here along with students who tested as grade ten students last year. Students in special education programs are **included** in all rows.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

⁴ Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

Table 4.15. Estimated Number and Percentage of Students in the Class of 2012¹ Passing the CAHSEE ELA Test Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed ⁴	Percent Pass
All Students	364,537	101,569	49,431	35,265	16,873	413,968	35,265	92.1%
Females	189,374	44,354	22,565	14,394	7,395	211,939	14,394	93.6%
Males	175,163	57,215	26,866	20,871	9,478	202,029	20,871	90.6%
American Indian or Alaska Native ²	3,568	874	393	251	230	3,961	251	94.0%
Asian ²	39,681	5,286	2,616	2,090	580	42,297	2,090	95.3%
Pacific Islander ²	2,538	801	386	264	151	2,924	264	91.7%
Filipino ²	12,594	1,464	875	432	157	13,469	432	96.9%
Hispanic or Latino	162,424	64,735	29,716	24,544	10,475	192,140	24,544	88.7%
African American or Black ²	23,682	10,477	4,487	3,548	2,442	28,169	3,548	88.8%
White ²	119,263	15,474	9,421	3,295	2,758	128,684	3,295	97.5%
Multiple Races ³	781	2,446	1,537	838	71	-- ³	-- ³	-- ³
Economically Disadvantaged	168,237	66,146	29,673	25,683	10,790	197,910	25,683	88.5%
English Learner	26,267	39,954	14,922	19,612	5,420	41,189	19,612	67.7%
Reclassified Fluent English	86,417	9,453	6,682	1,581	1,190	93,099	1,581	98.3%

¹ Current grade eleven students who also tested as grade twelve students in 2005–06 (Class of 2006), 2006–07 (Class of 2007), 2007–08 (Class of 2008), 2008–09 (Class of 2009), or 2009–10 (Class of 2010), are **excluded** from this table. Current grade eleven students who tested as grade eleven last year have been moved into counts for the Class of 2012 and are included here along with students who tested as grade ten students last year. Students in special education programs are **excluded** from all rows.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

⁴ Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

Table 4.16. Estimated Number and Percentage of Students in the Class of 2012¹ Passing the CAHSEE ELA Test Through May 2011, Including Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed ⁴	Percent Pass
All Students	380,996	135,863	55,741	53,539	26,583	436,737	53,539	89.1%
Females	195,407	55,661	24,649	20,356	10,656	220,056	20,356	91.5%
Males	185,589	80,202	31,092	33,183	15,927	216,681	33,183	86.7%
American Indian or Alaska Native ²	3,795	1,256	442	423	391	4,237	423	90.9%
Asian ²	40,646	6,409	2,813	2,548	1,048	43,459	2,548	94.5%
Pacific Islander ²	2,629	983	417	351	215	3,046	351	89.7%
Filipino ²	12,865	1,845	933	602	310	13,798	602	95.8%
Hispanic or Latino	169,207	83,665	32,913	35,449	15,303	202,120	35,449	85.1%
African American or Black ²	24,943	15,243	5,198	6,242	3,803	30,141	6,242	82.8%
White ²	126,002	23,330	11,298	6,628	5,404	137,300	6,628	95.4%
Multiple Races ³	903	3,118	1,727	1,293	98	-- ³	-- ³	-- ³
Economically Disadvantaged	175,859	88,317	33,189	38,291	16,837	209,048	38,291	84.5%
English Learner	29,448	51,826	16,555	26,823	8,448	46,003	26,823	63.2%
Reclassified Fluent English	88,047	10,716	7,094	2,085	1,537	95,141	2,085	97.9%
Special Education	16,459	34,294	6,310	18,274	9,710	22,769	18,274	55.5%

¹ Current grade eleven students who also tested as grade twelve students in 2005–06 (Class of 2006), 2006–07 (Class of 2007), 2007–08 (Class of 2008), 2008–09 (Class of 2009), or 2009–10 (Class of 2010), are **excluded** from this table. Current grade eleven students who tested as grade eleven students last year have been moved into counts for the Class of 2012 and are included here along with students who tested as grade ten students last year. Students in special education programs are **included** in all rows.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

⁴ Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

Table 4.17. Estimated Number and Percentage of Students in the Class of 2012¹ Passing the CAHSEE Mathematics Test Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed ⁴	Percent Pass
All Students	364,617	101,489	46,523	38,093	16,873	411,140	38,093	91.5%
Females	183,648	50,080	23,766	18,919	7,395	207,414	18,919	91.6%
Males	180,969	51,409	22,757	19,174	9,478	203,726	19,174	91.4%
American Indian or Alaska Native ²	3,517	925	362	333	230	3,879	333	92.1%
Asian ²	41,052	3,915	2,487	848	580	43,539	848	98.1%
Pacific Islander ²	2,573	766	331	284	151	2,904	284	91.1%
Filipino ²	12,586	1,472	876	439	157	13,462	439	96.8%
Hispanic or Latino	163,273	63,886	27,455	25,956	10,475	190,728	25,956	88.0%
African American or Black ²	22,352	11,807	4,352	5,013	2,442	26,704	5,013	84.2%
White ²	118,539	16,198	9,221	4,219	2,758	127,760	4,219	96.8%
Multiple Races ³	719	2,508	1,438	999	71	-- ³	-- ³	-- ³
Economically Disadvantaged	170,212	64,171	27,035	26,346	10,790	197,247	26,346	88.2%
English Learner	32,337	33,884	13,076	15,388	5,420	45,413	15,388	74.7%
Reclassified Fluent English	85,033	10,837	6,611	3,036	1,190	91,644	3,036	96.8%

¹ Current grade eleven students who also tested as grade twelve students in 2005–06 (Class of 2006), 2006–07 (Class of 2007), 2007–08 (Class of 2008), 2008–09 (Class of 2009), or 2009–10 (Class of 2010), are **excluded** from this table. Current grade eleven students who tested as grade eleven students last year have been moved into counts for the Class of 2012 and are included here along with students who tested as grade ten students last year. Students in special education programs are **excluded** from all rows.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

⁴ Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

Table 4.18. Estimated Number and Percentage of Students in the Class of 2012¹ Passing the CAHSEE Mathematics Test Through May 2011, Including Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed ⁴	Percent Pass
All Students	381,023	135,836	51,893	57,360	26,583	432,916	57,360	88.3%
Females	188,853	62,215	25,557	26,002	10,656	214,410	26,002	89.2%
Males	192,170	73,621	26,336	31,358	15,927	218,506	31,358	87.4%
American Indian or Alaska Native ²	3,731	1,320	411	518	391	4,142	518	88.9%
Asian ²	42,137	4,918	2,649	1,221	1,048	44,786	1,221	97.3%
Pacific Islander ²	2,650	962	363	384	215	3,013	384	88.7%
Filipino ²	12,870	1,840	932	598	310	13,802	598	95.8%
Hispanic or Latino	170,423	82,449	30,331	36,815	15,303	200,754	36,815	84.5%
African American or Black ²	23,457	16,729	4,898	8,028	3,803	28,355	8,028	77.9%
White ²	124,939	24,393	10,717	8,272	5,404	135,656	8,272	94.3%
Multiple Races ³	810	3,211	1,591	1,522	98	-- ³	-- ³	-- ³
Economically Disadvantaged	178,177	85,999	30,162	39,000	16,837	208,339	39,000	84.2%
English Learner	36,222	45,052	14,681	21,923	8,448	50,903	21,923	69.9%
Reclassified Fluent English	86,614	12,149	6,937	3,675	1,537	93,551	3,675	96.2%
Special Education	16,406	34,347	5,370	19,267	9,710	21,776	19,267	53.1%

¹ Current grade eleven students who also tested as grade twelve students in 2005–06 (Class of 2006), 2006–07 (Class of 2007), 2007–08 (Class of 2008), 2008–09 (Class of 2009), or 2009–10 (Class of 2010), are **excluded** from this table. Current grade eleven students who tested as grade eleven last year have been moved into counts for the Class of 2012 and are included here along with students who tested as grade ten students last year. Students in special education programs are **included** in all rows.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

⁴ Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

Table 4.19 provides a comparison of passing rates for this year’s grade eleven students with grade eleven students in the Classes of 2010 and 2011 at this same point in the year. Overall passing rates are slightly higher this year compared to the corresponding rates for grade eleven students last year and considerably higher than the corresponding rates two years ago. The results compared to last year show the greatest increases were for American Indian or Alaska Native (2.1%), Special Education (5.1%) and African American or Black students (2.0%). Other demographic groups had modest gains, except for a slight drop for Pacific Islanders and a more noticeable drop for English learners (a decrease of 1.0%).

Table 4.19. Comparison of Estimated Passing Rates for the Classes of 2010 Through 2012 Through May of Grade Eleven, Including Students with Disabilities¹

Group	Passed ELA			Passed Mathematics			Passed Both		
	Class of 2010	Class of 2011	Class of 2012	Class of 2010	Class of 2011	Class of 2012	Class of 2010	Class of 2011	Class of 2012
All Students	88.2%	88.6%	89.1%	87.2%	88.2%	88.3%	82.9%	83.9%	84.3%
Females	90.7%	91.2%	91.5%	87.9%	88.8%	89.2%	84.7%	85.8%	86.3%
Males	85.8%	86.0%	86.7%	86.6%	87.6%	87.4%	81.2%	82.1%	82.4%
American Indian or Alaska Native ²	89.1%	89.2%	90.9%	85.9%	87.3%	88.9%	82.7%	83.6%	85.7%
Asian ²	93.4%	93.9%	94.5%	97.0%	97.2%	97.3%	92.5%	93.1%	93.6%
Pacific Islander ²	89.2%	89.4%	89.7%	89.2%	89.2%	88.7%	85.0%	85.3%	85.2%
Filipino ²	94.7%	95.8%	95.8%	95.0%	96.2%	95.8%	92.6%	94.1%	94.1%
Hispanic or Latino	82.8%	83.9%	85.1%	82.2%	84.0%	84.5%	76.1%	77.9%	79.0%
African American or Black ²	81.6%	81.5%	82.8%	75.4%	76.6%	77.9%	71.0%	72.1%	74.1%
White ²	95.1%	95.0%	95.4%	93.6%	94.1%	94.3%	91.9%	92.2%	92.5%
Multiple Races ³	-- ³	-- ³	-- ³	-- ³	-- ³	-- ³	-- ³	-- ³	-- ³
Economically Disadvantaged	81.9%	83.0%	84.5%	81.7%	83.5%	84.2%	75.1%	77.1%	78.6%
English Learner	61.5%	63.5%	63.2%	68.7%	71.0%	69.9%	53.1%	55.7%	54.7%
Reclassified Fluent English	97.2%	97.5%	97.9%	95.4%	96.1%	96.2%	94.0%	94.7%	95.1%
Special Education	52.2%	50.6%	55.5%	48.2%	50.8%	53.1%	37.9%	38.0%	43.1%

¹ Students who also tested as grade twelve in previous years are **excluded** from this table. Students in special education programs are included in each demographic category as appropriate and in results for all students. Students who have not passed and have not yet tried to pass this year have been dropped from the cumulative totals.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

Initial Results for the Class of 2013

A major charge for the independent evaluation was to analyze and report performance on the CAHSEE for all students and for specific demographic groups, including economically disadvantaged students, English learners (EL), and SWD (characterized as “exceptional needs students” in the legislation). Tables 4.20 through 4.22 show cumulative passing rates for students in the Class of 2013 — this year’s grade ten students. Grade ten SWD are required to take the CAHSEE and are included in all rows. As shown in Table 4.3, a small number (just over 5,000) of students who tested as grade ten students this year were repeating grade ten. Nearly 4,000 of these students met the CAHSEE requirement in 2010.

Table 4.20. Estimated Number and Percentage of Students in the Class of 2013 Passing Both CAHSEE Tests Through May 2011, Including Students with Disabilities

Group	By May 2010 ¹		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed	Percent Pass
All Students	3,900	491,563	361,977	118,786	10,800	365,877	129,586	73.8%
Females	1,706	240,307	183,639	52,190	4,478	185,345	56,668	76.6%
Males	2,194	251,256	178,338	66,596	6,322	180,532	72,918	71.2%
American Indian or Alaska Native ²	23	3,965	2,663	1,170	132	2,686	1,302	67.4%
Asian ²	67	43,525	38,497	4,561	467	38,564	5,028	88.5%
Pacific Islander ²	16	3,127	2,284	776	67	2,300	843	73.2%
Filipino ²	34	14,249	12,478	1,609	162	12,512	1,771	87.6%
Hispanic or Latino	2,726	242,507	160,624	76,249	5,634	163,350	81,883	66.6%
African American or Black ²	312	34,676	20,092	13,321	1,263	20,404	14,584	58.3%
White ²	569	139,396	117,908	18,731	2,757	118,477	21,488	84.6%
Multiple Races ³	153	10,118	7,431	2,369	318	7,584	2,687	73.8%
Economically Disadvantaged	2,849	260,488	168,433	85,335	6,720	171,282	92,055	65.0%
English Learner	395	71,834	24,165	44,987	2,682	24,560	47,669	34.0%
Reclassified Fluent English	1,109	99,243	86,701	11,742	800	87,810	12,542	87.5%
Special Education	118	45,874	10,497	30,651	4,726	10,615	35,377	23.1%

¹ Students who repeated grade ten may have passed one or both CAHSEE tests in prior years. First time grade ten students are counted as having not yet passed as of May 2010.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. ETS codes for race/ethnicity were used here but may be revised subsequently using different rules to identify missing data.

Table 4.21. Estimated Number and Percentage of Students in the Class of 2013 Passing the CAHSEE ELA Test Through May 2011, Including Students with Disabilities

Group	By May 2010 ¹		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed	Percent Pass
All Students	5,522	489,941	391,794	87,402	10,745	397,316	98,147	80.2%
Females	2,583	239,430	200,579	34,398	4,453	203,162	38,851	83.9%
Males	2,939	250,511	191,215	53,004	6,292	194,154	59,296	76.6%
American Indian or Alaska Native ²	34	3,954	3,011	812	131	3,045	943	76.4%
Asian ²	78	43,514	39,059	3,988	467	39,137	4,455	89.8%
Pacific Islander ²	27	3,116	2,456	594	66	2,483	660	79.0%
Filipino ²	52	14,231	12,913	1,156	162	12,965	1,318	90.8%
Hispanic or Latino	3,885	241,348	178,574	57,179	5,595	182,459	62,774	74.4%
African American or Black ²	527	34,461	23,647	9,559	1,255	24,174	10,814	69.1%
White ²	729	139,236	123,974	12,511	2,751	124,703	15,262	89.1%
Multiple Races ³	190	10,081	8,160	1,603	318	8,350	1,921	81.3%
Economically Disadvantaged	4,020	259,317	187,766	64,867	6,684	191,786	71,551	72.8%
English Learner	676	71,553	30,141	38,738	2,674	30,817	41,412	42.7%
Reclassified Fluent English	1,497	98,855	91,509	6,561	785	93,006	7,346	92.7%
Special Education	226	45,766	15,365	25,676	4,725	15,591	30,401	33.9%

¹ Students who repeated grade ten may have passed one or both CAHSEE tests in prior years. First time grade ten students are counted as having not yet passed as of May 2010.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. ETS codes for race/ethnicity were used here but may be revised subsequently using different rules to identify missing data.

Table 4.22. Estimated Number and Percentage of Students in the Class of 2013 Passing the CAHSEE Mathematics Tests Through May 2011, Including Students with Disabilities

Group	By May 2010 ¹		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed	Percent Pass
All Students	4,994	490,469	391,205	88,493	10,771	396,199	99,264	80.0%
Females	2,046	239,967	194,367	41,131	4,469	196,413	45,600	81.2%
Males	2,948	250,502	196,838	47,362	6,302	199,786	53,664	78.8%
American Indian or Alaska Native ²	25	3,963	2,906	925	132	2,931	1,057	73.5%
Asian ²	97	43,495	41,003	2,025	467	41,100	2,492	94.3%
Pacific Islander ²	22	3,121	2,491	563	67	2,513	630	80.0%
Filipino ²	45	14,238	12,980	1,096	162	13,025	1,258	91.2%
Hispanic or Latino	3,544	241,689	179,316	56,756	5,617	182,860	62,373	74.6%
African American or Black ²	411	34,577	22,269	11,055	1,253	22,680	12,308	64.8%
White ²	682	139,283	122,319	14,209	2,755	123,001	16,964	87.9%
Multiple Races ³	168	10,103	7,921	1,864	318	8,089	2,182	78.8%
Economically Disadvantaged	3,716	259,621	189,840	63,084	6,697	193,556	69,781	73.5%
English Learner	778	71,451	37,494	31,280	2,677	38,272	33,957	53.0%
Reclassified Fluent English	1,309	99,043	90,117	8,132	794	91,426	8,926	91.1%
Special Education	203	45,789	14,702	26,364	4,723	14,905	31,087	32.4%

¹ Students who repeated grade ten may have passed one or both CAHSEE tests in prior years. First time grade ten students are counted as having not yet passed as of May 2010.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. ETS codes for race/ethnicity were used here but may be revised subsequently using different rules to identify missing data.

Table 4.23 shows how current passing rates for students in the Class of 2013 compare to passing rates for students in prior high school classes. Students with disabilities are required to participate for school accountability, even though they may be exempt from the CAHSEE requirement for graduation. They are included in all rows. Results indicate that significant progress was made in increasing initial CAHSEE grade ten passing rates this year. Gains of more than three percentage points were seen for Pacific Islanders, Hispanic or Latino students, and economically disadvantaged students. However first-time passing rates declined for students classified as American Indian or Alaska Native. Figure 4.2 shows trends in grade ten passing rates for selected groups.

Table 4.23. Class of 2013 Grade Ten Passing Rates Compared to Passing Rates for Prior Classes,¹ Including Students with Disabilities

Group	Class of 2006	Class of 2007	Class of 2008	Class of 2009	Class of 2010	Class of 2011	Class of 2012	Class of 2013
All Students	64.3%	65.4%	65.1%	65.2%	69.2%	69.9%	71.5%	73.8%
Females	67.1%	68.1%	67.9%	68.0%	71.8%	72.4%	74.2%	76.6%
Males	61.7%	62.8%	62.4%	62.5%	66.8%	67.4%	68.9%	71.2%
American Indian or Alaska Native ²	59.9%	59.6%	61.0%	61.6%	66.0%	64.8%	68.6%	67.4%
Asian ²	81.5%	82.5%	82.5%	83.2%	85.8%	86.1%	88.0%	88.5%
Pacific Islander ²	60.4%	63.4%	62.9%	63.3%	69.7%	68.9%	70.0%	73.2%
Filipino ²	80.8%	81.3%	81.3%	82.4%	84.5%	85.1%	86.7%	87.6%
Hispanic or Latino	49.0%	51.1%	52.4%	52.9%	58.5%	60.1%	62.9%	66.6%
African American or Black ²	45.3%	46.4%	46.3%	47.8%	52.5%	53.3%	56.6%	58.3%
White ²	80.7%	81.4%	80.5%	80.5%	83.4%	83.2%	83.5%	84.6%
Multiple Races ³	---	---	---	---	---	---	---	73.8%
Economically Disadvantaged	47.7%	50.1%	50.8%	51.4%	57.2%	58.8%	61.8%	65.0%
English Learner	29.6%	30.8%	27.0%	25.6%	29.5%	30.6%	31.5%	34.0%
Reclassified Fluent English	76.3%	78.6%	78.1%	77.9%	83.3%	84.1%	85.5%	87.5%
Special Education	18.8%	20.2%	20.9%	21.1%	20.2%	21.1%	23.9%	23.1%

¹ End-of-year passing rates are shown for all classes.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The "Multiple Races" category was added this year. Students are shown in the "Multiple Races" category above only if they could be identified as such from current-year test records. ETS codes for race/ethnicity were used here but may be revised subsequently using different rules to identify missing data.

Analysis of Results by Mathematics Courses Taken

From the outset, the level of mathematics achievement required for high school graduation has been a key policy issue. When the CAHSEE requirement was established in 1999, students were not required to take Algebra I to earn a diploma, so including Algebra questions on the CAHSEE mathematics test reflected recognition of the importance of mathematics for success after high school.

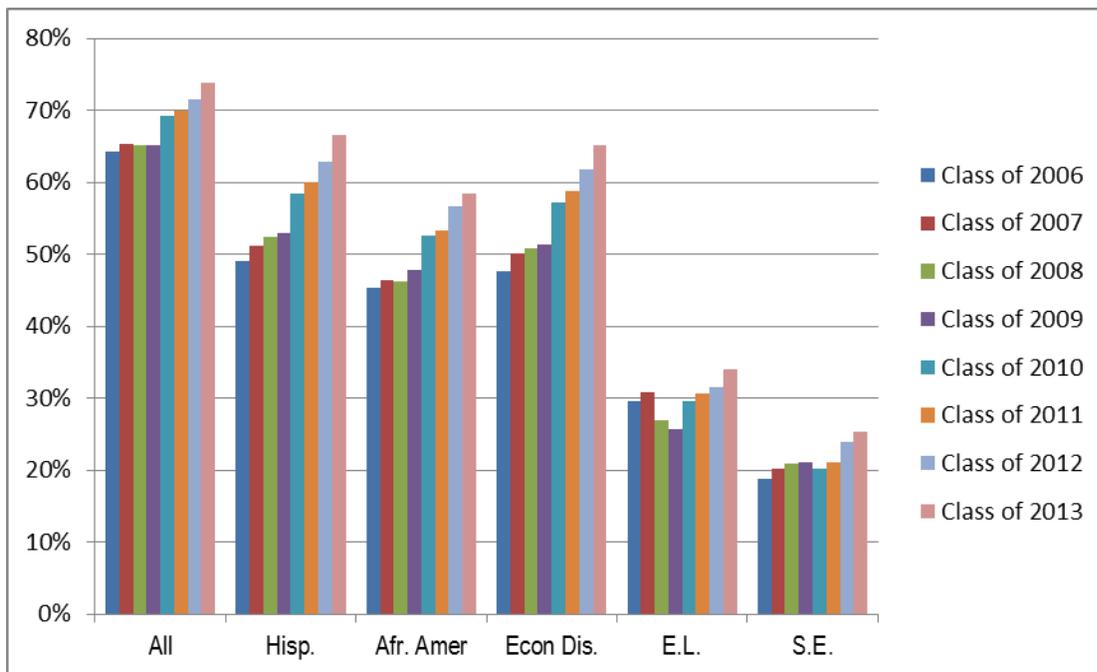


Figure 4.2. Trends in overall grade ten passing rates for selected groups.

Note: ED = Economically disadvantaged, EL = English Learner, SE = students in special education.

As in prior years, we analyzed passing rates on the mathematics part of the CAHSEE for students who had completed different high school mathematics courses. Table 4.24 shows the distribution of the highest level of mathematics course completed by the end of grade ten for students in the Class of 2013 compared to students in the classes of 2006 through 2012. Over the past eight years, the proportion of students taking higher levels of mathematics courses by grade ten has increased. The most significant change this year is that the percentage of students already taking Algebra II or Advanced Mathematics rose from 30.1 percent to 31.7 percent. In 2004, only 20.6 percent of the grade ten students in the Class of 2006 had taken mathematics courses beyond Geometry.

Table 4.25 shows the percentage of students in key demographic groups who have taken courses beyond Algebra I (meets expectation at grade ten) when students with missing information are excluded. Students following the expected curriculum would be taking at least geometry by grade ten. Students who took Algebra I in grade eight could be taking Algebra II in grade ten. More than two-thirds of the grade ten students had taken or were taking mathematics courses beyond Algebra I. Nearly 90 percent of Asian students were taking courses beyond Algebra I. The percentage of students in special education taking courses beyond Algebra I has increased very significantly from 19 percent for the Class of 2006 to 42 percent for the Class of 2013, but their rate is still very low compared to students in other demographic groups.

Table 4.24. Distribution of Grade Ten Students by Highest Mathematics Course Taken

	Class of 2006	Class of 2007	Class of 2008	Class of 2009	Class of 2010	Class of 2011	Class of 2012	Class of 2013
General Math	2.6%	2.0%	1.9%	0.9%	0.0%	1.2%	1.1%	1.0%
Pre-Algebra	11.1%	9.9%	11.7%	3.1%	2.2%	8.7%	8.3%	8.2%
Algebra I/Int. Math I	27.5%	24.9%	18.9%	28.3%	27.7%	18.3%	17.2%	16.8%
Geometry/Int. Math II	31.0%	31.7%	34.3%	33.6%	36.9%	38.5%	38.6%	37.4%
Algebra II/Int. Math III	18.4%	17.9%	20.4%	21.3%	23.4%	25.4%	26.3%	27.6%
Advanced Math	2.2%	2.5%	2.7%	2.8%	3.1%	3.4%	3.8%	4.1%
None/Missing	7.2%	10.1%	10.3%	10.0%	6.6%	4.6%	4.6%	4.6%
No. of Students	450,928	470,891	502,874	502,501	474,351	458,777	461,663	461,716

* Note: Column percentages may not add to 100 percent due to rounding.

Table 4.25. Trends in Mathematics Courses Taken by Demographic Group

Group ¹	Percentage of Grade Ten Students Taking Mathematics Courses Beyond Algebra I							
	Class of 2006	Class of 2007	Class of 2008	Class of 2009	Class of 2010	Class of 2011	Class of 2012	Class of 2013
All Students	55.6%	59.6%	64.0%	64.2%	68.0%	70.4%	72.0%	72.6%
Females	59.1%	62.9%	67.1%	67.6%	71.1%	73.3%	74.8%	75.4%
Males	52.2%	56.5%	61.0%	60.9%	65.0%	67.6%	69.2%	69.9%
Native American	-- ²	-- ²	-- ²	50.1%	55.6%	57.0%	61.4%	60.9%
Asian	80.6%	83.8%	85.1%	85.0%	87.9%	88.9%	89.4%	89.7%
Pacific Islander	-- ²	-- ²	-- ²	62.0%	67.5%	70.7%	70.2%	72.8%
Filipino	-- ²	-- ²	-- ²	79.7%	82.1%	84.4%	85.1%	85.9%
Hispanic	43.4%	49.2%	56.3%	56.3%	60.8%	64.1%	66.4%	67.4%
African American	48.6%	53.4%	58.4%	59.2%	63.4%	64.9%	66.6%	66.8%
White (not Hispanic)	63.1%	65.8%	68.8%	69.3%	72.5%	74.6%	76.0%	76.7%
Econ. Disadvantaged	44.9%	51.1%	57.2%	57.3%	61.7%	64.6%	66.6%	67.1%
English Learners	36.8%	42.8%	46.1%	43.3%	48.3%	52.3%	53.5%	53.5%
Reclassified Fluent	-- ²	-- ²	-- ²	76.7%	78.7%	80.5%	81.7%	81.6%
Special Education	19.0%	24.3%	33.3%	31.7%	33.9%	36.8%	41.7%	41.9%

¹ Students whose highest mathematics course was unknown were excluded from this table.

² Students in a few specific demographic groups were not analyzed separately prior to 2009.

For all groups except English learners, the percentage taking courses beyond Algebra I continued to increase this year. However, the percentage of economically disadvantaged, Hispanic, and African American students taking courses beyond Algebra I continued to lag behind that of white, and Asian, and Filipino students. For example, the percentage of Black or African-American students taking courses beyond Algebra I this year (67 percent) was about the same as the percentage of white students taking courses beyond Algebra I five or six years ago.

Table 4.26 shows the CAHSEE mathematics passing rates for students at each course level. Passing rates increased at all levels. Not only are more students taking

higher level mathematics courses, but the courses at each level are also increasingly effective in preparing students to pass the CAHSEE.

Table 4.26. Grade Ten Mathematics Passing Rates by Class and Highest Mathematics Course Taken

Highest Math Course Taken	Class of 2006	Class of 2007	Class of 2008	Class of 2009	Class of 2010	Class of 2011	Class of 2012	Class of 2013
Algebra I/Int. Math I	58.1%	57.5%	53.5%	59.0%	61.1%	58.3%	59.0%	61.1%
Geometry/Int. Math II	87.2%	85.2%	81.3%	84.2%	85.3%	84.9%	85.0%	86.7%
Algebra II/Int. Math III	95.3%	96.0%	91.9%	95.4%	96.0%	98.8%	96.0%	96.2%
Advanced Math	99.4%	99.5%	96.4%	98.9%	99.2%	99.7%	98.6%	99.1%
None/Missing	50.0%	41.2%	49.0%	35.4%	48.9%	64.6%	64.9%	67.4%
No. of Students	414,903	450,928	470,891	502,501	474,351	458,777	461,663	461,716

Results for Students from Prior High School Classes

In prior years, we tracked continued efforts by students from all prior high school classes subject to the CAHSEE requirement, from 2006 through 2009. This year, we are tracking students for the first three years after their initial graduation date. The reason is that the number of students still trying to pass after more than three years is very low (about 250 students who may have been in the Class of 2007 and 100 who may have been in the Class of 2006) and the difficulty in matching student records across long periods of time is great, particularly for earlier high school classes where common student identifiers were not used consistently on CAHSEE answer documents. Consequently, the rate of error in estimates of the numbers of students still testing may be greater than the number itself.

Results for students who were first-time seniors in 2008 through 2010 are shown here. A significant number of students from these high school classes continued to take the CAHSEE, either as repeat grade twelve students or through an AE program.

Some Students Continue to Try to Pass the CAHSEE

Class of 2008

Tables 4.27 through 4.29 show the number of students originally in the Class of 2008 (first-time seniors in spring 2008) who continued to take the CAHSEE this year and the number now estimated to have passed the CAHSEE through May 2011. We are continuing to report students in special education programs separately but exclude them from the other student groups, including the counts for *all students*, since these students may have been granted a waiver or been given a diploma when the exemption for SWD was reinstated. Note that it is possible that a few more students who were originally in the Class of 2008 tested again this year but could not be matched to earlier records because of differences in coding identifying information.

This year, as shown in Table 4.27, nearly 900 general education students and more than 130 special education students from the Class of 2008 have taken the CAHSEE, with 216 of the general education students and nine of the special education students completing the CAHSEE requirement.

Table 4.27. Estimated Number and Percentage of Students in the Class of 2008¹ Passing Both Portions of the CAHSEE Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed	Percent Pass
All Students	415,962	26,649	216	658	25,775	416,178	26,433	94.0%
Females	212,546	12,176	110	382	11,684	212,656	12,066	94.6%
Males	203,416	14,472	106	276	14,090	203,522	14,366	93.4%
American Indian or Alaska Native ²	3,468	192	1	0	191	3,469	191	94.8%
Asian ²	42,069	1,251	9	21	1,221	42,078	1,242	97.1%
Pacific Islander ²	2,903	199	1	5	193	2,904	198	93.6%
Filipino ²	13,738	320	0	6	314	13,738	320	97.7%
Hispanic or Latino	167,687	17,417	137	434	16,846	167,824	17,280	90.7%
African American or Black ²	30,462	3,998	19	88	3,891	30,481	3,979	88.5%
White ²	155,447	3,031	21	33	2,977	155,468	3,010	98.1%
Multiple Races ³	-- ³	-- ³	28	71	1	-- ³	-- ³	-- ³
Economically Disadvantaged	158,394	14,506	92	270	14,144	158,486	14,414	91.7%
English Learner	50,015	11,850	70	287	11,493	50,085	11,780	81.0%
Reclassified Fluent English	68,108	1,240	20	23	1,197	68,128	1,220	98.2%
Special Education	21,880	15,064	9	127	14,928	21,889	15,055	59.2%

¹ Many students in special education programs who had not passed the CAHSEE by the end of grade twelve were allowed an exemption from the CAHSEE requirement and so were **excluded** from all rows of the table except for the last row.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

Table 4.28. Estimated Number and Percentage of Students in the Class of 2008¹ Passing the CAHSEE ELA Test Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed	Percent Pass
All Students	425,283	17,328	145	326	16,857	425,428	17,183	96.1%
Females	217,904	6,818	60	169	6,589	217,964	6,758	97.0%
Males	207,379	10,509	85	157	10,267	207,464	10,424	95.2%
American Indian or Alaska Native ²	3,572	88	0	0	88	3,572	88	97.6%
Asian ²	42,219	1,101	7	20	1,074	42,226	1,094	97.5%
Pacific Islander ²	2,969	133	1	1	131	2,970	132	95.7%
Filipino ²	13,837	221	0	5	216	13,837	221	98.4%
Hispanic or Latino	173,296	11,808	96	214	11,498	173,392	11,712	93.7%
African American or Black ²	32,228	2,232	18	36	2,178	32,246	2,214	93.6%
White ²	156,862	1,616	8	14	1,594	156,870	1,608	99.0%
Multiple Races ³	-- ³	-- ³	15	36	1	-- ³	-- ³	-- ³
Economically Disadvantaged	162,879	10,021	60	147	9,814	162,939	9,961	94.2%
English Learner	52,457	9,408	57	179	9,172	52,514	9,351	84.9%
Reclassified Fluent English	68,845	503	8	7	488	68,853	495	99.3%
Special Education	26,179	10,765	10	86	10,669	26,189	10,755	70.9%

¹ Many students in special education programs who had not passed the CAHSEE by the end of grade twelve were allowed an exemption from the CAHSEE requirement and so were **excluded** from all rows of the table except for the last row.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

Table 4.29. Estimated Number and Percentage of Students in the Class of 2008¹ Passing the CAHSEE Mathematics Test Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed	Percent Pass
All Students	423,359	19,252	151	466	18,635	423,510	19,101	95.7%
Females	215,315	9,407	88	283	9,036	215,403	9,319	95.9%
Males	208,044	9,844	63	183	9,598	208,107	9,781	95.5%
American Indian or Alaska Native ²	3,491	169	1	0	168	3,492	168	95.4%
Asian ²	42,868	452	5	7	440	42,873	447	99.0%
Pacific Islander ²	2,959	143	1	4	138	2,960	142	95.4%
Filipino ²	13,844	214	0	2	212	13,844	214	98.5%
Hispanic or Latino	172,800	12,304	92	299	11,913	172,892	12,212	93.4%
African American or Black ²	31,068	3,392	15	74	3,303	31,083	3,377	90.2%
White ²	156,086	2,392	16	25	2,351	156,102	2,376	98.5%
Multiple Races ³	-- ³	-- ³	21	55	1	-- ³	-- ³	-- ³
Economically Disadvantaged	162,743	10,157	71	186	9,900	162,814	10,086	94.2%
English Learner	54,818	7,047	37	162	6,848	54,855	7,010	88.7%
Reclassified Fluent English	68,369	979	13	18	948	68,382	966	98.6%
Special Education	24,876	12,068	10	100	11,958	24,886	12,058	67.4%

¹ Many students in special education programs who had not passed the CAHSEE by the end of grade twelve were allowed an exemption from the CAHSEE requirement and so were **excluded** from all rows of the table except for the last row.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

Class of 2009

Tables 4.30 through 4.32 show estimated cumulative passing rates for the Class of 2009 after including results from the May 2011 CAHSEE administration. To avoid duplication, we have excluded students who were counted previously as being in the classes of 2006 through 2008, even though some of those students were also in grade twelve in 2009. Thus, the definition of the Class of 2009 used here is students who were in grade twelve for the first time in spring 2009. As with the Class of 2008, we have excluded students in special education programs from the counts, except for the last row in each table, since these students may have been granted a waiver or been given a diploma when the exemption for SWD was reinstated.

Table 4.30. Estimated Number and Percentage of Students in the Class of 2009¹ Passing Both CAHSEE Tests Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed	Percent Pass
All Students	421,422	25,706	630	1,827	23,249	422,052	25,076	94.4%
Females	214,945	11,934	329	1,012	10,593	215,274	11,605	94.9%
Males	206,474	13,769	301	815	12,653	206,775	13,468	93.9%
American Indian or Alaska Native ²	3,381	152	5	3	144	3,386	147	95.8%
Asian ²	42,676	1,273	30	101	1,142	42,706	1,243	97.2%
Pacific Islander ²	2,957	176	1	5	170	2,958	175	94.4%
Filipino ²	13,966	298	3	18	277	13,969	295	97.9%
Hispanic or Latino	178,242	17,173	436	1,247	15,490	178,678	16,737	91.4%
African American or Black ²	30,296	3,645	58	185	3,402	30,354	3,587	89.4%
White ²	149,694	2,777	46	121	2,610	149,740	2,731	98.2%
Multiple Races ³	-- ³	-- ³	51	147	6	-- ³	-- ³	-- ³
Economically Disadvantaged	169,103	15,295	323	927	14,045	169,426	14,972	91.9%
English Learner	51,971	11,734	255	906	10,573	52,226	11,479	82.0%
Reclassified Fluent English	76,171	1,286	43	80	1,163	76,214	1,243	98.4%
Special Education	21,832	15,362	33	443	14,886	21,865	15,329	58.8%

¹ Many students in special education programs who had not passed the CAHSEE by the end of grade twelve were allowed an exemption from the CAHSEE requirement and so were **excluded** from all rows of the table except for the last row.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data..

This year, nearly 2,500 general education students and nearly 500 special education students in the Class of 2009 who had not passed the CAHSEE by May of 2010 have continued to try to meet the CAHSEE requirement, more than a year after their scheduled graduation. Table 4.30 shows 94.4 percent of the general education students counted as being in the Class of 2009 have now passed the CAHSEE.

Table 4.31. Estimated Number and Percentage of Students in the Class of 2009¹ Passing the CAHSEE ELA Test Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed	Percent Pass
All Students	430,560	16,568	386	1,076	15,106	430,946	16,182	96.4%
Females	220,212	6,667	177	520	5,970	220,389	6,490	97.1%
Males	210,345	9,898	209	556	9,133	210,554	9,689	95.6%
American Indian or Alaska Native ²	3,449	84	5	1	78	3,454	79	97.8%
Asian ²	42,844	1,105	24	96	985	42,868	1,081	97.5%
Pacific Islander ²	3,024	109	1	2	106	3,025	108	96.6%
Filipino ²	14,051	213	3	13	197	14,054	210	98.5%
Hispanic or Latino	183,873	11,542	274	750	10,518	184,147	11,268	94.2%
African American or Black ²	31,952	1,989	28	77	1,884	31,980	1,961	94.2%
White ²	151,072	1,399	22	51	1,326	151,094	1,377	99.1%
Multiple Races ³	-- ³	-- ³	29	86	5	-- ³	-- ³	-- ³
Economically Disadvantaged	173,955	10,443	204	554	9,685	174,159	10,239	94.4%
English Learner	54,372	9,333	192	685	8,456	54,564	9,141	85.7%
Reclassified Fluent English	76,959	498	15	18	465	76,974	483	99.4%
Special Education	26,327	10,867	35	334	10,498	26,362	10,832	70.9%

¹ Many students in special education programs who had not passed the CAHSEE by the end of grade twelve were allowed an exemption from the CAHSEE requirement and so were **excluded** from all rows of the table except for the last row.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

Table 4.32. Estimated Number and Percentage of Students in the Class of 2009¹ Passing the CAHSEE Mathematics Test Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed	Percent Pass
All Students	428,943	18,185	428	1,109	16,648	429,371	17,757	96.0%
Females	217,897	8,982	227	669	8,086	218,124	8,755	96.1%
Males	211,042	9,201	201	440	8,560	211,243	9,000	95.9%
American Indian or Alaska Native ²	3,409	124	2	3	119	3,411	122	96.5%
Asian ²	43,493	456	10	22	424	43,503	446	99.0%
Pacific Islander ²	3,008	125	0	4	121	3,008	125	96.0%
Filipino ²	14,074	190	1	10	179	14,075	189	98.7%
Hispanic or Latino	183,515	11,900	298	739	10,863	183,813	11,602	94.1%
African American or Black ²	30,850	3,091	48	155	2,888	30,898	3,043	91.0%
White ²	150,307	2,164	36	88	2,040	150,343	2,128	98.6%
Multiple Races ³	-- ³	-- ³	33	88	6	-- ³	-- ³	-- ³
Economically Disadvantaged	173,903	10,495	212	549	9,734	174,115	10,283	94.4%
English Learner	56,908	6,797	135	391	6,271	57,043	6,662	89.5%
Reclassified Fluent English	76,432	1,025	37	68	920	76,469	988	98.7%
Special Education	25,266	11,928	27	332	11,569	25,293	11,901	68.0%

¹ Many students in special education programs who had not passed the CAHSEE by the end of grade twelve were allowed an exemption from the CAHSEE requirement and so were **excluded** from all rows of the table except for the last row.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

Class of 2010

Tables 4.33 through 4.35 show estimated cumulative passing rates for the Class of 2010 after including results from the 2010–11 CAHSEE administrations through May 2011. To avoid duplication, we have excluded students who were counted above as being in prior high school classes, even though many of those students were also in grade twelve again in 2010. As with the Class of 2009, the definition of the Class of 2010 used here is students who were in grade twelve for the first time in spring 2010. Unlike results for the Classes of 2008 and 2009, students in special education were once again exempted from the CAHSEE requirement in 2010. For consistency with other classes, we continue to report results separately for students in special education and exclude these students from counts for other categories.

Table 4.33. Estimated Number and Percentage of Students in the Class of 2010¹ Passing Both CAHSEE Tests Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed	Percent Pass
All Students	419,796	25,572	2,603	6,778	16,191	422,399	22,969	94.8%
Females	213,389	11,915	1,248	3,514	7,153	214,637	10,667	95.3%
Males	206,389	13,648	1,355	3,264	9,029	207,744	12,293	94.4%
American Indian or Alaska Native ²	3,368	148	9	28	111	3,377	139	96.0%
Asian ²	43,138	1,107	119	320	668	43,257	988	97.8%
Pacific Islander ²	2,971	137	13	17	107	2,984	124	96.0%
Filipino ²	13,669	260	31	77	152	13,700	229	98.4%
Hispanic or Latino	183,651	17,387	1,757	4,748	10,882	185,408	15,630	92.2%
African American or Black ²	29,452	3,252	241	676	2,335	29,693	3,011	90.8%
White ²	143,319	2,691	260	537	1,894	143,579	2,431	98.3%
Multiple Races ³	-- ³	-- ³	173	375	14	-- ³	-- ³	-- ³
Economically Disadvantaged	178,198	16,718	1,684	4,546	10,488	179,882	15,034	92.3%
English Learner	49,879	11,893	1,183	3,602	7,108	51,062	10,710	82.7%
Reclassified Fluent English	82,685	1,327	227	396	704	82,912	1,100	98.7%
Special Education	18,467	16,016	240	2,127	13,649	18,707	15,776	54.2%

¹ Many students in special education programs who had not passed the CAHSEE by the end of grade twelve were allowed an exemption from the CAHSEE requirement and so were **excluded** from all rows of the table except for the last row.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

Nearly 9,400 general education students and about 2,400 special education students in the Class of 2010 who had not passed the CAHSEE by May 2010 have continued to try to pass the CAHSEE this year. A estimated total of 2,603 of these general education students and 240 of the special education students have now passed, bringing the total passing rates to 94.8 percent for general education students and 54.2 percent for students in special education programs. The cumulative passing rate of 94.8 percent for general education students in the Class of 2010 is already higher than the current passing rate of 94.4 percent for the Class of 2009.

Table 4.34. Estimated Number and Percentage of Students in the Class of 2010¹ Passing the CAHSEE ELA Test Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed	Percent Pass
All Students	428,965	16,403	1,752	3,982	10,669	430,717	14,651	96.7%
Females	218,722	6,582	703	1,797	4,082	219,425	5,879	97.4%
Males	210,219	9,818	1,049	2,185	6,584	211,268	8,769	96.0%
American Indian or Alaska Native ²	3,436	80	6	12	62	3,442	74	97.9%
Asian ²	43,285	960	98	289	573	43,383	862	98.1%
Pacific Islander ²	3,009	99	11	8	80	3,020	88	97.2%
Filipino ²	13,749	180	22	56	102	13,771	158	98.9%
Hispanic or Latino	189,615	11,423	1,174	2,829	7,420	190,789	10,249	94.9%
African American or Black ²	30,905	1,799	177	285	1,337	31,082	1,622	95.0%
White ²	144,517	1,493	152	276	1,065	144,669	1,341	99.1%
Multiple Races ³	-- ³	-- ³	112	227	11	-- ³	-- ³	-- ³
Economically Disadvantaged	183,799	11,117	1,152	2,775	7,190	184,951	9,965	94.9%
English Learner	52,551	9,221	954	2,683	5,584	53,505	8,267	86.6%
Reclassified Fluent English	83,502	510	83	119	308	83,585	427	99.5%
Special Education	22,395	12,088	277	1,588	10,223	22,672	11,811	65.7%

¹ Many students in special education programs who had not passed the CAHSEE by the end of grade twelve were allowed an exemption from the CAHSEE requirement and so were **excluded** from all rows of the table except for the last row.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

Table 4.35. Estimated Number and Percentage of Students in the Class of 2010¹ Passing the CAHSEE Mathematics Test Through May 2011, Excluding Students with Disabilities

Group	By May 2010		July 2010–May 2011			Cumulative Total		
	Passed	Not Yet Passed	Passed	Not Passed	Not Tested	Passed	Not Yet Passed	Percent Pass
All Students	427,508	17,860	1,736	4,294	11,830	429,244	16,124	96.4%
Females	216,267	9,037	934	2,456	5,647	217,201	8,103	96.4%
Males	211,223	8,814	802	1,838	6,174	212,025	8,012	96.4%
American Indian or Alaska Native ²	3,397	119	6	22	91	3,403	113	96.8%
Asian ²	43,891	354	38	70	246	43,929	316	99.3%
Pacific Islander ²	3,018	90	7	12	71	3,025	83	97.3%
Filipino ²	13,774	155	20	35	100	13,794	135	99.0%
Hispanic or Latino	188,990	12,048	1,193	2,986	7,869	190,183	10,855	94.6%
African American or Black ²	30,008	2,696	175	556	1,965	30,183	2,521	92.3%
White ²	144,011	1,999	179	365	1,455	144,190	1,820	98.8%
Multiple Races ³	202	379	118	248	13	320	261	55.1%
Economically Disadvantaged	183,500	11,416	1,106	2,810	7,500	184,606	10,310	94.7%
English Learner	54,915	6,857	661	1,734	4,462	55,576	6,196	90.0%
Reclassified Fluent English	82,974	1,038	170	321	547	83,144	868	99.0%
Special Education	21,935	12,548	210	1,651	10,687	22,145	12,338	64.2%

¹ Many students in special education programs who had not passed the CAHSEE by the end of grade twelve were allowed an exemption from the CAHSEE requirement and so were **excluded** from all rows of the table except for the last row.

² Students who indicated that they were Hispanic or Latino are excluded from this row even though they may have indicated the corresponding racial category as well.

³ The “Multiple Races” category was added this year. Students are shown in the “Multiple Races” category above only if they could be identified as such from current-year test records. Cumulative data are not shown because this category was not included in prior-year data.

Additional Analyses of Results for Students with Disabilities

One of the most persistent problems for the CAHSEE has been the low passing rate for SWD. Our prior evaluation reports have highlighted particular difficulties in meeting the CAHSEE requirement faced by students in special education programs. We have several times recommended consideration of alternatives for these students. In 2004, the California legislature passed Senate Bill (SB) 964, calling for a panel to identify options or alternatives for students in special education programs and requiring a contractor to support the work of this panel and report on options that are identified.

Pursuant to requirements of SB 964, a report was submitted to the California legislature in Spring 2005 recommending alternative graduation assessments and requirements for students receiving special education services (Rabinowitz, Crane, Ananda, Vasudeva, Youtsey, Schimozato, & Schwager, April 2005). The SB 964 report identified

three types of options for students receiving special education services. First, there are options for *alternate forms of testing* to be sure students receiving special education services have adequate opportunities to demonstrate what they know and can do. Second, there are options for *modifying the CAHSEE requirement*. The main recommendation in this area, to defer the requirement for students receiving special education services, was based on the premise that instructional content was not yet adequate to provide sufficient opportunity for students receiving special education services to learn the required material. The deferral was also recommended to allow time to develop alternative requirements, such as coursework, that students in special education programs might pass to receive a diploma. Finally, there are options concerning *alternative types of diplomas* for students who are not able to demonstrate competency in the CAHSEE standards.

Our 2005 and 2006 CAHSEE evaluation reports described analyses of characteristics of students in this population and the types of services that they received in relation to success in passing the CAHSEE (Wise, et al., 2005b, Chapter 7; Wise, et al. 2006b). Key results from that investigation included:

1. Nearly half of the students in special education programs receive relatively non-intensive services (e.g., in-class accommodations, resources specialists) and participate in the regular curriculum 80 percent of the time or more. About half of these students pass the CAHSEE on the first try and, perhaps with additional time and resources, the others would be capable of passing and should be held to the CAHSEE requirement.
2. About one-quarter of the students in special education programs require more intensive assistance (e.g., special day programs) and spend less than 50 percent of their time in regular instruction. Very few of these students pass the CAHSEE. Other goals may be more appropriate for these students. It is worth noting, however, that 10 percent of the students in this category do pass the CAHSEE, so expectations for meeting the CAHSEE requirement should not lightly be abandoned.

This year, SWD were once again exempt from the CAHSEE requirement while the SBE and CDE study alternative ways that these students might meet the CAHSEE requirement as called for by Assembly Bill (AB) 2040.

Supplemental Data on Students Receiving Special Education Services

In 2006 and 2009, we merged additional data on students in special education programs from the California Special Education Management Information System (CASEMIS) with CAHSEE results. Our 2006 annual report included analyses providing descriptive information on students in this population and also analyses of differences by curriculum, services, and disability in the rates at which these students passed the CAHSEE. We conducted similar analyses in 2009 to assess the extent of changes over the past three years in the nature of this population of students and their success in meeting the CAHSEE requirement. This year's analyses are limited to grade ten students, all of whom are required to take the CAHSEE. Consistent comparisons across time are not

possible for grade eleven and grade twelve students in special education because of the potential for special education students to satisfy CAHSEE using either a waiver or the exemption over the past several years.

Passing Rates By Participation in Regular Classroom Instruction

We examined a number of variables describing the nature and extent of special education services and some characteristics of the students receiving these services. The variable most closely related to CAHSEE success was the percentage of time the student participated in regular general education class instruction. Table 4.36 shows that grade ten students who were in the general education class more than 80 percent of the time continue to be much more likely to pass the CAHSEE as grade ten students than students who spent less than half of their time in regular instruction. ELA passing rates increased slightly in 2011 for students spending more than 80 percent time in regular instruction and decreased slightly for students spending 80 percent or less time in regular instruction.

Table 4.36. Number of Grade Ten Special Education Students and Percentage Passing by Percentage of Time in Regular Instruction

Percent of Time In Regular Instruction	ELA					
	Number of Students ¹			Percent Passing CAHSEE ELA		
	2006	2009	2011	2006	2009	2011
100%	3,113	5,144	5,276	44.2%	43.6%	46.2%
81 – 99%	11,600	11,893	13,705	50.5%	51.7%	52.5%
67 –80%	6,053	4,962	4,887	34.5%	40.2%	37.9%
51 –66%	5,742	3,939	3,835	25.3%	28.3%	27.6%
11 – 50%	9,763	9,945	10,187	10.5%	16.0%	14.8%
01 –10%	293	317	252	28.3%	33.1%	23.8%
None	1,679	1,894	1,918	30.1%	34.7%	31.1%
All SWD	38,243	38,094	40,060	32.4%	36.5%	36.7%

Percent of Time In Regular Instruction	Mathematics					
	Number of Students ¹			Percent Passing CAHSEE Mathematics		
	2006	2009	2011	2006	2009	2011
100%	3,116	5,137	5,263	36.5%	47.9%	46.1%
81 – 99%	11,572	11,846	13,673	46.7%	53.5%	51.6%
67 –80%	6,037	4,945	4,894	30.8%	40.8%	36.0%
51 –66%	5,747	3,930	3,829	21.3%	27.7%	25.0%
11 – 50%	9,708	9,898	10,139	9.0%	15.0%	13.0%
01 –10%	295	312	245	24.8%	26.6%	21.6%
None	1,667	1,876	1,878	22.4%	29.3%	24.2%
All SWD	38,142	37,944	39,921	28.7%	36.9%	35.1%

¹ Number of students with matching CASEMIS data. Numbers differ for ELA and mathematics because some students took only one of the two tests.

As shown in Table 4.36, nearly half of students receiving special education services are able to spend more than 80 percent of their day in regular instruction (first two rows). Over half of these students passed the CAHSEE ELA requirement in grade ten and very nearly half passed the mathematics requirement. Except at the extreme low end, CAHSEE passing rates declined as students spent more time outside of regular instruction.

Table 4.37 shows the number and percentage of matched grade ten students in each primary disability category and the ELA and mathematics passing rates for students in each of these categories. The vast majority of SWD in the matched sample had *specific learning disability* as their primary disability code. These students passed the CAHSEE at relatively low rates, slightly below the average for all students in the 2006, 2009, and 2011 matched samples. Passing rates for students with learning disabilities improved from 2006 to 2009; stayed the same for ELA in 2011 and declined from 2009 to 2011 for mathematics. Students with vision, hearing, speech, or other health impairments passed the CAHSEE at relatively higher rates. Almost none of the students coded as having mental retardation passed the CAHSEE. These students are underrepresented in this matched sample, because many students coded in this category on the CASEMIS file did not take the CAHSEE at all.

The distribution of students across primary disability categories was similar in 2006, 2009, and 2011. Slightly more students were classified as having autism and other health impairments and slightly fewer were classed as having specific learning disabilities in 2011 compared to prior years. Passing rates were predictably somewhat variable across years in categories with relatively few students. Passing rates for students with specific learning disabilities, the category accounting for about two-thirds of the students in special education, were slightly lower than passing rates for all students in special education.

Table 4.37. Primary Disability Codes for Grade Ten Students Receiving Special Education Services with CAHSEE Success Information

Primary Disability Category	Percent of Students with Disabilities in the Category			Percent Passing CAHSEE ELA			Percent Passing CAHSEE Math		
	2006	2009	2011	2006	2009	2011	2006	2009	2011
010 = Intellectual Disability/Mental Retardation	1.7%	1.7%	1.3%	3.3%	3.4%	2.4%	2.2%	3.0%	1.9%
020 = Hard of Hearing	0.9%	1.2%	1.1%	47.6%	42.8%	52.6%	47.3%	50.4%	56.8%
030 = Deaf	0.6%	0.7%	0.6%	17.9%	19.6%	19.4%	27.6%	30.6%	28.5%
040 = Speech/Lang. Impairment	6.5%	5.5%	4.8%	50.1%	39.6%	39.4%	51.6%	44.8%	43.2%
050 = Visual Impairment	0.5%	0.6%	0.5%	55.8%	56.7%	64.2%	55.1%	50.0%	59.6%
060 = Emotional Disturbance	7.6%	7.3%	6.3%	42.1%	46.7%	45.9%	33.1%	39.6%	35.6%
070 = Orthopedic Impairment	0.8%	1.0%	1.0%	54.6%	52.3%	47.8%	49.0%	45.8%	41.4%
080 = Other Health Impairment	6.3%	9.5%	10.1%	55.0%	55.8%	52.0%	49.3%	50.2%	43.6%
090 = Specific Learning Disability	73.1%	68.6%	63.6%	30.6%	31.6%	31.6%	29.1%	33.4%	31.6%
100 = Deaf-Blindness	0.0%	0.0%	0.0%						57.1%
110 = Multiple Disabilities	0.3%	0.2%	0.1%	36.5%	25.9%	12.8%	36.6%	27.1%	13.9%
120 = Autism	1.5%	3.4%	4.4%	56.5%	58.2%	58.5%	56.4%	58.6%	55.1%
130 = Traumatic Brain Injury	0.2%	0.4%	0.3%	28.6%	32.0%	23.8%	28.7%	35.9%	33.3%
Number of Matched Students	40,395	38,094	40,057	34.6%	38.5%	36.7%	32.6%	39.0%	35.1%

Accommodations and Modifications

The CAHSEE allows a number of accommodations for students who need them. In addition, some students take the CAHSEE with modifications specified in their individual education plans (IEPs), even though these modifications invalidate their scores. Students who test with modifications and score above the passing level are allowed to petition for a waiver from the CAHSEE requirement. Tables 4.38 and 4.39 show the various accommodations and modifications recorded for the CAHSEE ELA and mathematics tests. Each table shows the percentage of grade ten and twelve SWD who received each type of accommodation or modification. In 2006, SWD were exempt from the CAHSEE requirement. In 2009, they were not. As shown in these tables, the use of accommodations and modifications increased dramatically between 2006 and 2009, particularly for students taking the CAHSEE in grade twelve. In 2011, SWD were once again exempted from the CAHSEE requirement. The use of accommodations and modifications decreased, but usage rates were still generally higher than in 2006.

Table 4.38. Percentage of Students with Disabilities Receiving Specific ELA Accommodations and Modifications in 2006, 2009, and 2011 by Grade

Description of Accommodation or Modification	Grade Ten			Grade Twelve		
	2006	2009	2011	2006	2009	2011
Number of Administrations to SWD	55,985	39,804	49,968	54,919	48,669	62,221
Accommodations						
Transfer of Responses to Answer Document	0.3%	0.2%	0.2%	0.2%	0.5%	0.2%
Oral Responses Dictated to a Scribe	0.1%	0.5%	0.1%	0.2%	0.4%	0.3%
Spell Checker or Grammar Checker Off	0.3%	0.5%	0.6%	0.4%	1.0%	0.6%
Essay Reponses	0.1%	0.3%	0.4%	0.2%	0.6%	0.3%
Assistive Device	0.1%	0.3%	0.2%	0.1%	0.4%	0.2%
Braille Version	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%
Large Print Version	0.2%	0.3%	0.2%	0.1%	0.2%	0.1%
Test Over Multiple Days	0.4%	3.2%	2.8%	0.6%	4.4%	1.8%
Supervised Breaks	3.7%	9.2%	9.1%	4.1%	11.0%	8.2%
Beneficial Time	0.5%	1.4%	1.6%	0.8%	1.8%	1.4%
Tested Home or Hospital	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%
Modifications						
Dictionary	1.0%	1.6%	1.3%	2.5%	10.4%	5.2%
Sign Language	0.1%	0.1%	0.1%	0.1%	0.7%	0.4%
Oral Presentation	2.8%	3.0%	2.5%	7.4%	27.6%	13.1%
Spell Checker or Grammar Checker	0.3%	0.3%	0.2%	1.1%	3.6%	1.4%
Essay Reponses	0.1%	0.1%	0.1%	0.2%	0.9%	0.4%
Assistive Device	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%
Unlisted Modification	0.2%	0.0%	0.1%	0.7%	0.3%	0.1%

Table 4.39. Percentage of Students with Disabilities Receiving Specific Mathematics Accommodations and Modifications in 2006, 2009, and 2011 by Grade

Description of Accommodation or Modification	Grade Ten			Grade Twelve		
	2006	2009	2011	2006	2009	2011
Number of Administrations to SWD	55,985	61,787	54,919	39,654	40,735	50,732
Accommodations						
Transfer of Responses to Answer Document	0.2%	0.4%	0.4%	0.2%	0.3%	0.2%
Oral Responses Dictated to a Scribe	0.1%	0.2%	0.2%	0.1%	0.2%	0.1%
Braille Version	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%
Large Print Version	0.2%	0.3%	0.2%	0.1%	0.2%	0.1%
Test Over More Than 1 Day	0.2%	2.2%	2.2%	0.4%	2.7%	1.1%
Supervised Breaks	3.0%	8.3%	8.1%	3.5%	8.9%	7.0%
Beneficial Time	0.4%	1.3%	1.5%	0.6%	1.4%	1.3%
Tested At Home or Hospital	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%
Dictionary	0.1%	0.1%	0.2%	0.4%	1.5%	0.9%
Sign Language	0.1%	0.2%	0.2%	0.2%	0.4%	0.3%
Oral Presentation	2.4%	4.0%	2.7%	5.1%	16.0%	7.0%
Modifications						
Calculator	8.0%	10.2%	8.3%	18.4%	42.8%	23.4%
Arithmetic Table	0.3%	0.3%	0.3%	0.9%	3.9%	2.2%
Math Manipulatives	0.0%	0.1%	0.1%	0.1%	0.3%	0.3%
Assistive Device	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
Unlisted Modification	0.2%	0.1%	0.0%	0.6%	0.2%	0.2%

Summary of Test Results

CAHSEE test results show significant increases in students' competency in targeted skills since the implementation of the CAHSEE requirement. As shown in Table 4.11, overall grade twelve passing rates for seniors have increased steadily from 91 percent for the Class of 2006 to 94 percent for this year's Class of 2011. Similarly, overall passing rates for grade ten students taking the CAHSEE have increased steadily from 64 percent for the Class of 2006 (tested in 2004) to 74 percent for the Class of 2013 tested this year. As shown in Table 4.23, initial passing rates have increased significantly for all demographic groups. That said, it should also be noted that passing rates for SWD are still unacceptably low and that passing rates for English learners are also low and have increased only modestly since the CAHSEE requirement went into effect. Passing rates for economically disadvantaged, Hispanic, and African American students also continue to be significantly lower than passing rates for white and Asian students at all grade levels.

Another encouraging finding is the large number of students who continue to try to pass the CAHSEE after their originally scheduled graduation date. Of the approximately 25,000 general education students in the Class of 2010 who did not complete the CAHSEE requirement by the end of grade twelve last year, more than one-third took the CAHSEE one or more times this year. More than 2,500 completed the

CAHSEE requirement. Also nearly 2,500 general education students in the Class of 2009 who had not yet passed the CAHSEE continued to try to pass it this year and more than 600 did pass.

One other significant trend since the implementation of the CAHSEE requirement has been the proportion of students taking more advanced mathematics courses in high school. As shown in Table 4.25, the percentage of students taking mathematics courses beyond Algebra I by grade ten has increased from 56 percent for the Class of 2006 to 73 percent for this year's grade ten students in the Class of 2013. All demographic groups showed significant increases in the percentage of students taking more advanced courses over this period, including very significant gains—from 19 percent to 42 percent—for students in special education. Here too, however, significant gaps exist. Analyses show that fewer students with disabilities (41%), English learners (54%), economically disadvantaged students (67%), Native American (61%), African American (67%), and Hispanic (67%) students are taking advanced mathematics courses by grade ten compared to white (77%) and Asian (90%) grade ten students.

Finally, the CAHSEE continues to be a significant barrier to a diploma for SWD. Special education students who receive regular instruction more than 80 percent of the time have about a fifty-fifty chance of passing the CAHSEE in grade ten. The number of students in this category has increased slightly as has the passing rate for the ELA test, but not for the mathematics test. More than half of special education students spend 20 percent or more of their time outside of regular instruction. CAHSEE passing rates for these students declined slightly.

Chapter 5: Student Questionnaire Responses

Rebecca L. Norman Dvorak

HumRRO designed a 12-item student questionnaire designed to investigate multiple topics including how students (a) prepared for the CAHSEE, (b) made graduation and post-high school plans, (c) felt about course content and instruction coverage, and (d) put effort into the CAHSEE. This questionnaire was administered to all students at the end of the CAHSEE ELA and mathematics tests. Students that took both tests had two opportunities to answer the questionnaire. The questionnaire has been administered since 2001; we made significant changes in 2005 and minor changes in more recent years. This chapter provides results from both the mathematics and ELA questionnaires and is based on student response data from 2005 through 2011. First we examine grade ten student responses, then follow up with a selection of responses for 2011 grade twelve students who had failed to pass the CAHSEE in grade ten and took the CAHSEE this past school year.

Grade Ten Student Questionnaire Respondents

Table 5.1 displays passing rates and demographic characteristics of the grade ten students who completed the CAHSEE ELA and mathematics tests in 2011. More than 80 percent of the students passed the ELA and mathematics CAHSEE. Hispanics made up approximately half of the grade ten population (49.2 percent). Whites were the next largest group (28.4 percent) followed by Asian (8.2 percent), African Americans (6.8 and 6.9 percent), Filipino (2.9 percent), American Indian or Alaskan Native (0.8 percent), and Pacific Islander (.6 percent). Just over 8 percent of the students were identified as students with disabilities (SWD) and approximately 14.5 percent were English learners (EL). Approximately half (48.2 percent) of the students were labeled economically disadvantaged (ED) based on two indicators: either inclusion in the national school lunch program, or students who have two parents with a high school diploma or less.

Table 5.2 summarizes the percentage of grade ten students who are classified as SWD but not EL, EL but not SWD, and those who are classified as both EL and SWD (students who are not classified as either are not included). Most of these students are identified as EL only or SWD only; however, 11.8 percent are classified as both.

Table 5.3 provides the frequencies of grade ten students who passed both the ELA and mathematics tests, passed only ELA, passed only mathematics, and those who did not pass either test. Approximately 77 percent of students passed both tests in grade ten and 11 percent did not pass either. There were a similar number of students (approximately 6 percent) who passed only the ELA or only the mathematics tests.

Table 5.1. Demographic Characteristics by Percentage of 2011 Grade Ten Student Questionnaire Respondents

Variable	ELA (n = 476,317)	Math (n = 476,421)
<i>Pass</i>		
No	17.7	17.6
Yes	82.3	82.4
<i>Gender</i>		
Female	49.1	49.2
Male	50.9	50.8
<i>Ethnicity</i>		
American Indian or Alaskan Native	0.8	0.8
Asian	8.2	8.2
Pacific Islander	0.6	0.6
Filipino	2.9	2.9
Hispanic	49.2	49.2
African American	6.8	6.9
White	28.4	28.4
Multiple Races	3.0	3.0
<i>Disability (SWD)</i>		
No	91.5	91.6
Yes	8.5	8.5
<i>English Learner (EL)</i>		
No	85.5	85.6
Yes	14.5	14.4
<i>Economically Disadvantaged (ED)</i>		
No	49.9	49.9
Yes	48.2	48.2

Table 5.2. Percentage of 2011 Grade Ten Students Who Are Classified as SWD, EL, or Both.

SWD and EL Classification	ELA (n = 95,879)	Math (n = 95,561)
Both EL and SWD	11.8	11.8
SWD Only	29.5	29.5
EL Only	58.7	58.7

Table 5.3. Frequencies of 2011 Grade Ten Students by Tests Passed

Tests Passed	Frequency	Percent
Both	361,222	76.8
Only ELA	28,087	6.0
Only Mathematics	28,573	6.1
Neither	52,574	11.2

Comparisons on Student Perspective

We analyzed the trends and changes in students' perceptions after they took the CAHSEE mathematics and ELA tests by comparing

- grade ten student responses from 2005 to 2011;
- grade ten student responses in 2011 by passing categories (whether they passed both tests, only ELA, only mathematics, or neither test);
- 2011 grade ten responses by key demographic characteristics (gender, ethnicity, disability status, English learner status, economic disadvantage status); and
- 2011 grade twelve responses in 2009 and 2011 by those who passed in 2011 and those who did not.

The first part of this chapter presents the results of the first two sets of analyses—comparing student responses across years and by passing category. The results are organized by topic and question, and the response data are displayed using both tables and bar graphs. We made slight modifications to select survey questions in 2011; we highlighted these changes in the discussion of the questions. The changes may affect the comparability of responses over time.

The second part of this chapter presents the results comparing student responses by key demographic characteristics. We also present a summary of findings by topic.

Lastly, we present and discuss a selection of responses of 2011 grade twelve students who are still attempting to pass the CAHSEE.

Findings from 2011 Grade Ten Student Responses

Test Preparation

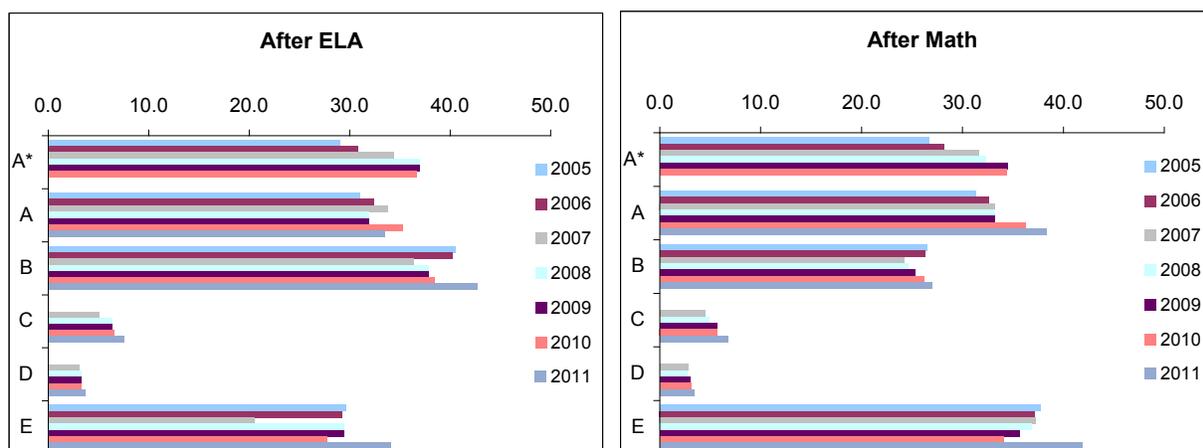
Question 1: How did you prepare for this test?

After taking the ELA and mathematics tests in 2011, more students than in previous years reported that a teacher spent time in class helping them prepare for the CAHSEE. Also, increased numbers of students reported having taken a special course during the regular school day or after school to prepare. The percentage of students who claimed they did not do anything in addition to coursework to prepare also increased from previous years (see Table 5.4). Note that one option (marked A.*) was not included on the 2011 questionnaire, but had been during previous years. This may have affected the student response patterns.

Table 5.4. Question 1: How Did You Prepare for This Test? (Mark All That Apply) (Grade Ten Students' Responses 2005–11)

After ELA	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A.* A teacher or counselor told me about the purpose and importance of the test.	29.1	30.9	34.4	35.6	37.0	36.6	n/a
A. I practiced on questions similar to those on the test.	31.1	32.4	33.8	33.6	32.0	35.3	33.5
B. A teacher spent time in class helping me to get ready to take the test.	40.5	40.3	36.4	37.1	37.9	38.5	42.8
C. I took a special class during the regular school day that covered the topics on the CAHSEE.	n/a	n/a	5.1	5.7	6.4	6.6	7.5
D. I took a special class after school or during the summer that covered the topics on the CAHSEE.	n/a	n/a	3.1	3.0	3.3	3.3	3.7
E. I did not do anything in addition to regular course work to prepare for this test.	29.6	29.3	20.6	29.9	29.5	27.7	34.1

After Mathematics	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A.* A teacher or counselor told me about the purpose and importance of the test.	26.7	28.2	31.6	32.3	34.5	34.4	n/a
A. I practiced on questions similar to those on the test.	31.3	32.6	33.3	33.2	33.2	36.2	38.4
B. A teacher spent time in class helping me to get ready to take the test.	26.5	26.3	24.3	24.6	25.3	26.2	27.0
C. I took a special class during the regular school day that covered the topics on the CAHSEE.	n/a	n/a	4.5	4.9	5.7	5.7	6.8
D. I took a special class after school or during the summer that covered the topics on the CAHSEE.	n/a	n/a	2.8	2.7	3.0	3.1	3.4
E. I did not do anything in addition to regular course work to prepare for this test.	37.7	37.2	37.3	36.9	35.7	34.1	41.9



*This response option was not included on the 2011 student questionnaires.

Figure 5.1. Test preparation by grade ten students over the years as reported after CAHSEE ELA and mathematics tests, in percentages.

As shown in Table 5.5, students who passed both tests were most likely to report having received test preparation help from teachers during class time after taking the ELA than after taking the mathematics CAHSEE. Students who passed both tests were also the most likely to report that they did not do anything in addition to regular coursework to prepare for the CAHSEE.

Table 5.5. Question 1: How Did You Prepare for This Test? (Mark All That Apply) (Percentages of 2011 Grade Ten Student Responses by Tests Passed)

Response Choice	Tests Passed, After ELA Questionnaire				Tests Passed, After Math Questionnaire			
	Both Tests	ELA Only	Math Only	None	Both Tests	ELA Only	Math Only	None
A. I practiced on questions similar to those on the test.	33.4	34.0	35.0	33.6	37.6	39.3	45.7	40.0
B. A teacher spent time in class helping me to get ready to take the test.	44.6	38.8	40.3	33.9	26.5	27.2	32.3	28.0
C. I took a special class during the regular school day that covered the topics on the CAHSEE	6.4	11.0	11.8	11.8	5.8	9.2	9.9	10.1
D. I took a special class after school or during the summer that covered the topics on the CAHSEE	3.3	4.4	5.8	5.3	3.1	3.8	4.9	4.5
E. I did not do anything in addition to regular course work to prepare for this test.	36.4	28.2	23.9	24.8	45.9	34.4	24.1	26.4

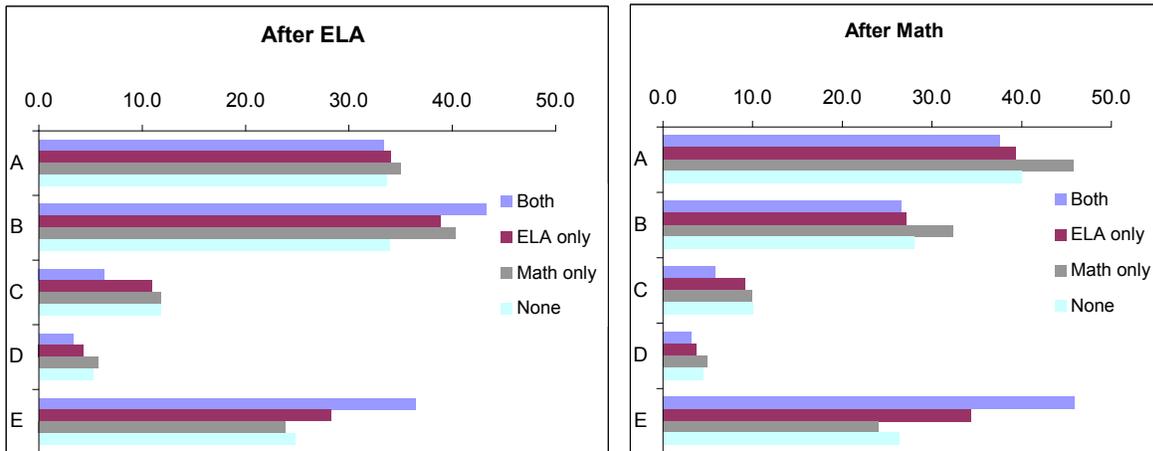


Figure 5.2. Test preparation of students as reported after taking CAHSEE ELA and mathematics tests, by tests passed in 2011, in percentages.

Question 2: What materials did you use to prepare for this test?

Question 2 was a new addition to the student questionnaire in 2009. Response options were modified in 2011 to provide a new choice which may affect the comparability of student responses over time. In 2011, more students indicated that they used the CAHSEE online prep to prepare for the test, and fewer students responded that they used textbooks. Approximately one-third of students (more after mathematics; less after ELA) reported that they did not use any materials to prepare (see Table 5.6).

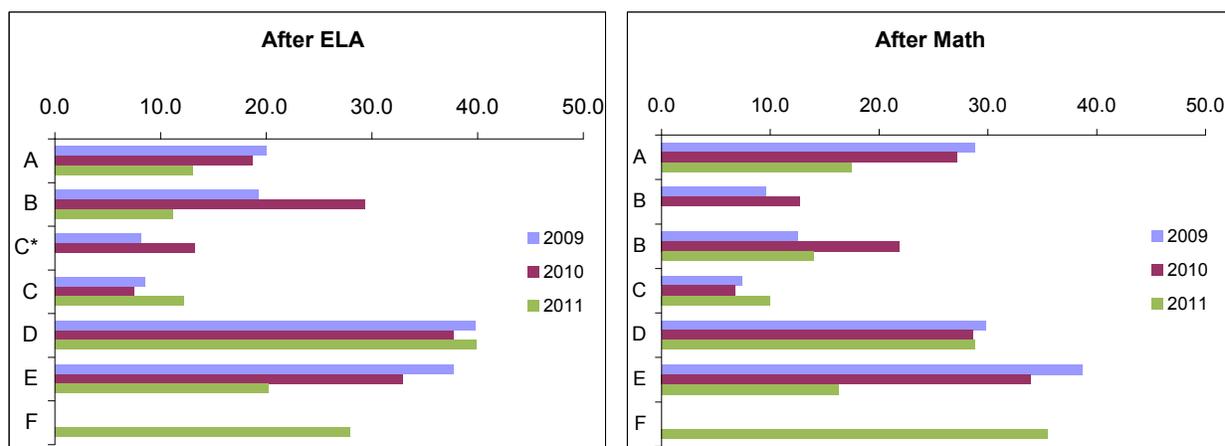
Table 5.6. Question 2: What Materials Did You Use to Prepare for This Test? (Mark All That Apply) (Grade Ten Student Responses, 2009–11)

After ELA	Percentage		
	2009	2010	2011
A. Textbooks	20.0	18.7	13.0
B. ELA Student Guide	19.2	29.4	11.2
C.* Mathematics Student Guide	8.1	13.3	n/a
C. CAHSEE Online Prep**	8.5	7.5	12.2
D. Released (sample) test questions	39.8	37.7	39.9
E. Other Resources	37.7	32.9	20.2
F. I did not use any materials to prepare.	n/a	n/a	27.9

After Math	Percentage		
	2009	2010	2011
A. Textbooks	28.9	27.2	17.5
B.* ELA Student Guide	9.6	12.8	n/a
B. Mathematics Student Guide	12.6	21.9	14.0
C. CAHSEE Online Prep**	7.5	6.8	10.0
D. Released (sample) test questions	29.8	28.6	28.8
E. Other resources	38.7	34.0	16.3
F. I did not use any materials to prepare.	n/a	n/a	35.6

*Response option not included in 2011.

**Wording slightly modified in 2011.



*Response option not included in 2011.

**Wording slightly modified in 2011.

Figure 5.3. Students' report of materials used to prepare for CAHSEE ELA and mathematics tests, 2009–11, in percentages.

Students who passed both tests were most likely to have used released (sample) test questions to prepare for the CAHSEE, while those who did not pass either test were most likely to have used them. As shown in Table 5.7, students who passed both tests were the least likely to report that they did not use any materials to prepare.

Table 5.7. Question 2: What Materials Did You Use to Prepare for This Test? (Mark All That Apply) (Percentages of Grade Ten Student Responses in 2011 by Tests Passed)

Response Choice	Tests Passed, After ELA Questionnaire				Tests Passed, After Math Questionnaire			
	Both Tests	ELA Only	Math Only	None	Both Tests	ELA Only	Math Only	None
A. Textbooks	11.6	16.0	18.3	19.1	15.9	20.9	24.7	22.8
B. ELA/Math Student Guide	10.5	11.9	15.0	14.1	12.3	16.9	22.7	20.4
C. CAHSEE Online Prep	10.9	14.3	18.4	17.1	9.0	11.7	14.9	13.9
D. Released (sample) test questions	44.2	33.4	27.7	19.7	31.4	25.1	22.7	15.9
E. Other resources	19.4	24.1	23.8	22.1	15.2	20.7	20.3	19.1
F. I did not use any materials to prepare	29.9	21.1	18.5	21.2	39.5	25.4	19.0	21.6

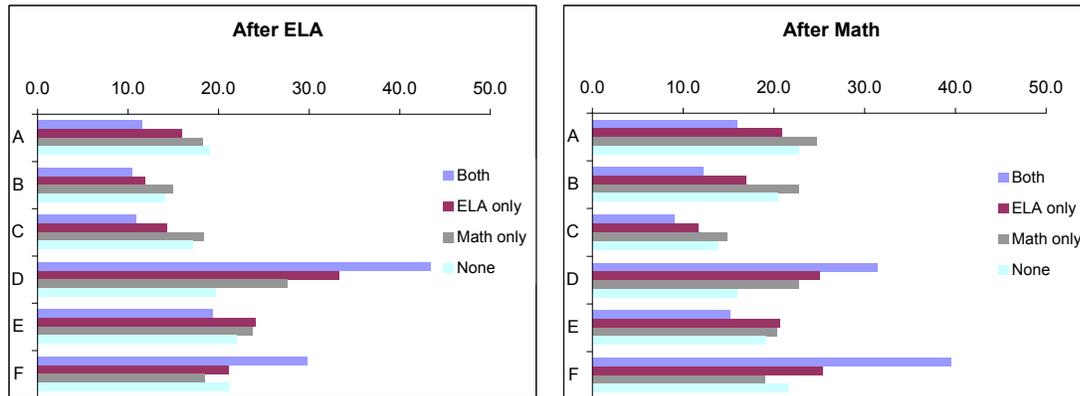


Figure 5.4. Materials used by grade ten students, by percentage, as reported after taking ELA and mathematics tests in 2011.

Graduation Expectations and Post-High School Plans

Question 3: Do you think you will receive a high school diploma?

Question 3 was revised for the 2009 CAHSEE administration, providing three years of comparison data. Option F was modified in 2011. Table 5.8 illustrates that there has been little to no change in grade ten student expectations toward receiving a high school diploma between 2009 and 2011. The majority of grade ten students expect to earn their diploma with the rest of their class or earlier and approximately 10 percent intend to graduate, but expect that it will require taking classes after their original graduation date.

Table 5.8. Question 3: Do You Think You Will Receive a High School Diploma? (Grade Ten Student Responses, 2009–11)

After ELA	Percentage		
	2009	2010	2011
A. Yes, with the rest of my class (or earlier).	84.4	84.3	83.8
B. Yes, but I will likely have to take classes after my original graduation date.	9.9	10.2	10.4
C. Yes, but I will pursue a diploma in Adult Education.	2.5	2.4	2.5
D. No, I probably will not receive a high school diploma.	2.1	2.0	2.0
E. No, I plan to take the GED.	0.7	0.7	0.7
F. No, but I plan to go to community college.	n/a	n/a	0.7
F.* No, I plan to take the CHSPE.	0.4	0.4	n/a

After Math	Percentage		
	2009	2010	2011
A. Yes, with the rest of my class (or earlier).	84.0	83.9	82.9
B. Yes, but I will likely have to take classes after my original graduation date.	10.1	10.3	10.7
C. Yes, but I will pursue a diploma in Adult Education.	2.3	2.3	2.4
D. No, I probably will not receive a high school diploma.	2.4	2.4	2.4
E. No, I plan to take the GED.	0.8	0.8	0.8
F. No, but I plan to go to community college.	n/a	n/a	0.9
F.* No, I plan to take the CHSPE.	0.5	0.5	n/a

*Option F was revised in 2011.

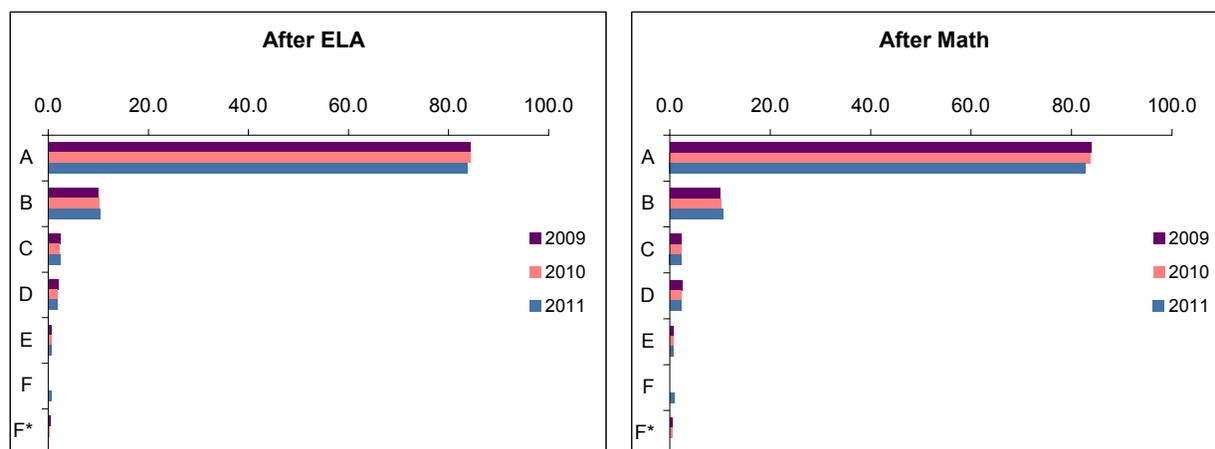


Figure 5.5. Comparison of grade ten students' expectations of receiving a high school diploma, by percentage, after taking ELA and mathematics tests, 2009–11.

As shown in Table 5.9, the majority of students in each group (passed both tests, passed ELA only, passed math only, or passed none) responded that they were most likely to receive a high school diploma with the rest of their class or earlier. However, there were large differences in the number of students reporting that they would receive a diploma on time between those who passed only one test and those who passed both tests or none. While 90 percent of students who passed both tests believed that they would receive their diplomas with their class, approximately one-half of those who passed neither test believed that they would. Approximately 65 percent of students who passed only one test thought they would graduate with their class or earlier. Students who did not pass either test were the most likely to respond that they would probably

not receive a high school diploma (8.8 percent after ELA; 9.5 percent after mathematics).

Table 5.9. Question 3: Do You Think You Will Receive a High School Diploma? (Percentages of Grade Ten Students' Responses in 2011 by Pass or Not Pass)

Response Choice	Tests Passed, After ELA Questionnaire				Tests Passed, After Math Questionnaire			
	Both Tests	ELA Only	Math Only	None	Both Tests	ELA Only	Math Only	None
A. Yes, with the rest of my class (or earlier).	90.9	68.9	64.3	50.3	90.1	65.9	66.4	50.1
B. Yes, but I will likely have to take classes after my original graduation date.	6.4	22.3	22.5	26.5	6.6	23.4	20.9	26.3
C. Yes, but I will pursue a diploma in Adult Education.	1.4	3.5	5.3	8.6	1.4	3.6	5.0	7.9
D. No, I probably will not receive a high school diploma.	0.7	3.4	4.9	8.8	1.0	4.4	4.8	9.5
E. No, I plan to take the GED.	0.3	0.9	1.1	2.7	0.4	1.3	1.2	2.8
F. No, but I plan to go to community college.	0.3	1.1	1.9	3.1	0.4	1.5	1.7	3.4

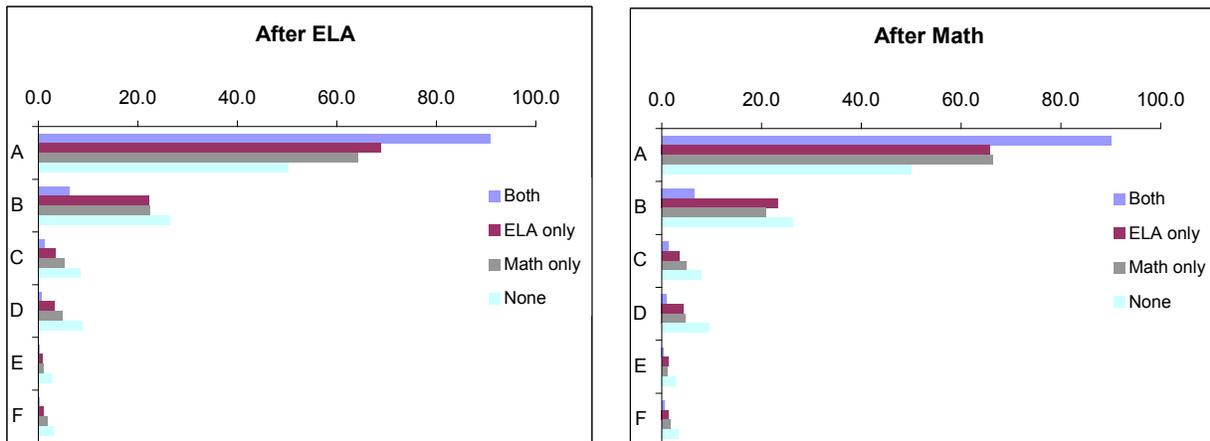


Figure 5.6. Comparison of grade ten students' expectations of receiving a diploma, by tests passed in 2011, in percentages.

Question 4: What might prevent you from obtaining a high school diploma?

In 2006 there was a peak in the percentage of students who believed that not passing the CAHSEE might prevent them from obtaining a high school diploma. As mentioned previously, this was the first year that the CAHSEE was a graduation requirement. In 2011 the percentage of students who believed that not passing the CAHSEE might prevent them from graduating decreased (see Table 5.10). After both ELA and mathematics, not passing required courses is the most common reason cited, followed closely by not passing the CAHSEE. A slight wording change, noted below, was made beginning with the 2009 questionnaires.

Table 5.10. Question 4: What Might Prevent You From Receiving a High School Diploma? (Mark All That Apply) (Grade Ten Responses, 2005–11)*

After ELA	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. I may not pass all the required courses.	n/a	25.1	19.7	18.8	21.8	21.7	19.6
B. I may not pass the CAHSEE exam.	n/a	38.4	20.6	18.9	20.6	18.7	15.9
C. I may drop out before the end of 12th grade.	n/a	13.3	2.5	2.3	2.6	2.5	2.3
D. I may not meet some other graduation requirement.	n/a	23.2	13.4	12.6	12.2	12.2	11.8
E. I am confident I will receive a high school diploma.	n/a	n/a	63.3	65.6	63.1	63.9	65.5

After Math	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. I may not pass all the required courses.	n/a	26.7	21.4	20.3	23.8	23.6	21.0
B. I may not pass the CAHSEE exam.	n/a	41.1	23.3	21.4	22.8	21.1	19.0
C. I may drop out before the end of 12th grade.	n/a	11.8	2.8	2.6	2.9	2.8	2.5
D. I may not meet some other graduation requirement.	n/a	20.4	12.6	11.8	10.3	10.2	9.8
E. I am confident I will receive a high school diploma.	n/a	n/a	59.8	62.2	59.4	60.3	62.0

*In 2009 the wording of question 4 was changed from 'what might prevent you from graduating high school' to 'what might prevent you from receiving a high school diploma.'

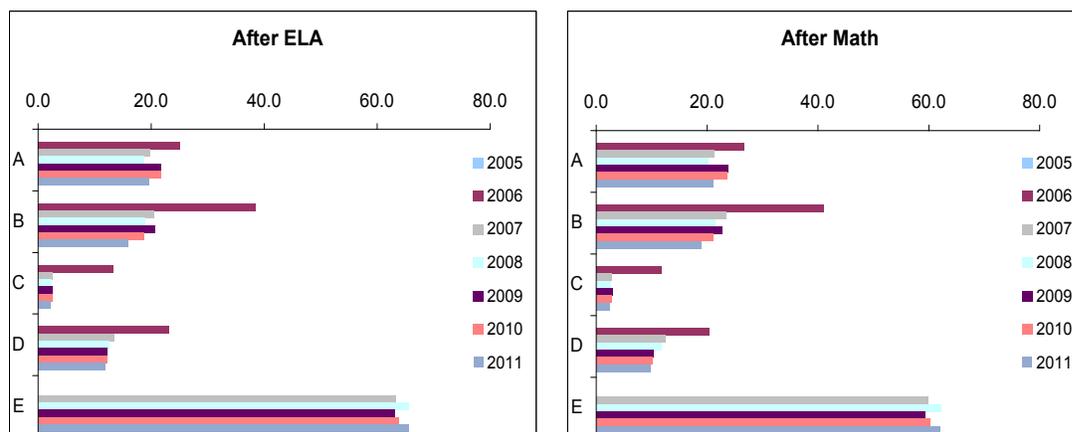


Figure 5.7. Grade ten respondents' reasons why they might not graduate with their class, as reported from 2005 through 2011, in percentages.

The majority of grade ten students (over 70 percent) who passed both tests reported they were confident they would earn a diploma. Table 5.11 illustrates that those who did not pass at least one test were more likely to believe that they might drop out of high school by the end of grade twelve than those who passed both tests.

Table 5.11. Question 4: What Might Prevent You From Receiving a High School Diploma? (Mark All That Apply) (Percentages of Grade Ten Students' Responses by Tests Passed)

Response Choice	Tests Passed, After ELA Questionnaire				Tests Passed, After Math Questionnaire			
	Both Tests	ELA Only	Math Only	None	Both Tests	ELA Only	Math Only	None
A. I may not pass all the required courses.	16.9	33.5	27.6	26.8	18.2	34.9	30.4	28.3
B. I may not pass the CAHSEE exam.	10.8	29.0	33.6	36.8	13.6	38.7	33.6	39.4
C. I may drop out before the end of 12th grade	1.4	2.8	5.0	6.7	1.7	3.2	4.8	6.5
D. I may not meet some other graduation requirement.	10.5	19.1	15.7	14.7	8.7	14.9	13.2	12.5
E. I am confident I will receive a high school diploma.	74.2	40.1	38.9	30.6	70.8	32.9	37.4	28.2

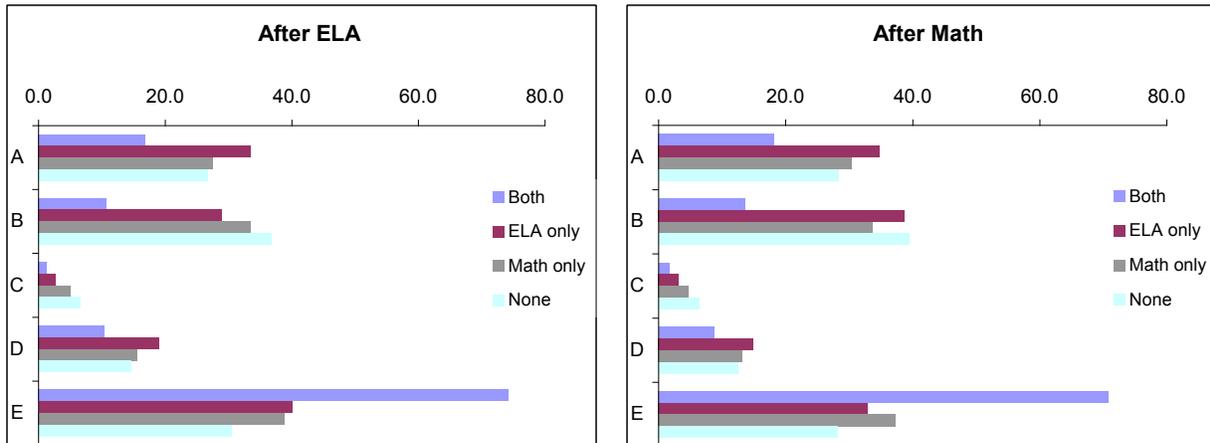


Figure 5.8. Reasons reported by grade ten students for possibly not receiving a diploma on time, by tests passed in 2011, in percentages.

In addition to examining the responses to Question 4 by trend and by tests passed, we also examined responses based on students' responses to option 'B' of the question – we separated students who believed that passing the CAHSEE might prevent them from receiving a high school diploma, and those who did not feel this way. Table 5.12 presents these results. Disaggregating data in this way reveals that those who were concerned that they might not pass the CAHSEE were also most likely to be concerned that they might not pass their required courses or that they might not meet some other graduation requirement. Those who did not feel that the requirement to pass the CAHSEE would prevent them from receiving a high school diploma were far more likely to be confident that they would receive a high school diploma than those who feared the CAHSEE requirement would prevent them from getting a diploma.

Table 5.12. Question 4: What Might Prevent You From Receiving a High School Diploma? (Mark All That Apply) (Percentages of Grade Ten Students' Responses in 2011 by Response to Option B - 'I may not pass the CAHSEE exam')

Response	After ELA Questionnaire		After Math Questionnaire	
	Selected Option 'B'	Did not Select Option 'B'	Selected Option 'B'	Did not Select Option 'B'
A. I may not pass all the required courses.	29.0	17.8	28.5	19.3
B. I may not pass the CAHSEE exam.	100.0	0.0	100.0	0.0
C. I may drop out before the end of 12th grade.	3.2	2.1	2.8	2.4
D. I may not meet some other graduation requirement.	18.5	10.5	14.4	8.7
E. I am confident I will receive a high school diploma.	12.7	75.5	9.4	74.3

Question 5: What do you think you will do after high school?

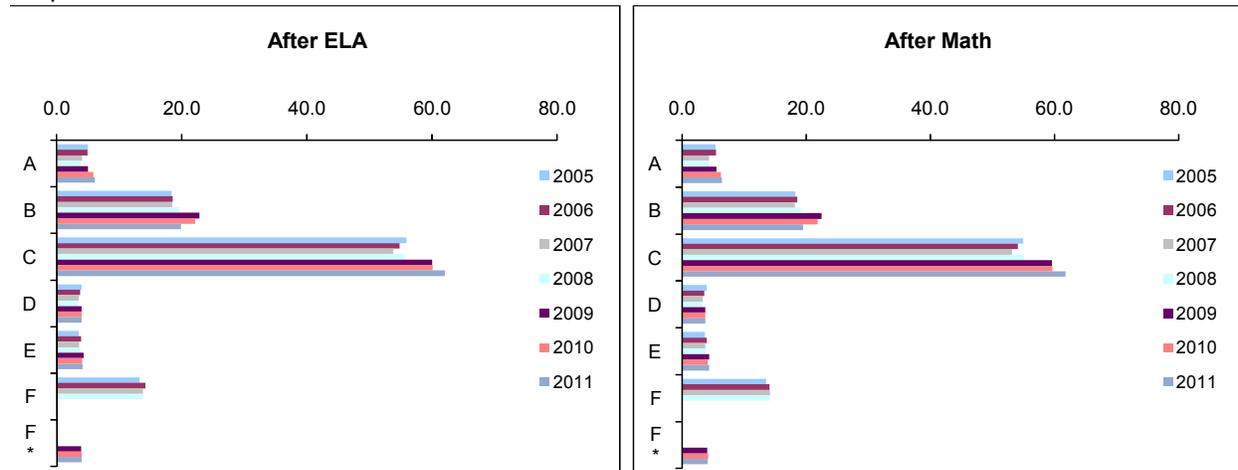
The response option “F” for Question 5 was modified in 2009 as shown in Table 5.13; therefore, data prior to 2009 is not directly comparable. In 2011, the number of students indicating that they planned to attend a four-year college or university increased compared to years prior. There was little to no change in the percentage of students who expected to attend a vocational, technical or trade school, work full time, or who did not know what they would do.

Table 5.13. Question 5: What Do You Think You Will Do After High School? (Responses from Grade Ten Students, 2005–11)

After ELA	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. I will join the military.	5.0	4.9	4.1	3.9	5.0	5.8	6.1
B. I will go to a community college.	18.4	18.5	18.5	19.6	22.8	22.1	19.8
C. I will go to a 4-year college or university.	55.9	54.8	53.8	55.7	60.0	60.1	62.0
D. I will go to a vocational, technical, or trade school.	4.0	3.7	3.5	3.4	4.0	3.9	4.0
E. I will work full-time.	3.5	3.9	3.6	3.7	4.3	4.1	4.1
F. I really don't know what I will do after high school.	13.2	14.2	13.8	13.8	n/a	n/a	n/a
F.* Do something else (besides school, work, or the military)	n/a	n/a	n/a	n/a	3.9	4.0	3.9

After Math	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. I will join the military.	5.4	5.5	4.4	4.3	5.6	6.3	6.5
B. I will go to a community college.	18.3	18.6	18.2	19.3	22.5	21.9	19.5
C. I will go to a 4-year college or university.	55.0	54.1	53.2	55.1	59.6	59.7	61.8
D. I will go to a vocational, technical, or trade school.	4.0	3.6	3.4	3.3	3.8	3.7	3.8
E. I will work full-time.	3.7	4.0	3.8	3.8	4.4	4.2	4.4
F. I really don't know what I will do after high school.	13.6	14.1	14.2	14.2	n/a	n/a	n/a
F.* Do something else (besides school, work, or the military)	n/a	n/a	n/a	n/a	4.1	4.2	4.2

* Option 'F' was revised in 2009.



* Option 'F' was revised in 2009.

Figure 5.9. Grade ten students' estimate of what they will do after high school, by percentage, 2005–11, after taking ELA and mathematics tests.

Students who passed both tests were most likely to report they would attend a four-year college or university after high school. Students who passed both were also

the least likely to report that they planned to join the military, while those who passed neither test were the most likely to do so. Those who did not pass either test were also more likely than others to report they would work full-time or do something other than go to school, work, or join the military after high school (see Table 5.14).

Table 5.14. Question 5: What Do You Think You Will Do After High School? (Percentages of Grade Ten Students' Responses in 2011 by Tests Passed)

Response Choice	Tests Passed, After ELA Questionnaire				Tests Passed, After Math Questionnaire			
	Both Tests	ELA Only	Math Only	None	Both Tests	ELA Only	Math Only	None
A. Join the military	4.9	8.7	9.4	11.4	5.3	9.2	9.8	11.4
B. Go to a community college	17.7	31.0	25.7	26.1	17.2	30.2	25.7	26.1
C. Go to a 4-year college or university	68.8	41.1	44.6	34.6	68.6	41.2	44.7	34.6
D. Go to a vocational, technical, or trade school	3.5	5.4	5.1	5.9	3.3	5.1	4.6	5.4
E. Work full time	2.4	7.0	8.8	12.7	2.6	7.5	8.9	13.3
F. Do something else (besides school, work, or the military)	2.8	6.9	6.4	9.4	3.0	6.9	6.3	9.2

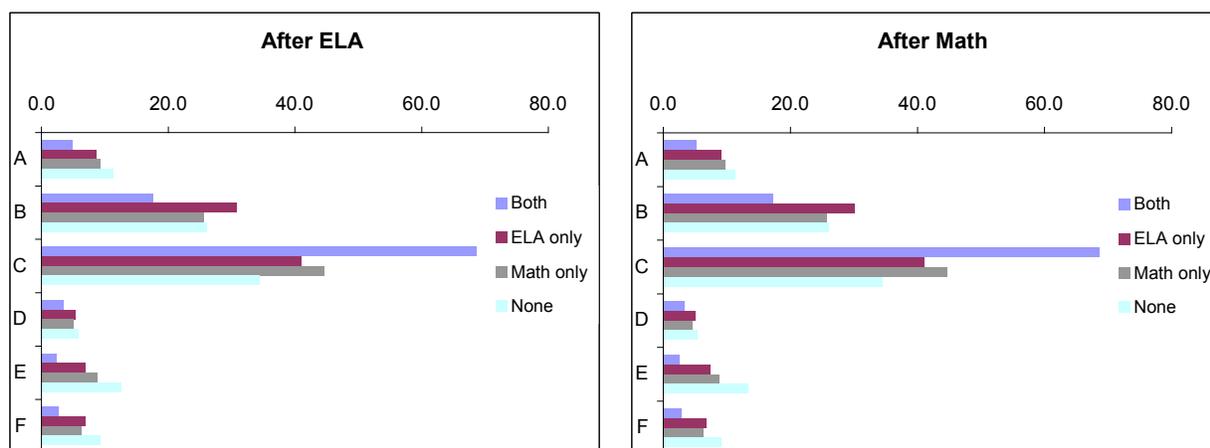


Figure 5.10. Grade ten students' estimate of what they will do after high school by tests passed in 2011, in percentages.

Test Performance and Influencing Factors

Question 6: How well did you do on this test:

In 2011 Question 6 was modified from "The main reasons I did not do as well as I could have on this test" to "How well did you do on this test." This change should be considered when examining the response data. Table 5.15 reveals that fewer students in 2011 (than in 2009 or 2010) responded that they "did as well as they could." This was especially true for responses after taking the ELA. Being nervous was the most common reason that students gave for not doing as well as they could.

Table 5.15. Question 6: How Well Did You Do on This Test? (Mark All That Apply) (Grade Ten Students' Responses, 2009–11)

	Percentage		
	2009	2010	2011
After ELA			
A. I did as well as I could.	86.7	87.3	79.8
B. I was too nervous to do as well as I could.	9.0	8.6	6.8
C. I was not motivated to do well.	4.2	4.1	3.5
D. I did not have time to do as well as I could.	1.5	1.3	1.2
E. Conditions in the testing room made it difficult to concentrate.	4.7	4.3	3.7
F. There were other reasons why I did not do as well as I could.	4.6	4.1	3.4
After Math			
Percentage			
	2009	2010	2011
A. I did as well as I could.	86.4	86.3	84.8
B. I was too nervous to do as well as I could.	9.3	9.3	9.0
C. I was not motivated to do well.	3.9	3.9	4.3
D. I did not have time to do as well as I could.	1.3	1.2	1.2
E. Conditions in the testing room made it difficult to concentrate.	3.6	3.4	3.4
F. There were other reasons why I did not do as well as I could.	5.3	5.0	5.8

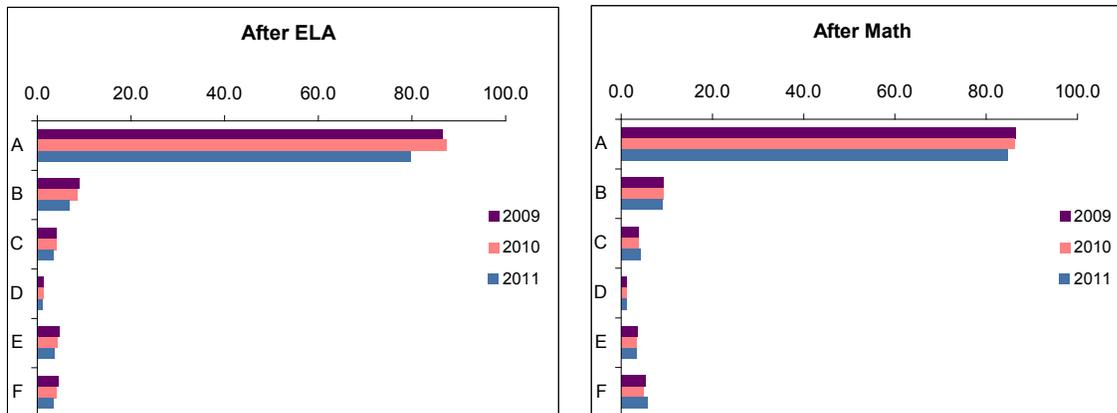


Figure 5.11. Reasons given by grade ten students for why they did or did not do as well as they could on ELA and mathematics tests in 2009–11, in percentages.

Table 5.16 reveals that those who passed both tests were more likely than all other students to report that they did as well as they could on the CAHSEE; those who passed neither test were the least likely to do so. Among students who failed to pass both tests, approximately 14 percent of students after ELA and 18 percent of students after mathematics said that nervousness affected how well they did on the CAHSEE. Very few students felt that time or testing conditions prevented them from doing as well as they could.

Table 5.16. Question 6: How Well Did You Do on This Test? (Mark All That Apply) (Percentages of Grade Ten Students' Responses in 2011 by Tests Passed)

Response Choice	Tests Passed, After ELA Questionnaire				Tests Passed, After Math Questionnaire			
	Both Tests	ELA Only	Math Only	None	Both Tests	ELA Only	Math Only	None
A. I did as well as I could.	85.0	78.4	63.9	56.0	88.7	72.3	79.2	66.3
B. I was too nervous to do as well as I could.	5.1	7.2	15.0	14.1	6.8	16.1	14.6	18.1
C. I was not motivated to do well.	2.9	3.3	6.1	5.9	3.4	7.4	5.5	8.1
D. I did not have time to do as well as I could.	0.8	1.0	2.4	3.0	0.8	1.6	2.2	3.5
E. Conditions in the testing room made it difficult to concentrate.	3.8	3.0	3.5	3.7	3.3	3.8	3.2	4.4
F. There were other reasons why I did not do as well as I could.	3.0	2.9	5.2	5.1	5.1	11.6	4.8	7.9

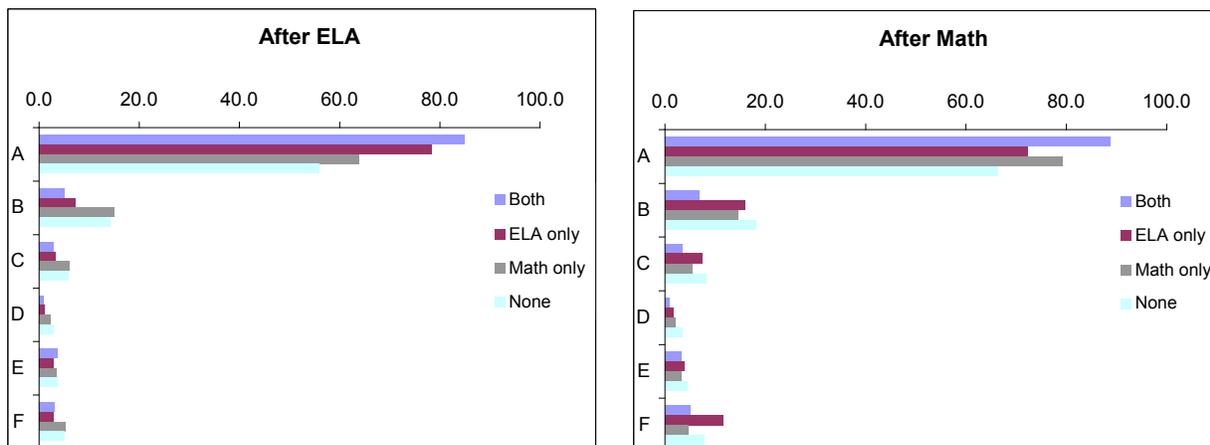


Figure 5.12. Reasons given by grade ten students for not doing as well as they could on the CAHSEE, by tests passed in 2011, in percentages.

Content and Instruction Coverage

Question 7: Were the topics on the test covered in courses you have taken?

Table 5.17 shows that the percentage of students who believe that most or all of the topics on the CAHSEE were covered in their courses has remained fairly constant between 2005 and 2011—with a slightly higher percentage of ELA test takers than mathematics test takers reporting that topics were similar. As in previous years, we combine the responses for options A and B.

Table 5.17. Question 7: Were the Topics on the Test Covered in Courses You Have Taken? (Grade Ten Students' Responses, 2005–11)

After ELA	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. Yes, all of them.							
B. Most, but not all of them (two-thirds or more were covered).	92.2	93.3	93.7	93.9	94.2	95.1	94.7
C. Many topics on the test were not covered in my courses (less than two-thirds were covered).	7.7	6.7	6.25	6.1	5.8	4.9	5.4

After Math	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. Yes, all of them.							
B. Most, but not all of them (two-thirds or more were covered).	88.9	90.6	91.53	92.3	92.4	92.7	91.3
C. Many topics on the test were not covered in my courses (less than two-thirds were covered).	11.1	9.4	8.36	7.7	7.6	7.4	8.8

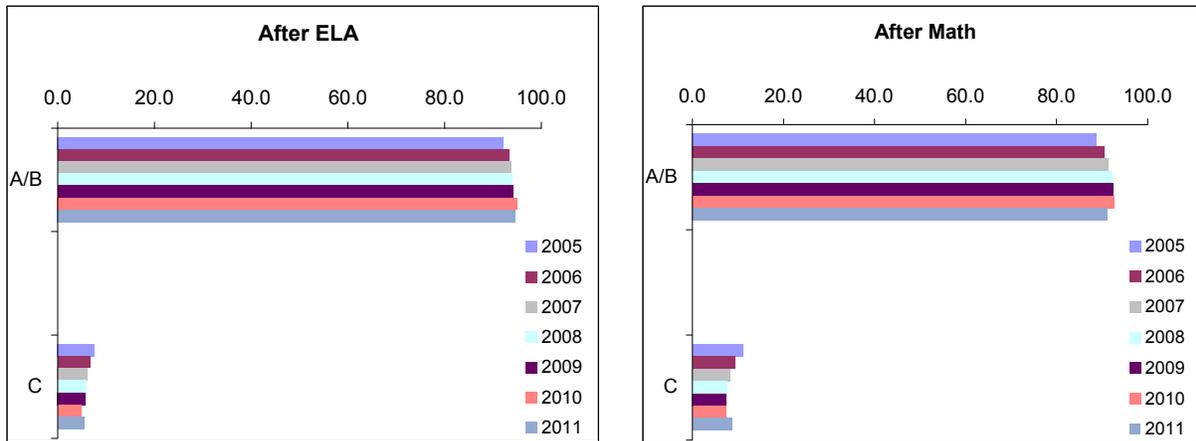


Figure 5.13. Opinions reported by grade ten students, 2005–11, of whether all materials tested were covered in the courses they took, in percentages.

Table 5.18 reveals that students who did not pass either test were the most likely to report that topics on the CAHSEE were not covered in their courses. Also, students who passed only one test were more likely to report that the topics were not covered than those who passed both. However, the majority of all categories of passing students said that at least most of the topics were covered during their courses.

Table 5.18. Question 7: Were the Topics on the Test Covered in Courses You Have Taken? (Percentages of Grade Ten Students' Responses in 2011 by Tests Passed)

Response Choice	Tests Passed, After ELA Questionnaire				Tests Passed, After Math Questionnaire			
	Both Tests	ELA Only	Math Only	None	Both Tests	ELA Only	Math Only	None
A. Yes, all of them.	65.3	48.4	36.0	33.4	56.9	26.5	33.7	26.4
B. Most, but not all of them (two-thirds or more were covered).	31.5	44.7	51.4	50.3	36.7	55.1	54.8	54.2
C. Many topics on the test were not covered in my courses (less than two-thirds were covered).	3.2	6.9	12.6	16.3	6.4	18.4	11.6	19.4

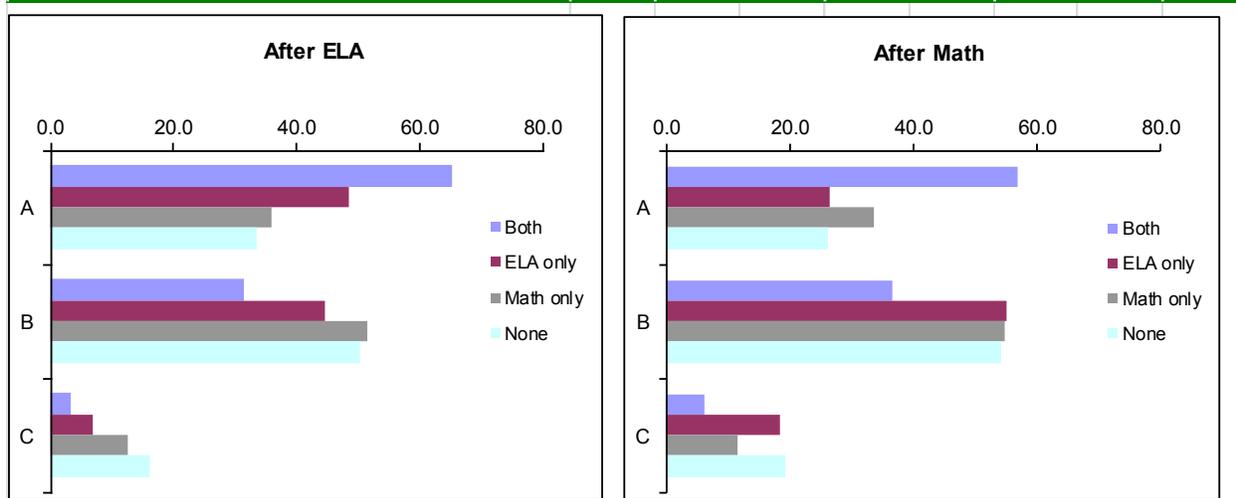


Figure 5.14. Responses of grade ten students as to whether topics tested on CAHSEE ELA and mathematics tests were covered in the courses they took, by tests passed in 2011, in percentages.

Question 8: Were any of the questions on the test different from the types of questions or answer options you have encountered in your homework assignments or classroom tests?

In 2011 there was a slight increase in the number of students who responded that all of the items on the CAHSEE were similar to those encountered in class. Students were more likely to select this response after completing the ELA test than after the mathematics test (see Table 5.19).

Table 5.19. Question 8: Were Any of the Questions on the Test Different From the Types of Questions or Answer Options You Have Encountered in Your Homework Assignments or Classroom Tests? (Grade Ten Students' Responses, 2005–11)

After ELA	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. Yes, many were different from anything I had seen before.	9.3	11.9	11.37	11.3	11.1	10.1	9.7
B. Yes, a few were different from anything I had seen before.	49.5	48.9	47.84	49.0	45.1	43.5	41.3
C. No, all were similar to ones used in my classes	41.2	39.1	40.73	39.7	43.8	46.4	48.9

After Math	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. Yes, many were different from anything I had seen before.	14.4	13.5	12.62	11.7	12.4	11.9	12.3
B. Yes, a few were different from anything I had seen before.	51.0	49.2	47.22	45.7	44.9	44.4	43.8
C. No, all were similar to ones used in my classes	34.7	37.3	40.07	42.7	42.7	43.6	43.9

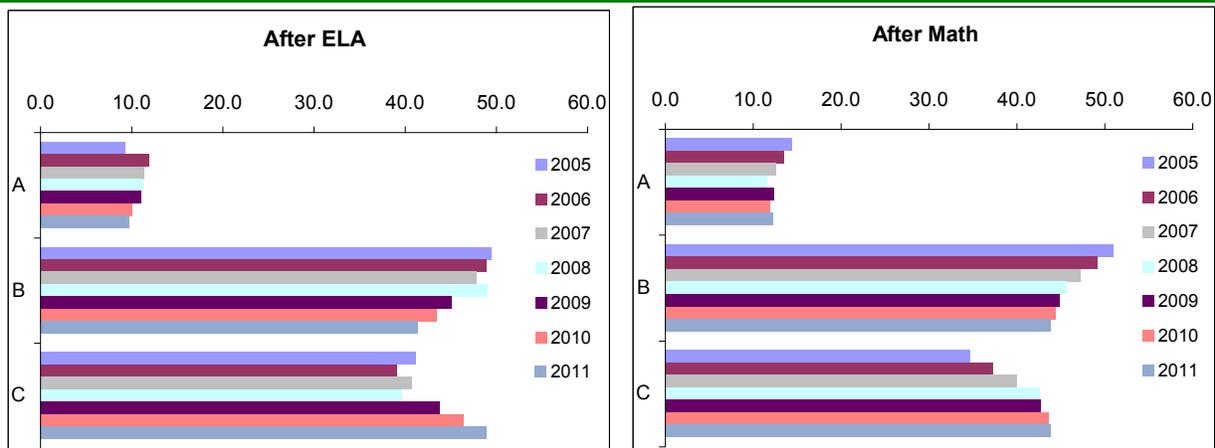


Figure 5.15. Percentage of grade ten students, 2005–11, who said questions were the same or different from those encountered in class tests, in percentages.

Table 5.20 shows that slightly more than half of the students who passed both tests reported that all of the questions on the CAHSEE tests were similar to ones used in their classes. The percentage was much lower for those who did not pass either test or who passed only one. Most of the students who did not pass at least one test reported that a few questions were different than they had seen before.

Table 5.20. Question 8: Were Any of the Questions on the Test Different From the Types of Questions or Answer Options You Have Encountered in Your Homework Assignments or Classroom Tests? (Percentages of Grade Ten Students' Responses in 2011 by Tests Passed)

Response Choice	Tests Passed, After ELA Questionnaire				Tests Passed, After Math Questionnaire			
	Both Tests	ELA Only	Math Only	None	Both Tests	ELA Only	Math Only	None
A. Yes, many were different from anything I had seen before.	6.9	11.2	20.5	24.0	9.3	20.4	18.9	26.6
B. Yes, a few were different from anything I had seen before.	38.5	48.7	54.1	51.6	40.7	56.0	56.2	52.6
C. No, all were similar to ones used in my classes	54.6	40.1	25.4	24.5	50.1	23.6	24.9	20.8

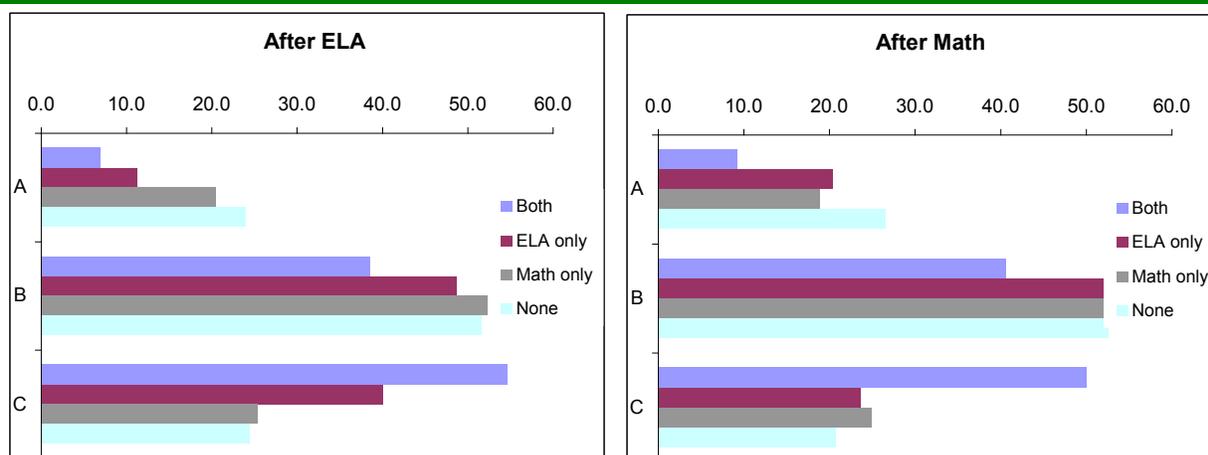


Figure 5.16. Grade ten students' responses regarding difference or similarity of CAHSEE tests to classroom tests, by CAHSEE tests passed in 2011, in percentages.

Question 9: Were the questions on this test more difficult than questions you were given in classroom tests or homework assignments?

Table 5.21 provides a summary of the percentage of students who felt test items were more difficult, the same, or easier than those they had encountered in class. Percentages for options B and C are combined because questions on the CAHSEE are intended to be either equally difficult or less difficult than those encountered in class. After ELA, there has been a positive trend in the percentage of students who felt that CAHSEE test questions were the same or easier than those they had seen in their classes; in mathematics, there was a slight drop in the percentage of students responding in this way compared to the previous three years.

Table 5.21. Question 9: Were the Questions on This Test More Difficult Than Questions You Were Given in Classroom Tests or Homework Assignments? (Grade Ten Students' Responses, 2005–11)

After ELA	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. Yes, the test questions were generally more difficult than the questions I encountered in my course work.	17.5	16.3	16.5	16.6	14.1	12.3	12.1
B. The test questions were generally about as difficult as the questions I encountered in my course work.	82.5	83.7	83.5	83.4	85.9	87.7	87.9
C. The test questions were generally easier than the questions I encountered in my course work.							

After Math	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. Yes, the test questions were generally more difficult than the questions I encountered in my course work.	22.3	20.8	19.2	17.8	17.6	16.9	19.0
B. The test questions were generally about as difficult as the questions I encountered in my course work.	77.7	79.2	80.7	82.2	82.4	83.1	81.0
C. The test questions were generally easier than the questions I encountered in my course work.							

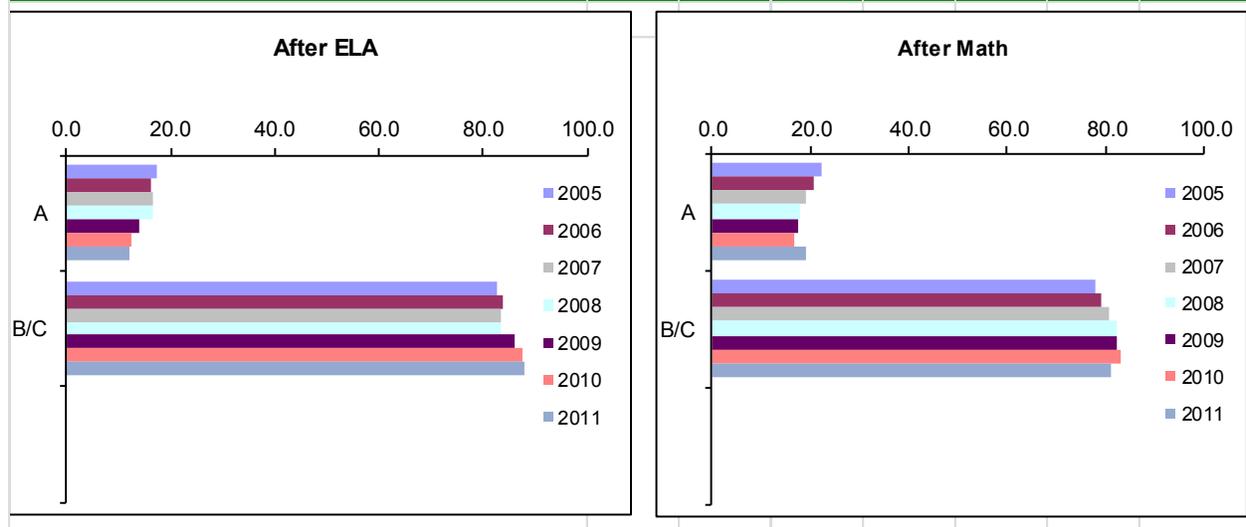


Figure 5.17. Percentage of grade ten students taking the CAHSEE, 2005–11, who found the CAHSEE test questions more difficult, the same as, or less difficult than those encountered in course work (B and C combined in chart).

A greater percentage of students who passed both tests than of those who passed only one or none felt that the questions on the CAHSEE were easier than those they encountered in classroom tests or homework. Students were most likely to respond that the CAHSEE test questions were generally more difficult after taking the mathematics test (see Table 5.22).

Table 5.22. Question 9: Were the Questions on This Test More Difficult Than Questions You Were Given in Classroom Tests or Homework Assignments? (Percentages of Grade Ten Students' Responses in 2011 by Tests Passed)

Response Choice	Tests Passed, After ELA Questionnaire				Tests Passed, After Math Questionnaire			
	Both Tests	ELA Only	Math Only	None	Both Tests	ELA Only	Math Only	None
A. Yes, the test questions were generally more difficult than the questions I encountered in my course work.	8.1	15.3	28.8	31.6	14.3	36.4	28.8	38.5
B. The test questions were generally about as difficult as the questions I encountered in my course work.	48.9	55.2	52.9	46.5	47.3	52.0	53.1	45.2
C. The test questions were generally easier than the questions I encountered in my course work.	43.1	29.5	18.3	21.9	38.4	11.6	18.1	16.3

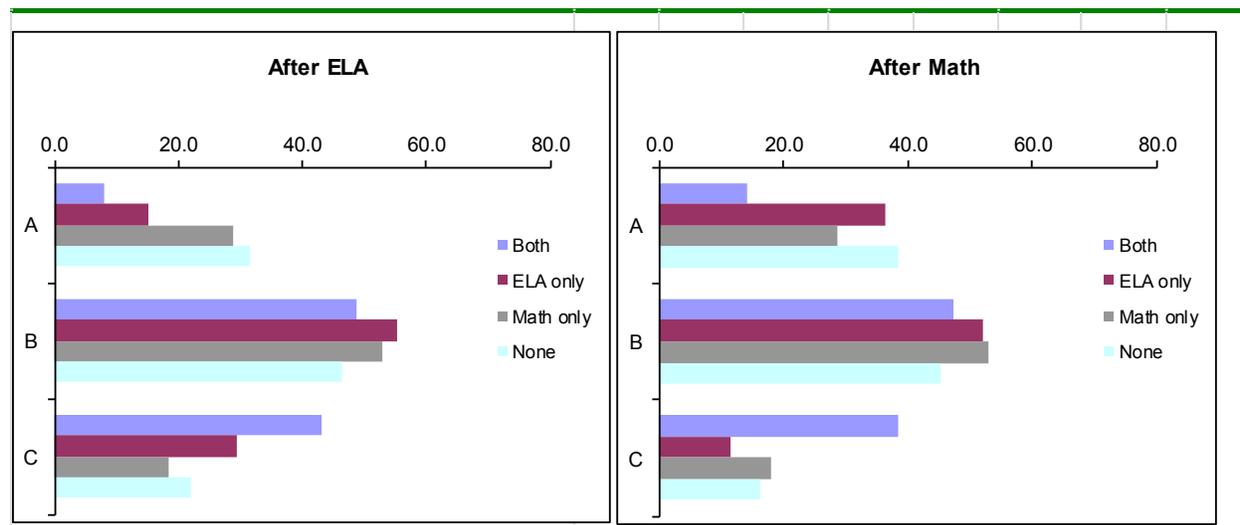


Figure 5.18. Percentages of grade ten students who thought the CAHSEE test questions were more difficult, the same, or less difficult than those encountered in the classroom or homework assignments, by tests passed in 2011.

Question 10: If some topics on the test were difficult for you, was it because:

The most common reason that students reported having difficulty with the CAHSEE was forgetting things that they were taught. More students reported that none of the topics were difficult for them after taking the ELA test than did so after the mathematics test. The reasons reported for difficulty have been fairly stable over the seven years of this survey question (see Table 5.23).

Table 5.23. Question 10: If Some Topics on the Test Were Difficult for You, Was It Because: (Grade Ten Students' Responses, 2005–11)

After ELA	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. I did not take courses that covered these topics.	8.2	7.6	7.2	7.2	7.3	6.6	6.4
B. I had trouble with these topics when they were covered in courses I took.	18.1	17.5	17.2	17.3	17.7	17.6	16.0
C. I have forgotten things I was taught about these topics.	37.9	37.8	41.6	42.5	39.0	40.2	40.1
D. None of the topics was difficult for me.	35.8	37.1	33.3	33.0	35.9	35.6	37.5

After Math	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. I did not take courses that covered these topics.	13.5	12.6	10.8	9.5	10.6	9.9	9.7
B. I had trouble with these topics when they were covered in courses I took.	22.6	23.8	21.9	22.8	24.1	23.9	23.5
C. I have forgotten things I was taught about these topics.	44.7	43.8	45.0	46.1	44.2	44.2	46.0
D. None of the topics was difficult for me.	19.2	19.8	20.8	21.7	21.2	21.9	20.8

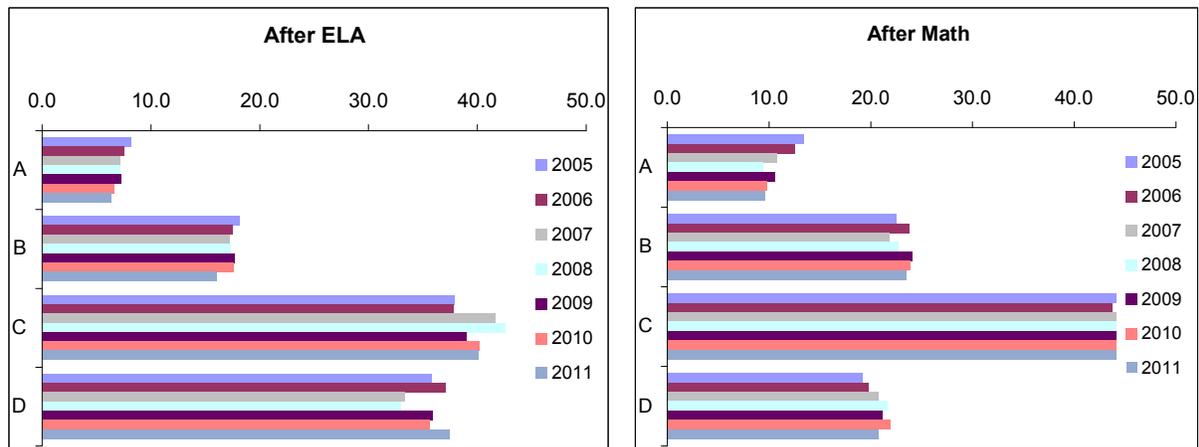


Figure 5.19. Reasons given by grade ten students, 2005–11, as to whether and why they found the CAHSEE test questions difficult, in percentages.

In 2011 students who passed neither test or only passed one were more likely to report that they did not take courses that covered the topics on the CAHSEE. The most common response for why they found the test difficult, regardless of tests passed, was having forgotten things that they had been taught (see Table 5.24).

Table 5.24. Question 10: If Some Topics on the Test Were Difficult for You, Was It Because: (Percentages of Grade Ten Students' Responses in 2011 by Tests Passed)

Response Choice	Tests Passed, After ELA Questionnaire				Tests Passed, After Math Questionnaire			
	Both Tests	ELA Only	Math Only	None	Both Tests	ELA Only	Math Only	None
A. I did not take courses that covered these topics.	4.5	8.2	13.6	15.7	7.4	16.2	15.6	18.7
B. I had trouble with these topics when they were covered in courses I took.	13.2	21.6	28.2	27.7	20.1	40.7	31.1	34.6
C. I have forgotten things I was taught about these topics.	40.1	42.7	41.8	37.7	48.4	37.4	41.6	35.6
D. None of the topics was difficult for me.	42.3	27.6	16.5	18.8	24.1	5.6	11.7	11.1

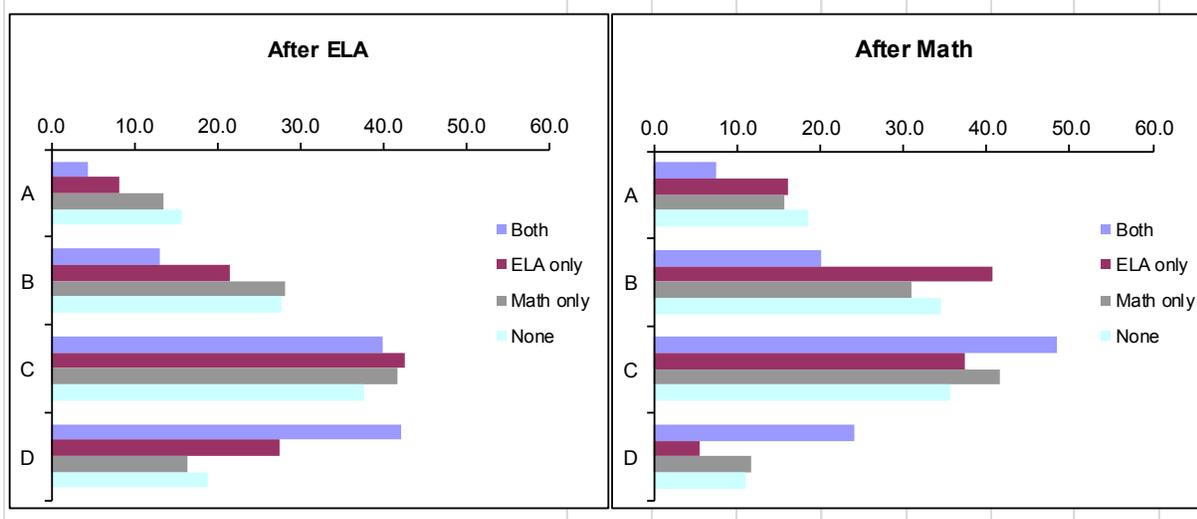


Figure 5.20. Reasons given by grade ten students, 2005–11, for whether and why they found test questions difficult, in percentages, by tests passed in 2011.

Effort Put into the CAHSEE

Question 11: Have you worked or will you work harder to learn the English-language arts or mathematics skills tested by the CAHSEE?

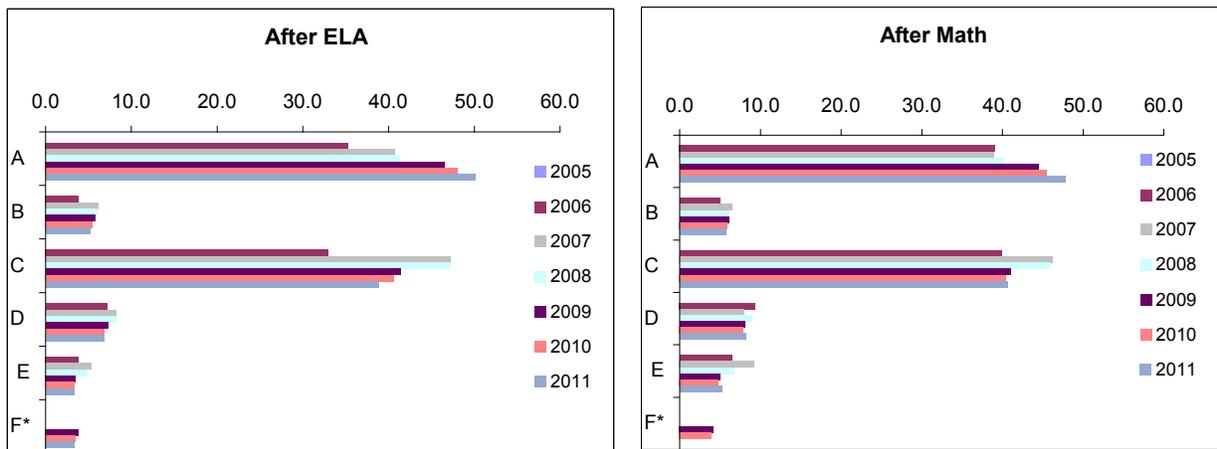
Over the years the percentage of students who have indicated that they do not have to work harder to learn the skills to pass the CAHSEE has gradually increased, beginning in 2005. Option 'F' (Table 5.25) was an addition to the questionnaire in 2009; therefore comparisons to years prior to this may not be valid.

Table 5.25. Question 11: Have You Worked or Will You Work Harder to Learn the English-Language Arts or Mathematics Skills Tested by the CAHSEE? (Mark All That Apply) (Grade Ten Students' Responses, 2005–11)

After ELA	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. I do not have to work any harder to meet the CAHSEE requirement.	n/a	35.3	40.8	41.4	46.6	48.1	50.1
B. I am taking additional courses.	n/a	3.9	6.2	6.1	5.9	5.5	5.2
C. I am working harder in the courses I am taking.	n/a	33.0	47.3	47.3	41.4	40.7	38.8
D. I am getting help outside of the classroom.	n/a	7.2	8.3	8.2	7.3	6.8	6.8
E. I am repeating a course to learn the material better.	n/a	3.9	5.3	4.9	3.6	3.4	3.4
F. I will stay in school an additional year to learn the required material.	n/a	n/a	n/a	n/a	3.9	3.5	3.4

After Math	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. I do not have to work any harder to meet the CAHSEE requirement.	n/a	39.1	39.0	40.2	44.5	45.5	46.4
B. I am taking additional courses.	n/a	5.0	6.5	6.2	6.2	5.9	5.6
C. I am working harder in the courses I am taking.	n/a	39.9	46.3	45.8	41.0	40.5	39.4
D. I am getting help outside of the classroom.	n/a	9.4	8.0	9.0	8.1	7.9	8.0
E. I am repeating a course to learn the material better.	n/a	6.5	9.3	6.8	5.0	4.8	5.2
F. I will stay in school an additional year to learn the required material.	n/a	n/a	n/a	n/a	4.2	3.9	3.9

* Option F added in 2009.



* Option F added in 2009.

Figure 5.21. Percentage of grade ten students, 2005–11, who said they have worked or will work harder, and in what ways, to meet the CAHSEE requirement.

As shown in Table 5.26, students who passed only one test were more likely than other students, including those who passed neither test, to report that they were working harder in the courses they were taking to learn the skills required by the CAHSEE. The majority of students who passed both tests reported not having to work any harder to meet the CAHSEE requirement.

Table 5.26. Question 11: Have You Worked or Will You Work Harder to Learn the English-Language Arts or Mathematics Skills Tested by the CAHSEE? (Mark All That Apply) (Percentages of Grade Ten Students' Responses in 2011 by Tests Passed)

Response Choice	Tests passed, after ELA Questionnaire				Tests passed, after Math Questionnaire			
	Both Tests	ELA Only	Math Only	None	Both Tests	ELA Only	Math Only	None
A. I do not have to work any harder to meet the CAHSEE requirement.	58.7	26.4	20.0	16.4	55.1	15.5	21.9	14.6
B. I am taking additional courses.	3.6	8.4	11.5	12.2	3.9	9.6	10.8	12.1
C. I am working harder in the courses I am taking.	36.3	52.6	49.9	43.8	36.8	55.2	49.1	44.1
D. I am getting help outside of the classroom.	5.2	11.2	12.6	13.6	6.4	13.7	12.2	13.6
E. I am repeating a course to learn the material better.	2.0	5.6	8.2	9.7	3.5	11.4	8.2	11.9
F. I will stay in school an additional year to learn the required material.	1.6	5.0	9.1	12.5	2.2	6.6	8.5	12.7

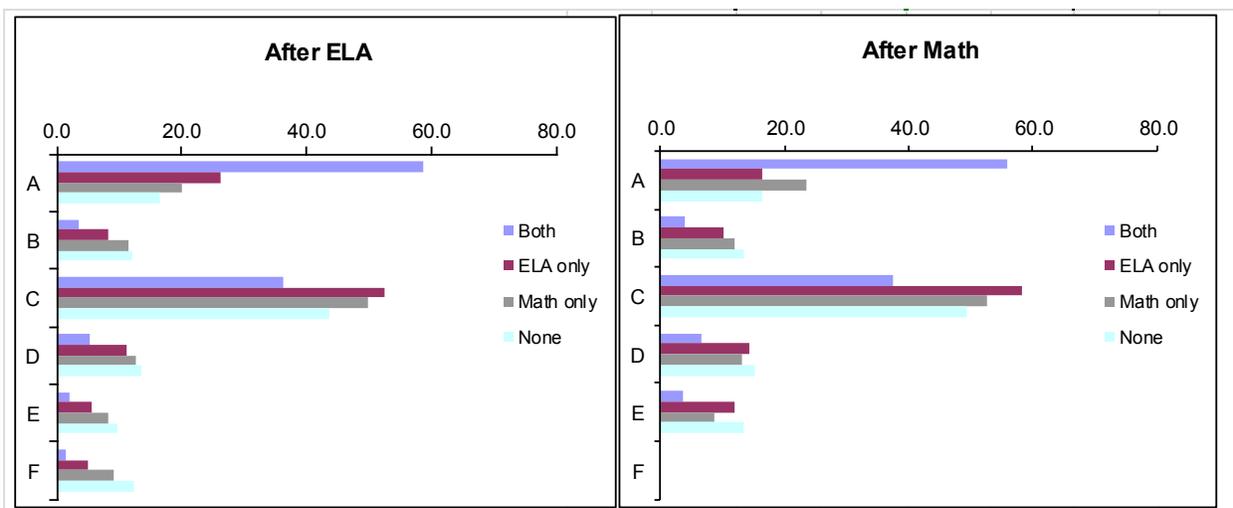


Figure 5.22. Percentage of grade ten students, by tests passed in 2011, who said they had or had not worked harder or will work harder in the future to pass the CAHSEE skills test(s).

Question 12: If you do not pass the CAHSEE in this administration, what are you most likely to do?

Table 5.27 shows that the majority of students (77.8 percent of ELA test takers and 78.2 percent of mathematics test takers) intend to stay in school and try to pass the CAHSEE again if they did not pass during this administration. Only a very small percentage of students responded that they would try to get a GED certificate or give up trying to earn a diploma.

Table 5.27. Question 12: If You Do Not Pass the CAHSEE in This Administration, What Are You Most Likely to Do? (Mark the Most Likely Option) (Grade Ten Students' Responses, 2005–11)

After ELA	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. I will stay in school and try again to pass the CAHSEE.	n/a	n/a	68.2	75.8	77.3	77.4	77.8
B. I will take courses at a community college and try again to pass CAHSEE.	n/a	n/a	5.0	5.3	5.2	5.2	4.4
C. I will participate in some other type of program that will help me to pass the CAHSEE.	n/a	n/a	9.4	10.4	9.3	9.4	8.8
D. I will try to get a GED certificate.	n/a	n/a	1.8	1.9	1.7	1.6	1.6
E. I will give up trying to get a diploma altogether.	n/a	n/a	1.1	1.2	1.1	1.1	1.2
F. I really do not know what I will do.	n/a	n/a	5.4	5.4	5.4	5.4	6.2

After Math	Percentage						
	2005	2006	2007	2008	2009	2010	2011
A. I will stay in school and try again to pass the CAHSEE.	n/a	n/a	70.7	77.2	78.6	78.5	78.2
B. I will take courses at a community college and try again to pass CAHSEE.	n/a	n/a	4.9	5.2	5.3	5.3	4.5
C. I will participate in some other type of program that will help me to pass the CAHSEE.	n/a	n/a	8.2	8.7	7.4	7.5	6.9
D. I will try to get a GED certificate.	n/a	n/a	1.8	1.9	1.7	1.6	1.7
E. I will give up trying to get a diploma altogether.	n/a	n/a	1.3	1.4	1.3	1.3	1.6
F. I really do not know what I will do.	n/a	n/a	5.8	5.7	5.8	5.8	7.2

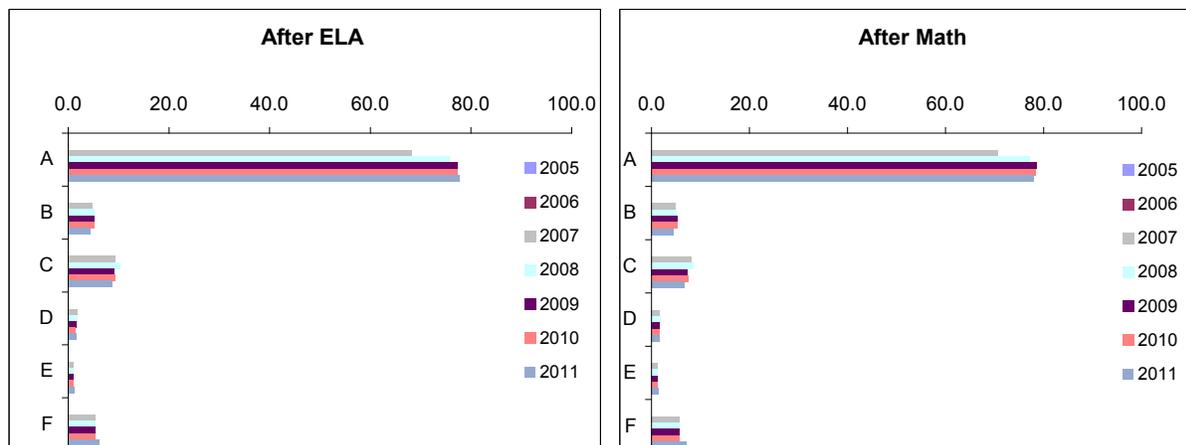


Figure 5.23. Most likely planned courses of action for grade ten students if they do not pass the CAHSEE by the time they complete high school, by year, in percentages.

Table 5.28 shows that the majority of grade ten students, regardless of how many tests they passed, reported they would stay in school and try again to pass the CAHSEE if they did not do so in this administration. However, this percentage was larger for those who passed both tests than for those who did not pass at least one test. Only a very small percentage of students reported that they will give up trying to get a diploma altogether; those who passed both tests were the least likely to state this.

Table 5.28. Question 12: If You Do Not Pass the CAHSEE in This Administration, What Are You Most Likely to Do? (Mark the Most Likely Option) (Percentages of Grade Ten Students' Responses in 2011 by Tests Passed)

Response Choice	Tests passed, after ELA Questionnaire				Tests passed, after Math Questionnaire			
	Both Tests	ELA Only	Math Only	None	Both Tests	ELA Only	Math Only	None
A. I will stay in school and try again to pass the CAHSEE.	82.1	70.9	66.2	57.1	82.2	71.1	69.1	58.0
B. I will take courses at a community college and try again to pass CAHSEE.	3.3	6.2	7.0	9.4	3.4	7.1	7.0	9.7
C. I will participate in some other type of program that will help me to pass the CAHSEE.	7.6	11.8	13.6	13.7	5.6	9.8	11.2	12.0
D. I will try to get a GED certificate.	0.9	2.6	3.3	6.7	1.0	2.6	2.9	5.5
E. I will give up trying to get a diploma altogether.	0.9	0.9	2.2	3.5	1.3	1.5	1.9	3.4
F. I really do not know what I will do.	5.4	7.6	7.8	10.6	6.5	8.1	8.0	11.4

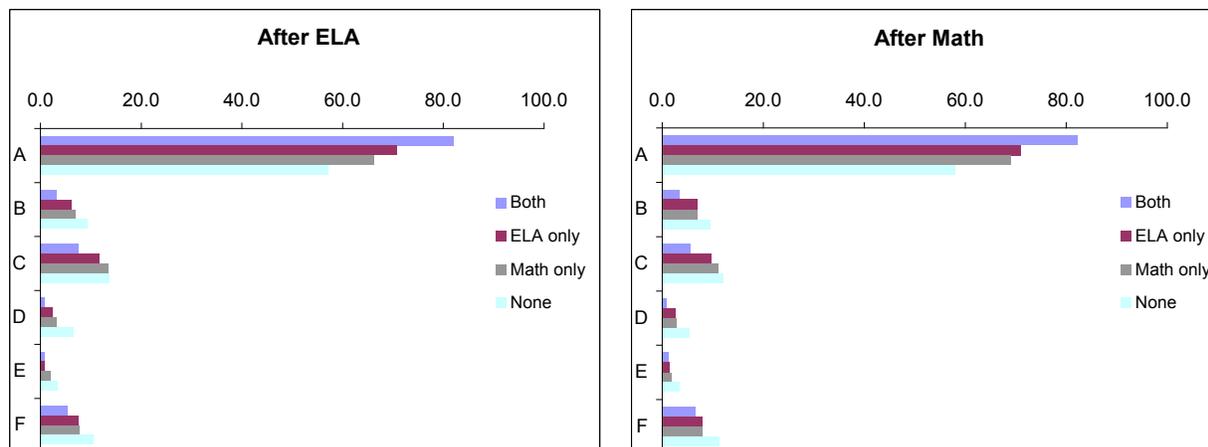


Figure 5.24. Most likely planned courses of action for grade ten students if they do not pass the CAHSEE by the time they complete high school, by tests passed in 2011, in percentages.

Comparisons of Grade Ten Student Responses in 2011 by Demographic Characteristics

We compared student questionnaire responses on five demographic variables: gender, ethnicity, SWD, EL status, and ED status (based on National School Lunch Program participation). Overall, the response differences by these five variables were very similar for ELA and mathematics questionnaires; therefore they will be discussed together. The questionnaire results from students who took the ELA test are presented in Table 5.29 and the questionnaire results from those who took the mathematics test are presented in Table 5.30.

Test Preparation (Table 5.29 and Table 5.30, Questions 1–2)

- Females were more likely than males to report that they practiced on similar test items to prepare, or that a teacher helped them prepare in class.
- Less than one-third of SWD and EL (fewer students than those in the general population) reported that they used released (sample) items to prepare for the CAHSEE. Those who were identified as both SWD and EL were the least likely to report that they used released items.

Graduation from High School and Post-High School Plans (Table 5.29 and Table 5.30, Questions 3–5)

- Asian, White, and Filipino students were more likely than other races/ethnicities to respond that they would graduate with their class or earlier. Also, more students who are not ED believed that they would graduate on time than those who are classified as ED.

- Approximately 40 percent of students who were SWD and EL reported that they were confident that they would receive a high school diploma; just over 30 percent of those who were identified as either ED or SWD felt confident that they would.
- Females were more likely than males to report that they would attend a four-year college or university after high school; those who were not ED were more likely to do so than those who are ED.

Test Performance and Influencing Factors (Table 5.29 and Table 5.30, Question 6)

- Hispanic students were more likely than students of other races to report that nervousness prevented them from doing as well as they could on the CAHSEE; EL students reported higher levels of nervousness than other demographic groups.

Content and Instruction Coverage (Table 5.29 and Table 5.30, Questions 7–9)

- More males than females responded that topics on the CAHSEE were not covered in their courses.
- Approximately 25 percent of students who are both SWD and EL responded that many of the CAHSEE test items were different from anything they had ever seen before.
- EL and SWD students were also more likely to feel that the CAHSEE test questions were more difficult than the items that they encountered in class compared to the general population of students.

Effort Put into the CAHSEE (Table 5.29 and Table 5.30, Questions 10–12)

- Students who are not classified ED more frequently responded that none of the test topics were difficult for them, compared to students who are ED.
- SWD and EL students were more likely than the general population to report that they would either repeat courses or stay in school longer to learn the material to pass the CAHSEE.
- Although the majority of students, regardless of race, reported that they would stay in school and attempt to pass the CAHSEE again if they did not pass during this administration, Hispanic and African American students were less likely than other racial/ethnic groups to select this response.

Table 5.29. Distribution of Grade Ten Students' Responses to Questionnaire After Taking CAHSEE ELA Examination in 2011, by Gender, Ethnicity, Disability, English Learner Status, and Economic Disadvantage.

After Taking CAHSEE ELA Exam (Student Responses in grade 10)	Gender		Ethnicity												
	F	M	Am Indian/ AK Native	Asian	Pacific	Filipino	Hispanic	African Am	White	Multiple	SWD only	EL only	SWD and EL	ED	Not ED
1. How did you prepare for this test? (Mark all that apply.)															
A. I practiced on questions similar to those on the test.	36.5	30.6	33.3	27.1	35.0	34.9	37.8	35.8	27.8	29.4	33.1	37.5	33.7	38.1	29.3
B. A teacher spent time in class helping me to get ready to take the test.	45.9	39.7	41.6	35.3	46.1	46.9	45.6	44.4	39.5	39.2	38.3	42.0	39.3	45.7	40.1
C. I took a special class during the regular school day that covered the topics on the CAHSEE.	7.5	7.5	8.3	3.2	7.7	4.3	10.2	10.4	4.1	6.3	10.1	12.4	12.7	10.6	4.6
D. I took a special class after school or during the summer that covered the topics on the CAHSEE.	3.8	3.7	3.0	2.3	2.8	2.5	5.3	4.6	1.7	1.9	4.4	6.6	6.4	5.3	2.2
E. I did not do anything in addition to regular course work to prepare for this test.	31.0	37.2	35.4	48.2	31.5	34.3	25.8	26.3	45.4	41.8	30.8	20.1	19.7	25.5	42.1
2. What materials did you use to prepare for this test: (Mark all that apply.)															
A. Textbooks	12.6	13.4	13.9	7.8	14.1	11.6	15.2	15.3	10.8	10.5	15.8	18.9	17.3	15.6	10.7
B. ELA Student Guide	11.5	10.9	10.5	8.0	13.1	11.1	12.7	14.4	8.9	10.1	13.0	15.0	14.4	13.2	9.4
C. CAHSEE Online Prep	12.7	11.7	10.8	9.1	13.4	11.8	14.6	16.6	8.2	9.4	14.7	19.6	19.2	15.3	9.4
D. Released (sample) test questions	44.9	35.0	37.9	33.4	38.6	43.6	43.2	36.9	37.0	36.4	27.3	31.2	21.7	42.6	37.4
E. Other resources	20.3	20.1	21.9	15.1	24.7	21.6	22.9	21.9	16.6	18.4	23.0	22.7	22.9	23.0	17.5
F. I did not use any materials to prepare.	25.0	30.7	29.6	43.5	24.3	27.9	19.3	20.6	39.0	35.7	26.8	15.6	18.9	19.2	35.9
3. Do you think you will receive a high school diploma?															
A. Yes, with the rest of my class (or earlier).	86.6	80.9	80.3	90.1	84.5	89.2	79.2	81.1	89.6	85.0	68.5	64.6	56.2	79.2	88.2
B. Yes, but I will likely have to take classes after my original graduation date.	9.0	11.8	12.2	5.7	10.2	7.6	13.6	12.3	6.3	9.2	17.6	21.9	22.9	13.5	7.4
C. Yes, but I will pursue a diploma in Adult Education.	1.8	3.1	2.9	1.8	2.5	1.6	2.9	2.9	1.9	2.7	5.4	5.2	7.6	2.9	2.0
D. No, I probably will not receive a high school diploma.	1.6	2.3	2.5	1.2	1.8	1.0	2.7	2.1	1.0	1.5	4.6	5.6	8.6	2.7	1.3
E. No, I plan to take the GED.	0.4	0.9	1.0	0.3	0.6	0.3	0.7	0.8	0.6	0.8	1.7	1.0	2.1	0.8	0.5
F. No, but I plan to go to community college.	0.5	0.9	1.0	0.9	0.5	0.4	0.8	0.8	0.5	0.8	2.2	1.7	2.7	0.9	0.6

Table 5.29. (Continued)

After Taking CAHSEE ELA Exam (Student Responses in grade 10)	Gender		Ethnicity												
	F	M	Am Indian/ AK Native	Asian	Pacific	Filipino	Hispanic	African Am	White	Multiple	SWD only	EL only	SWD and EL	ED	Not ED
4. What might prevent you from receiving a high school diploma? (Mark all that apply.)															
A. I may not pass all the required courses.	18.1	21.0	23.8	11.3	20.7	17.5	23.9	18.8	15.3	17.3	24.5	26.8	22.2	23.4	16.0
B. I may not pass the CAHSEE exam.	16.8	15.0	16.5	10.7	15.0	12.9	20.7	17.6	9.2	13.1	30.1	32.6	39.1	20.9	11.0
C. I may drop out before the end of 12th grade.	1.6	3.0	2.9	1.6	2.7	1.2	2.6	2.7	1.9	2.5	4.5	4.6	5.5	2.7	1.8
D. I may not meet some other graduation requirement.	10.3	13.3	13.6	8.9	14.0	14.1	13.8	11.6	8.9	11.5	16.0	14.6	12.7	14.1	9.6
E. I am confident I will receive a high school diploma.	69.2	61.9	59.7	78.2	64.3	71.5	57.1	62.6	76.0	69.6	44.8	40.8	34.7	57.3	73.4
5. What do you think you will do after high school?															
A. Join the military.	2.6	9.6	9.4	2.4	8.4	6.0	6.5	5.3	6.6	5.6	10.9	7.6	9.4	6.8	5.5
B. Go to a community college.	20.7	19.0	23.5	9.2	19.3	16.1	22.8	15.9	19.7	18.4	27.9	25.2	26.8	21.9	17.9
C. Go to a 4-year college or university.	68.4	55.6	49.9	83.6	62.0	71.6	56.2	67.2	62.8	64.7	39.5	48.3	39.0	56.9	66.8
D. Go to a vocational, technical, or trade school.	3.1	4.9	5.5	1.9	3.1	2.4	4.3	4.1	4.2	4.0	6.3	4.3	5.6	4.4	3.6
E. Work full-time.	2.7	5.5	5.2	1.2	3.5	1.6	5.6	3.7	3.0	3.4	7.3	8.7	11.3	5.5	2.8
F. Do something else (besides school, work, or the military).	2.5	5.4	6.4	1.7	3.8	2.3	4.6	3.8	3.8	3.8	8.3	5.9	7.9	4.6	3.4
6. How well did you do on this test? (Mark all that apply):															
A. I did as well as I could.	83.3	76.5	77.9	80.9	81.4	85.9	77.7	76.3	83.3	79.7	64.9	67.4	55.8	77.3	82.3
B. I was too nervous to do as well as I could.	6.9	6.7	5.7	6.0	6.7	6.4	8.8	6.2	4.0	5.7	8.8	15.0	15.0	8.5	5.2
C. I was not motivated to do well.	2.4	4.5	4.2	4.6	3.1	3.1	3.5	3.6	3.1	3.8	4.5	4.6	5.4	3.6	3.3
D. I did not have time to do as well as I could.	0.8	1.5	1.4	1.3	1.3	1.0	1.3	1.4	0.9	1.1	2.1	2.0	2.9	1.4	1.0
E. Conditions in the testing room made it difficult to concentrate.	3.8	3.6	3.7	4.5	3.4	4.3	3.4	3.0	4.0	5.0	3.7	3.5	3.2	3.6	3.7
F. There were other reasons why I did not do as well as I could.	3.1	3.8	3.8	4.7	3.2	3.5	3.4	2.9	3.2	4.1	4.4	4.0	4.3	3.6	3.3

Table 5.29. (Continued)

After Taking CAHSEE ELA Exam (Student Responses in 10th grade)	Gender		Ethnicity								SWD only	EL only	SWD and EL	ED	Not ED
	F	M	Am Indian/ AK Native	Asian	Pacific	Filipino	Hispanic	African Am	White	Multiple					
7. Were the topics on the test covered in courses you have taken?															
A. Yes, all of them.	63.2	55.4	58.4	63.1	57.8	65.2	54.9	53.1	66.4	60.9	43.9	38.7	34.3	53.7	64.7
B. Most, but not all of them (two-thirds or more were covered).	32.9	37.8	34.7	31.3	37.3	31.8	39.1	39.7	29.7	33.1	43.9	49.9	50.8	39.9	31.0
C. Many topics on the test were not covered in my courses (less than two-thirds were covered).	3.9	6.8	6.9	5.6	4.9	3.0	6.0	7.1	4.0	6.0	12.3	11.4	14.9	6.4	4.3
8. Were any of the questions on the test different from the types of questions or answer options you have encountered in your homework assignments or classroom tests?															
A. Yes, many were different from anything I had seen before.	6.8	12.6	9.6	10.2	10.2	7.7	10.6	12.1	7.8	9.5	19.1	18.6	24.9	11.2	8.3
B. Yes, a few were different from anything I had seen before.	37.4	45.2	39.8	39.7	42.8	41.6	45.1	42.3	35.3	39.1	48.7	54.1	52.8	45.5	37.4
C. No, all were similar to ones used in my classes.	55.8	42.1	50.6	50.1	47.0	50.7	44.2	45.6	57.0	51.4	32.2	27.3	22.2	43.3	54.3
9. Were the questions on this test more difficult than questions you were given in classroom tests or homework assignments?															
A. Yes, the test questions were generally more difficult than the questions I encountered in my course work.	9.3	15.0	12.8	9.8	11.7	8.2	14.5	14.7	8.8	11.0	24.1	26.5	33.0	15.1	9.3
B. The test questions were generally about as difficult as the questions I encountered in my course work.	49.7	48.9	49.5	36.0	51.0	46.8	55.5	48.0	43.3	45.6	49.3	53.8	47.4	54.6	44.2
C. The test questions were generally easier than the questions I encountered in my course work.	41.1	36.2	37.7	54.2	37.3	45.0	30.0	37.4	47.9	43.4	26.7	19.7	19.6	30.3	46.5

Table 5.29. (Continued)

After Taking CAHSEE ELA Exam (Student Responses in 10th grade)	Gender		Ethnicity								SWD only	EL only	SWD and EL	ED	Not ED
	F	M	Am Indian/ AK Native	Asian	Pacific	Filipino	Hispanic	African Am	White	Multiple					
10. If some topics on the test were difficult for you, was it because:															
A. I did not take courses that covered these topics.	4.9	7.9	6.1	6.9	6.9	4.4	7.2	8.0	4.7	6.6	11.5	13.6	13.9	7.6	5.2
B. I had trouble with these topics when they were covered in courses I took.	15.0	17.1	15.6	11.4	17.0	13.0	19.4	16.9	12.0	14.3	23.9	25.5	28.9	19.3	13.0
C. I have forgotten things I was taught about these topics.	42.9	37.3	37.9	37.9	40.8	43.6	44.4	37.7	34.0	35.8	35.9	44.1	38.9	43.3	37.1
D. None of the topics was difficult for me.	37.2	37.8	40.5	43.8	35.4	39.1	29.1	37.4	49.3	43.4	28.8	16.8	18.2	29.8	44.7
11. Have you worked or will you work harder to learn the ELA skills tested by the CAHSEE? (Mark all that apply.)															
A. I do not have to work any harder to meet the CAHSEE requirement.	48.9	51.3	49.2	61.8	43.2	52.0	39.6	42.9	65.7	55.9	31.3	20.1	16.6	39.8	59.9
B. I am taking additional courses.	4.3	6.2	6.7	3.3	5.3	3.8	6.5	7.2	3.3	4.7	9.4	10.6	12.0	6.7	3.8
C. I am working harder in the courses I am taking.	41.9	35.8	36.4	33.4	44.9	44.5	44.8	41.6	29.2	34.5	43.6	51.1	45.9	44.7	33.3
D. I am getting help outside of the classroom.	7.0	6.7	7.9	5.8	9.8	5.9	8.0	9.7	4.6	6.7	12.7	11.6	12.1	8.3	5.5
E. I am repeating a course to learn the material better.	3.2	3.6	4.1	1.8	4.0	2.0	4.5	3.7	2.1	2.8	6.1	7.4	9.1	4.5	2.4
F. I will stay in school an additional year to learn the required material.	3.4	3.4	4.1	2.0	3.4	1.5	4.8	3.7	1.6	2.7	6.9	9.4	13.0	4.8	2.1
12. If you do not pass the CAHSEE in this administration, what are you most likely to do? (Mark the most likely option.)															
A. I will stay in school and try again to pass the CAHSEE.	77.8	77.9	76.8	80.6	76.8	81.7	75.3	73.8	81.6	78.3	66.2	67.1	59.5	75.1	80.4
B. I will take courses at a community college and try again to pass CAHSEE.	4.5	4.2	4.1	3.8	5.0	4.4	4.7	6.2	3.6	4.4	7.1	6.6	8.8	4.7	4.0
C. I will participate in some other type of program that will help me to pass the CAHSEE.	10.6	7.0	7.1	6.5	9.3	7.3	11.2	10.4	5.6	7.0	9.7	15.0	13.6	11.0	6.8
D. I will try to get a GED certificate.	1.1	2.1	2.9	0.8	1.7	0.8	1.8	2.3	1.4	1.9	3.8	2.8	4.6	1.9	1.3
E. I will give up trying to get a diploma altogether.	0.6	1.8	1.4	1.2	1.2	0.7	1.2	1.4	1.3	1.3	2.5	1.7	3.3	1.2	1.2
F. I really do not know what I will do.	5.4	7.0	7.8	7.2	5.9	5.0	5.9	5.9	6.5	7.2	10.7	6.9	10.3	6.1	6.3

Table 5.30. Distribution of Grade Ten Students' Responses, in Percentages, After Taking CAHSEE Mathematics Examination in 2011, by Gender, Ethnicity, Disability, English Learner Status, and Economic Disadvantage

After Taking CAHSEE Mathematics Exam (Student Responses in 10th grade)	Gender		Ethnicity								SWD			Not ED	
	F	M	Am Indian/ AK Native	Asian	Pacific	Filipino	Hispanic	African Am	White	Multiple	only	EL only	and EL	ED	ED
1. How did you prepare for this test? (Mark all that apply.)															
A. I practiced on questions similar to those on the test.	41.1	35.7	36.3	28.2	41.0	38.6	44.6	41.8	30.2	33.3	38.8	46.0	42.0	44.7	32.4
B. A teacher spent time in class helping me to get ready to take the test.	28.9	25.2	26.0	16.6	30.3	28.1	31.8	30.7	21.3	22.7	29.4	32.0	33.1	31.8	22.5
C. I took a special class during the regular school day that covered the topics on the CAHSEE.	6.9	6.7	8.0	2.7	5.8	3.5	9.0	9.5	4.0	5.0	9.2	10.1	10.8	9.4	4.4
D. I took a special class after school or during the summer that covered the topics on the CAHSEE.	3.5	3.0	2.4	1.9	2.6	2.5	4.7	4.4	1.7	1.9	4.2	5.3	5.4	4.8	2.2
E. I did not do anything in addition to regular course work to prepare for this test.	39.6	3.3	44.3	60.6	38.8	44.9	31.1	31.7	55.8	51.1	33.6	23.8	20.8	31.1	52.0
2. What materials did you use to prepare for this test: (Mark all that apply.)															
A. Textbooks	17.0	17.9	18.7	10.8	20.2	16.4	20.1	19.5	14.7	15.2	20.9	23.9	21.9	20.6	14.6
B. Mathematics Student Guide	14.9	13.1	12.6	8.2	15.9	11.6	17.5	17.6	9.4	11.4	17.7	22.2	21.1	17.6	10.7
C. CAHSEE Online Prep	10.5	9.6	9.0	6.9	11.5	9.7	12.0	14.2	6.7	7.8	12.7	15.3	16.0	12.5	7.7
D. Released (sample) test questions	32.8	24.9	26.8	20.6	28.3	31.1	33.3	28.0	24.1	23.9	21.3	24.6	17.7	32.8	25.1
E. Other resources	16.5	16.0	18.4	10.9	18.2	17.3	19.0	18.4	12.7	14.7	20.2	19.1	19.8	19.1	13.7
F. I did not use any materials to prepare.	33.3	37.7	36.5	56.0	31.3	38.1	24.6	25.7	49.4	44.9	28.4	18.3	19.1	24.8	45.7
3. Do you think you will receive a high school diploma?															
A. Yes, with the rest of my class (or earlier).	85.8	80.0	78.5	90.0	83.5	88.4	78.5	80.1	88.5	83.9	68.1	64.8	56.9	78.4	87.3
B. Yes, but I will likely have to take classes after my original graduation date.	9.4	11.9	13.4	5.6	10.0	7.9	13.8	12.7	6.7	9.0	17.5	21.4	22.4	13.7	7.7
C. Yes, but I will pursue a diploma in Adult Education.	1.7	3.2	2.8	1.7	2.8	1.7	2.8	2.9	1.9	2.7	5.1	4.8	7.0	2.9	2.0
D. No, I probably will not receive a high school diploma.	2.0	2.7	3.0	1.4	2.3	1.2	3.2	2.4	1.4	1.9	5.0	6.2	8.4	3.1	1.6
E. No, I plan to take the GED.	0.5	1.1	1.0	0.4	0.6	0.4	0.8	1.1	0.8	1.1	1.9	1.2	2.0	0.9	0.7
F. No, but I plan to go to community college.	0.6	1.2	1.3	1.0	0.8	0.5	1.0	0.9	0.8	1.4	2.5	1.7	3.3	1.0	0.8

Table 5.30. (Continued)

After Taking CAHSEE Mathematics Exam (Student Responses in 10th grade)	Gender		Ethnicity												
	F	M	Am Indian/ AK Native	Asian	Pacific	Filipino	Hispanic	African Am	White	Multiple	SWD only	EL only	SWD and EL	ED	Not ED
4. What might prevent you from receiving a high school diploma? (Mark all that apply.)															
A. I may not pass all the required courses.	19.5	22.6	25.2	12.2	21.9	19.1	25.7	20.0	16.3	18.3	26.3	29.0	23.8	25.1	17.2
B. I may not pass the CAHSEE exam.	21.1	16.9	20.6	11.3	19.0	15.8	24.5	21.2	11.8	16.2	33.5	35.1	42.0	24.4	13.8
C. I may drop out before the end of 12th grade.	1.7	3.3	3.3	1.9	2.7	1.3	2.7	2.8	2.3	2.7	4.9	4.6	5.1	2.9	2.1
D. I may not meet some other graduation requirement.	8.5	11.1	12.2	7.8	11.0	11.7	11.4	9.6	7.4	9.5	13.1	12.3	10.3	11.6	8.0
E. I am confident I will receive a high school diploma.	65.0	59.0	56.1	76.7	61.9	68.7	53.0	58.5	72.9	66.3	41.0	37.7	32.0	53.4	70.2
5. What do you think you will do after high school?															
A. Join the military.	2.8	10.1	9.2	2.9	7.6	6.4	6.9	5.8	7.0	6.1	11.6	7.8	9.6	7.1	5.9
B. Go to a community college.	20.5	18.6	22.0	9.1	18.4	15.7	22.4	15.9	19.2	18.0	27.5	25.1	26.7	21.5	17.6
C. Go to a 4-year college or university.	68.4	55.3	50.9	83.1	63.2	71.9	56.2	66.5	62.5	64.2	39.4	48.4	39.1	56.9	66.5
D. Go to a vocational, technical, or trade school.	2.9	4.7	5.0	1.6	3.4	2.2	4.1	3.9	4.0	3.9	5.9	4.0	4.8	4.1	3.4
E. Work full-time.	2.9	5.9	5.6	1.3	3.3	1.5	5.9	4.1	3.3	3.8	7.6	9.0	12.2	5.8	3.1
F. Do something else (besides school, work, or the military).	2.6	5.5	7.3	2.0	4.2	2.4	4.6	3.8	4.0	4.0	8.1	5.8	7.5	4.6	3.5
6. How well did you do on this test? (Mark all that apply):															
A. I did as well as I could.	86.2	83.3	83.1	88.3	85.2	88.9	82.6	83.0	87.5	84.4	75.6	75.8	69.2	82.8	86.7
B. I was too nervous to do as well as I could.	10.0	8.1	8.9	5.5	9.1	7.9	11.6	9.1	5.9	7.6	13.2	16.8	18.4	11.0	7.1
C. I was not motivated to do well.	3.2	5.3	5.5	4.3	4.6	3.8	4.3	4.9	3.9	4.8	6.5	5.4	7.0	4.4	4.0
D. I did not have time to do as well as I could.	0.8	1.7	1.6	1.1	1.1	0.8	1.3	1.5	1.1	1.3	2.6	2.1	3.6	1.4	1.1
E. Conditions in the testing room made it difficult to concentrate.	3.4	3.4	3.7	3.4	3.4	3.5	3.1	3.0	3.9	4.4	4.5	3.4	3.7	3.3	3.5
F. There were other reasons why I did not do as well as I could.	6.0	5.6	7.3	4.6	5.9	5.6	6.0	5.7	5.8	6.7	8.2	5.8	6.2	6.0	5.5

Table 5.30. (Continued)

After Taking CAHSEE Mathematics Exam (Student Responses in 10th grade)	Gender		Ethnicity												
	F	M	Am Indian/ AK Native	Asian	Pacific	Filipino	Hispanic	African Am	White	Multiple	SWD only	EL only	SWD and EL	ED	Not ED
7. Were the topics on the test covered in courses you have taken?															
A. Yes, all of them.	51.6	49.3	46.4	68.1	48.8	59.8	44.1	41.1	57.1	53.1	31.4	33.0	26.8	43.9	56.8
B. Most, but not all of them (two-thirds or more were covered).	41.3	40.3	42.5	26.5	43.2	35.0	46.4	47.0	34.7	37.4	50.1	54.3	56.7	46.3	35.5
C. Many topics on the test were not covered in my courses (less than two-thirds were covered).	7.1	10.4	11.1	5.4	8.0	5.2	9.5	12.0	8.1	9.5	18.5	12.7	16.5	9.3	7.7
8. Were any of the questions on the test different from the types of questions or answer options you have encountered in your homework assignments or classroom tests?															
A. Yes, many were different from anything I had seen before.	9.7	14.9	13.5	9.1	13.2	10.1	13.5	16.0	10.6	11.9	24.6	19.1	26.8	13.9	10.8
B. Yes, a few were different from anything I had seen before.	43.0	44.7	44.1	32.2	45.4	39.7	49.1	47.7	38.0	41.0	50.8	55.7	55.2	48.9	39.0
C. No, all were similar to ones used in my classes.	47.3	40.4	42.5	58.7	41.4	50.2	37.4	36.2	51.4	47.1	24.6	25.2	18.0	37.2	50.3
9. Were the questions on this test more difficult than questions you were given in classroom tests or homework assignments?															
A. Yes, the test questions were generally more difficult than the questions I encountered in my course work.	17.5	20.4	21.9	9.7	19.1	12.9	22.3	25.0	15.6	18.5	35.6	30.5	39.0	22.5	15.7
B. The test questions were generally about as difficult as the questions I encountered in my course work.	50.5	45.1	49.9	32.0	49.9	45.8	54.1	48.8	42.0	43.3	45.4	52.7	45.4	53.0	42.9
C. The test questions were generally easier than the questions I encountered in my course work.	31.9	34.6	28.2	58.3	31.0	41.3	23.7	26.3	42.5	38.2	19.0	16.9	15.6	24.5	41.5

Table 5.30. (Continued)

After Taking CAHSEE <u>Mathematics</u> Exam (Student Responses in 10th grade)	Gender		Ethnicity												
	F	M	Am Indian/ AK Native	Asian	Pacific	Filipino	Hispanic	African Am	White	Multiple	SWD only	EL only	SWD and EL	ED	Not ED
10. If some topics on the test were difficult for you, was it because:															
A. I did not take courses that covered these topics.	7.6	11.7	11.9	6.2	10.1	6.2	10.5	12.3	8.9	10.5	19.4	15.1	18.0	10.8	8.5
B. I had trouble with these topics when they were covered in courses I took.	25.4	21.6	26.3	11.8	24.8	17.8	28.1	28.1	18.9	21.1	29.3	32.0	32.1	27.6	19.7
C. I have forgotten things I was taught about these topics.	50.6	41.6	42.7	43.3	46.0	53.0	47.7	43.4	44.1	43.1	37.3	43.4	38.7	46.9	45.4
D. None of the topics was difficult for me.	16.4	25.1	19.1	38.8	19.1	23.1	13.6	16.3	28.0	25.3	14.0	9.5	11.3	14.7	26.5
11. Have you worked or will you work harder to learn the mathematics skills tested by the CAHSEE? (Mark all that apply.)															
A. I do not have to work any harder to meet the CAHSEE requirement.	42.7	50.1	43.1	65.2	41.2	51.6	35.6	36.9	60.9	52.0	27.2	19.6	15.8	36.2	56.1
B. I am taking additional courses.	4.7	6.5	7.3	3.3	6.1	3.9	6.8	7.5	3.8	4.8	9.9	9.9	11.7	6.9	4.3
C. I am working harder in the courses I am taking.	44.1	34.7	39.9	28.0	44.0	41.9	46.1	43.8	30.2	35.5	44.8	50.7	45.9	45.6	33.5
D. I am getting help outside of the classroom.	8.9	7.1	9.1	5.3	11.3	7.1	9.0	11.3	6.3	7.7	13.0	11.8	12.0	9.2	6.8
E. I am repeating a course to learn the material better.	5.5	4.8	6.5	2.4	5.3	3.0	6.5	5.9	3.7	4.7	7.8	9.1	10.0	6.3	4.0
F. I will stay in school an additional year to learn the required material.	3.9	4.0	4.3	2.5	4.4	2.2	5.3	4.0	2.2	3.4	7.7	9.4	13.2	5.3	2.6
12. If you do <u>not</u> pass the CAHSEE in this administration, what are you most likely to do? (Mark the most likely option.)															
A. I will stay in school and try again to pass the CAHSEE.	79.1	77.3	76.0	78.5	78.5	81.2	77.1	74.6	80.6	77.2	66.0	69.3	61.1	76.6	79.7
B. I will take courses at a community college and try again to pass CAHSEE.	4.7	4.4	5.0	4.1	5.2	4.7	4.8	6.8	3.7	4.5	7.8	6.6	9.0	4.9	4.1
C. I will participate in some other type of program that will help me to pass the CAHSEE.	8.1	5.8	5.8	5.0	6.8	6.2	8.6	8.6	4.4	5.7	8.1	12.2	11.2	8.6	5.3
D. I will try to get a GED certificate.	1.1	2.2	2.9	0.9	1.5	0.8	1.8	2.3	1.6	2.1	4.0	2.8	4.5	1.9	1.5
E. I will give up trying to get a diploma altogether.	0.8	2.3	1.6	1.8	1.3	0.9	1.4	1.6	1.8	1.9	2.6	1.8	3.1	1.4	1.7
F. I really do not know what I will do.	6.3	8.0	8.8	9.7	6.6	6.3	6.3	6.3	8.0	8.7	11.5	7.3	11.1	6.5	7.7

Summary of Grade Ten Findings

Comparisons of Grade Ten Students' Responses 2005–11

Over the past seven years student perceptions about the CAHSEE have changed in several positive ways, including changes in test preparation, perception of test importance, coverage of CAHSEE topics in class, and future plans. Specifically, in 2011 an increased percentage of students reported:

- A teacher spent time in class helping them to prepare for the CAHSEE.
- They used the CAHSEE online prep to prepare for the CAHSEE.
- They will attend a four-year college or university after high school.
- Test items were similar to those that they had seen in class.
- None of the test topics were difficult for them (only after ELA).
- They did not have to work any harder to pass the CAHSEE requirement.

A decreased percentage of students reported that

- The CAHSEE might prevent them from earning a high school diploma.

Comparisons of Grade Ten Students' Responses in 2011 by Whether They Passed the Tests

We compared student responses for those who passed both tests, passed only ELA, passed only mathematics, and passed neither. Overall, students who passed both tests reported the most positive perceptions about the CAHSEE and those who passed neither test reported the most negative perceptions.

A higher percentage of students who passed both tests were most likely to report that:

- They used released (sample) items to prepare for the CAHSEE.
- They would graduate with the rest of their class or earlier.
- They were confident that they would receive a high school diploma.
- The topics and test questions were familiar and easy.

Differences in Grade Ten Students' Responses in 2011 by Key Demographic Characteristics

By Gender. In general, females reported more positive responses than males regarding their perception of the CAHSEE. Females were more likely than males to report that they spent time preparing for the CAHSEE and that they did as well as they could. They were also most likely to report that they would graduate with their class on time or earlier, and that they planned to attend a four-year college or university after high school. Males were more likely to report that they did not have to work harder to pass the CAHSEE, and that they did not use any materials to prepare.

By Ethnicity. A larger percentage of Asian students reported that they did not have to work harder to pass the CAHSEE, that the test items were easier than what they had seen in class, and that they would attend a four-year college or university than other races. African American and Hispanic students were more likely than other races to report that test items were more difficult than those they had seen in class and they were the least likely to report that they did not have to work harder to meet the CAHSEE requirement.

By Disability and English Learner Status. The patterns of student responses for SWD and EL students were similar. SWD and EL students were less likely to be familiar with the CAHSEE topics and test items than the general population. They also reported higher levels of nervousness while taking the CAHSEE than any other group. A lower percentage of SWD and EL students than among the general population reported that they would stay in school and try again if they did not pass the CAHSEE, and fewer of these students planned to attend a four-year college after high school.

By Economically Disadvantaged Status. In general, more students who were not classified as ED tended to give positive responses to the student questionnaire than those who were ED. ED Students were more likely than the general student population to respond that test items and topics were different and more difficult than those they had seen in class. They were also more likely to report nervousness as preventing them from doing as well as they could. Fewer ED students planned to attend a four-year college or university than those who were not ED, and they were less confident that they would receive a high school diploma.

Overall Summary of Grade Ten Responses

The 2011 student questionnaire results were generally positive and were fairly consistent with previous years. The responses indicated that most students were familiar with the CAHSEE topics and item types. The majority responded that they believed they would be able to graduate with their class or sooner. However, similar to previous years, SWD and EL students reported at higher levels than other students that test items and topics differed from what they had seen in class, and that the items were more difficult than those they were exposed to on tests and in homework. Schools may need to pay special attention to ensure that all students have the opportunity to learn the content included in the test. Hispanic, African American, and American Indian/Native Alaskan groups also reported higher levels of difficulty with the test content than did the general population.

Findings from 2011 Grade Twelve Students

The next section examines a selection of responses to the student questionnaires of 2011 grade twelve students in 2009 when they first took the examination and again in 2011. The questions selected were those pertaining to post-graduation plans and content and instruction coverage. We were interested in how grade twelve students who are still taking the CAHSEE respond to these topics towards the end of their education compared to when they were grade ten students. We compare the responses of those who passed the CAHSEE in 2011 and those who did not.

Grade Twelve Demographic Information

Table 5.31 provides the frequencies of grade twelve students who had taken the CAHSEE in 2009 and were still attempting to pass the ELA and/or mathematics CAHSEE in 2011 by whether they passed or did not pass in 2011. More grade twelve students who took the ELA CAHSEE passed in 2011 than did not; however, the opposite was true of students taking the mathematics test.

Table 5.31. Frequency of 2011 Grade Twelve Students Who Took the CAHSEE in 2009 and 2011 Who Passed and Who did Not Pass the Tests in 2011

Grade 12 Passing Category	ELA	Mathematics
Passed in 2011	19,403	13,274
Did not pass in 2011	17,161	23,297

Graduation Expectations and Post-High School Plans

In 2011, grade twelve students who had yet to pass the CAHSEE were most likely to respond that the CAHSEE may prevent them from receiving a high school diploma. Most students who had not yet passed were not confident that they would receive a diploma (see Table 5.32).

Table 5.32. Grade Twelve Students' Responses in 2009 and 2011 After CAHSEE Tests as to What Might Prevent Them from Receiving a Diploma, by Those Who Passed in 2011 and Those Who Did Not (in Percentages)

Question 4. What might prevent you from receiving a high school diploma? (Mark all that apply.)	ELA Questionnaire Responses				Math Questionnaire Responses			
	Students Passing		Students Not Passing		Students Passing		Students Not Passing	
	2009	2011	2009	2011	2009	2011	2009	2011
A. I may not pass all the required courses.	30.9	16.8	25.6	18.7	34.0	14.9	31.1	19.0
B. I may not pass the CAHSEE exam.	41.9	53.6	41.5	51.1	43.7	58.5	43.7	52.7
C. I may drop out before the end of 12th grade.	5.4	3.1	7.3	6.3	4.8	3.1	5.6	5.6
D. I may not meet some other graduation requirement.	14.2	10.1	11.5	9.7	12.1	8.1	11.1	10.0
E. I am confident I will receive a high school diploma.	32.3	31.0	30.9	25.1	30.0	27.9	26.8	23.3

Students who were still taking the CAHSEE as grade twelve students were about half as likely to report that they would attend a four-year university in 2011 as they were two years previously. Those who did not pass in 2011 were more likely than those who did pass in 2011 to respond that they would work full-time after high school (see Table 5.33).

Table 5.33. Grade Twelve Students' Responses in 2009 and 2011 After ELA and Mathematics Tests as to What They Would Do After High School, by Those Who Passed in 2011 and Those Who Did Not (in Percentages)

Question 5. What do you think you will do after high school?*	ELA Questionnaire Responses				Math Questionnaire Responses			
	Students Passing		Students Not Passing		Students Passing		Students Not Passing	
	2009	2011	2009	2011	2009	2011	2009	2011
A. Join the military	8.4	8.7	8.7	10.5	8.1	8.3	9.2	10.2
B. Go to a community college	27.8	49.2	26.4	42.0	30.3	52.0	28.8	45.0
C. Go to a 4-year college or university	42.3	23.0	37.0	20.5	41.3	21.3	36.0	18.6
D. Go to a vocational, technical, or trade school	4.8	6.5	5.5	6.5	4.4	6.9	5.1	7.2
E. Work full-time	9.4	8.9	13.6	14.7	9.1	8.1	12.2	13.2
F. Do something else (besides school, work, or the military)	7.4	3.7	8.8	5.7	6.7	3.5	8.8	5.7

Content and Instruction Coverage

Students who did not pass the CAHSEE in 2011 were less likely to respond this year that topics on the test were covered in courses they had taken than they were in 2009; the opposite was true for those who did pass in 2011 (see Table 5.34).

Table 5.34. Responses of Grade Twelve Students' in 2009 and 2011 After CAHSEE Tests as to Whether the Tested Topics Had Been Covered in Courses Taken, by Those Who Passed in 2011 and Those Who Did Not (in Percentages)

Question 7. Were the topics on the test covered in courses you have taken?	ELA Questionnaire Responses				Math Questionnaire Responses			
	Students Passing		Students Not passing		Students Passing		Students Not passing	
	2009	2011	2009	2011	2009	2011	2009	2011
A. Yes, all of them.	32.6	36.7	33.1	29.7	28.5	28.9	27.7	26.5
B. Most, but not all of them (two-thirds or more were covered).	54.4	51.0	50.7	50.8	56.4	58.4	55.3	54.3
C. Many topics on the test were not covered in my courses (less than two-thirds were covered).	13.1	12.4	16.2	19.5	15.1	12.7	17.0	19.2

Table 5.35 shows that while in both years students reported gaining classroom exposure to the types of questions seen on the CAHSEE, in 2011 an increased percentage of students reported that the questions on the CAHSEE were similar to what they had encountered in class. The largest increase from 2009 occurred in post-ELA test responses for grade twelve students who did pass in 2011.

Table 5.35. Grade Twelve Students' Responses in 2009 and 2011 After CAHSEE Tests as to Whether Test Questions Differed From Those Encountered in Homework or Classroom Tests, by Those Who Passed in 2011 and Those Who Did Not (in Percentages)

Question 8. Were any of the questions on the test different from the types of questions or answer options you have encountered in your homework assignments or classroom tests?	ELA Questionnaire Responses				Math Questionnaire Responses			
	Students Passing		Students Not passing		Students Passing		Students Not passing	
	2009	2011	2009	2011	2009	2011	2009	2011
A. Yes, many were different from anything I had seen before.	23.3	17.1	29.6	26.0	22.0	17.6	27.8	25.7
B. Yes, a few were different from anything I had seen before.	55.3	54.3	51.2	50.4	56.7	58.2	52.8	51.9
C. No, all were similar to ones used in my classes.	21.3	28.6	19.2	23.6	21.4	24.2	19.5	22.5

The grade twelve students were less likely to report in 2011 that questions on the CAHSEE were generally more difficult than those they had seen in class than they had been in 2009. After the mathematics test, grade twelve students were slightly less likely to report that the questions were easier than coursework questions in 2011 than they had been in 2009 for students that did pass in 2011 (see Table 5.36).

Table 5.36. Grade Twelve Students' Responses in 2009 and 2011 After CAHSEE Tests Regarding the Comparative Difficulty of the Test Questions, by Those Who Passed in 2011 and Those Who Did Not (in Percentages)

Question 9. Were the questions on this test more difficult than questions you were given in classroom tests or homework assignments?	ELA Questionnaire Responses				Math Questionnaire Responses			
	Students Passing		Students Not passing		Students Passing		Students Not passing	
	2009	2011	2009	2011	2009	2011	2009	2011
A. Yes, the test questions were generally more difficult than the questions I encountered in my course work.	31.2	24.2	36.2	32.1	34.8	31.1	39.5	35.5
B. The test questions were generally about as difficult as the questions I encountered in my course work.	52.0	58.8	45.5	49.6	52.0	58.4	45.8	50.0
C. The questions were generally easier than the questions I encountered in my course work.	16.8	17.0	18.3	18.3	13.2	10.6	14.7	14.5

A slightly increased percentage of students reported that they had trouble with topics when they were covered in class in 2011 compared to 2009; a decreased percentage of students reported that they had forgotten things that they were taught about the topics over these two years (see Table 5.37).

Table 5.37. Grade Twelve Students' Responses in 2009 and 2011 After CASHEE Tests as to Why Some Topics Were Difficult for Them, by Those Who Passed in 2011 and Those Who Did Not (in Percentages)

Question 10. If some topics on the test were difficult for you, was it because:	ELA Questionnaire Responses				Math Questionnaire Responses			
	Students Passing		Students Not Passing		Students Passing		Students Not Passing	
	2009	2011	2009	2011	2009	2011	2009	2011
A. I did not take courses that covered these topics.	15.8	16.0	18.0	21.5	18.2	17.5	20.1	21.6
B. I had trouble with these topics when they were covered in courses I took.	30.5	31.1	30.9	33.3	38.8	43.6	37.2	40.5
C. I have forgotten things I was taught about these topics.	37.9	34.6	34.8	30.1	35.0	32.4	32.2	28.7
D. None of the topics was difficult for me.	15.8	18.4	16.3	15.2	8.1	6.5	10.4	9.2

Efforts Put Into the CAHSEE

Less than half of the students who did not pass in 2011 reported that they would stay in school and try again to pass the CAHSEE if they did not pass. Over 20 percent of students who did not pass in 2011 stated that they would take courses at a community college and try again to pass, and about 7 percent of them said they would try to get a GED certificate. Approximately 14 percent of the grade twelve students who did not pass in 2011 stated that they did not know what they would do if they did not pass (see Table 5.38).

Table 5.38. Grade Twelve Students' Responses in 2009 and 2011 After CAHSEE Tests as to What They Are Most Likely To Do If They Do Not Pass, by Those Who Passed in 2011 and Those Who Did Not (in Percentages)

Question 12. If you do <u>not</u> pass the CAHSEE in this administration, what are you most likely to do? (Mark the most likely option.)	ELA Questionnaire Responses				Math Questionnaire Responses			
	Students Passing		Students Not passing		Students Passing		Students Not passing	
	2009	2011	2009	2011	2009	2011	2009	2011
A. I will stay in school and try again to pass the CAHSEE.	63.9	57.4	57.2	42.9	67.9	53.4	60.7	42.2
B. I will take courses at a community college and try again to pass CAHSEE.	9.7	16.5	11.3	21.2	9.4	18.9	11.4	21.8
C. I will participate in some other type of program that will help me to pass the CAHSEE.	14.1	10.1	14.9	11.0	11.9	10.6	12.2	10.7
D. I will try to get a GED certificate.	3.6	4.2	5.2	7.2	2.8	4.4	4.5	7.5
E. I will give up trying to get a diploma all together.	1.8	2.1	3.4	4.2	1.8	2.1	2.7	3.6
F. I really do not know what I will do.	7.0	9.8	8.0	13.5	6.3	10.6	8.5	14.3

Summary of Grade Twelve Student Responses

Slightly more than half of the students who did not pass the CAHSEE as grade 12 students in 2011 believed that the CAHSEE would prevent them from earning a high school diploma. An additional approximately 20 percent responded that not passing required courses may prevent them from graduating. More than 70 percent of those not passing indicated that they would continue to try to pass the CAHSEE—either by staying in school, taking a community college course, or participating in some other type of program to help them pass the CAHSEE.

Only a small percentage more of students who had not yet passed the CAHSEE in 2011 responded that test items and topics were similar to those they had encountered in class in 2011 than in 2009. This indicates that some students may not be passing due to a lack of exposure to CAHSEE topics and test items throughout their entire high school career.

Chapter 6: Trends in Educational Achievement and Persistence During the CAHSEE Era

D. E. (Sunny) Becker

Introduction

The CAHSEE examination is used to satisfy both [Elementary and Secondary Education Act](#) (ESEA) requirements and statewide high school graduation requirements. Therefore, it is a high-stakes examination for both students and school staff that could have profound effects on the education system as a whole.

Other chapters in this report address direct characteristics and results of the CAHSEE program. This chapter explores a broader view of the educational milieu in California such as dropout rates, graduation rates, and college preparation. We look at year-by-year trends to reveal changes over time. While we cannot attribute any of the trends cited to CAHSEE alone, the trends reflect the presence of the CAHSEE as a significant determinant of educational policies and practices. To the extent possible, we look at trends beginning prior to the introduction of the CAHSEE graduation requirement and continuing up to the present; however when statistics are not comparable from one year to the next we truncate trend lines to limit the information to meaningful comparisons. While the other chapters in this report reflect data through the 2010–11 school year or in some cases, through September 2010, many of the sources of information in this chapter lag at least a year behind. For example, graduation and dropout rates in this October 2011 report reflect trends through the 2009–10 school year.

As in previous annual evaluation reports, we have gathered data from publicly available sources to inform this chapter. The primary source is the CDE online system, the California Basic Educational Data System (CBEDS). The CDE recently implemented a new data collection system, the California Longitudinal Pupil Achievement Data System (CALPADS), with the potential to expand and improve available data. The CALPADS system aggregates data from a student-level database. Throughout this chapter we note instances when the introduction of the CALPADS system limits comparability or provides information previously unavailable.

In the following sections, we look at students who leave high school prematurely, examining them from a number of perspectives, including official California Department of Education (CDE) dropout rates and enrollment trends. We also explore officially reported graduation rates and indicators of achievement by college-bound students such as SAT (formerly Scholastic Aptitude Test) and ACT (formerly American College Testing) participation and scores, as well as shifts in participation and success in Advanced Placement (AP) examinations.

We conclude this chapter with a discussion of a special study in its early implementation stage: HumRROs' Post-High School Outcomes (PHO) Study. While the

data routinely included in this chapter of HumRRO's annual evaluation report terminate at high school completion for all students, the PHO study will go a step further to investigate outcomes for a sample of students after graduation, such as college enrollment, college persistence, college graduation, military enlistment and persistence, and career paths. The PHO study will be completed in fall 2012.

Students Who Leave High School Prematurely

An early and persistent concern regarding the implementation of the CAHSEE requirement was that struggling students would become frustrated and drop out at higher rates. This phenomenon is difficult to measure, however, because the definition of what a "dropout" is and the requisite data underpinnings to clearly identify dropouts are in flux. Dropout tracking has improved markedly over the past few years, but because these systems are new we continue to look at the dropout phenomenon from multiple perspectives.

At the same time, support systems for repeat grade twelve students have increased. We provide multiple views of trends in student persistence through grade twelve. We first present the State of California's official dropout statistics. We then look at enrollment trends for grades nine through twelve for various student cohorts.

The CDE reports dropout rates publicly on its Web site. Two types of dropout calculations are common: one is based on the number of students who drop out in a given school year; the other is based on the percentage of a cohort of students (e.g., Class of 2010) who drop out over the four years between their class entering grade nine and their original graduation date. We look first at single-year dropout rates and then at cumulative four-year dropout rates, both as reported by CDE. At the time of this report the most recent available data reflected the Class of 2010.

Changes to dropout calculations. The introduction of statewide student identifier numbers in 2006–07 made possible more accurate identification of student outcomes once students left a school. New procedures were implemented to identify more accurately the status of students who left a school, and dropout rates are now derived from those student-level data. Due to this change, the dropout rates from 2006–07 onward are not comparable with dropout rates in previous years.

CDE single-year dropout rate. The single-year dropout rate measures the percentage of students enrolled in grade levels nine through twelve who are identified as dropouts in a single school year. The official CDE dropout calculation derives the total number of students who drop out of grades nine through twelve as a percentage of the total grade nine through twelve enrollment in a single school year (See Equation 6.1.). Under the revised reporting procedures described above, the single-year dropout rate in the 2006–07 school year was 5.5 percent, declining slightly to 5.3 percent in the 2007–08 school year, rising to 5.7 percent in the 2008–09 school year and dropping to 4.6 percent in the 2009–10 school year. Equation 6.1 depicts the calculation for the single-year dropout rate for the 2009–10 school year.

$$\text{Single-Year Dropout Rate for 2009–10} = \frac{\text{Number of Grade 9 Dropouts} + \text{Grade 10 Dropouts} + \text{Grade 11 Dropouts} + \text{Grade 12 Dropouts in the 2009–10 school year}}{\text{Grade 9 Enrollment} + \text{Grade 10 Enrollment} + \text{Grade 11 Enrollment} + \text{Grade 12 Enrollment in the 2009–10 school year}}$$

Equation 6.1

Table 6.1 disaggregates the single-year dropout rate by race/ethnicity and for economically disadvantaged students, EL students, and SWD. The racial/ethnic groups are listed in descending order by dropout rate for the Class of 2010. The rightmost column indicates the reduction in dropout rate for the four-year period and reveals that the dropout rate for each racial/ethnic group is lower in the 2009–10 school year than in the 2006–07 school year, with the exception of low English proficiency (LEP) students. The overall dropout rate decreased by 0.9 percentage points, from 5.5 percent to 4.6 percent. Table 6.1 indicates that the most recent dropout rate for African American students is 8.4 percent—substantially higher than for all other groups, including students struggling with language challenges or disabilities. Rates for American Indian/Alaska Native, Hispanic, and Pacific Islander students, English learners and economically disadvantaged also exceed the rate for the state as a whole.

Table 6.1. CDE Single-Year Dropout Rates by Demographic Group

Demographic Group	Adjusted Grade 9–12 One-year Dropout Rate				Percentage Point Decrease in Dropout Rate From 2006–07 to 2009–10
	2006–07	2007–08	2008–09	2009–10	
Race/Ethnicity					
African American (not Hispanic)	9.8%	9.0%	10.3%	8.4%	1.4
American Indian/Alaska Native, Not Hispanic ^A	7.6%	6.6%	8.3%	6.5%	1.1
None Reported	N/A	N/A	N/A	6.5%	N/A
Hispanic or Latino of Any Race ^B	6.7%	6.0%	7.0%	5.8%	0.9
Pacific Islander, not Hispanic ^A	6.7%	5.6%	6.9%	5.0%	1.7
Two or More Races, Not Hispanic ^A	N/A	N/A	1.3%	3.1%	N/A
White, Not Hispanic ^A	3.5%	3.1%	3.7%	2.8%	0.7
Filipino, Not Hispanic ^A	2.7%	2.2%	2.8%	1.9%	0.8
Asian, Not Hispanic ^A	2.3%	2.0%	2.5%	1.8%	0.5
Multiple/No Response	7.2%	6.1%	N/A	N/A	N/A
Other Demographic Groups					
LEP [†]	*5.7%	*5.3%	6.7%	5.8%	-0.1
Economically Disadvantaged	*6.3%	*5.8%	6.4%	4.8%	1.5
Special Education	*7.2%	*6.4%	7.5%	4.0%	3.2
State Total	5.5%	5.3%	5.7%	4.6%	0.9

Source: California Department of Education (CDE) DataQuest. <http://data1.cde.ca.gov/dataquest> (accessed August 30, 2011).

^A Subgroup names listed here are names as they are reported in DataQuest. Prior to 2008–09 these names did not include “Not Hispanic)”

^B Prior to 2008–09 DataQuest reported this subgroup as “Hispanic.”

[†] Limited English Proficient for federal reporting includes English learners and fluent-English proficient students that have not yet tested at the proficient or above level for three years on the California Standards Test (CST) English-language arts (ELA) test.

The * before a number represents an adjustment in data from the 2010 evaluation report due to an updating of the figures used.

The single-year dropout rate described in Table 6.1 does not distinguish the point within the high school years at which dropouts were increasing. Table 6.2 shows the number of students dropping out at each grade level for the classes of 2007 through 2010. As seen in previous years, the number of students dropping out during grade twelve far exceeded the dropouts in earlier grades. Cells marked with a dagger (†) were calculated under the new rules. Because the grade twelve dropouts for the Class of 2007 were the first in that class to be calculated under the new rules, it is impossible to distinguish how much of the increase was due to the rule change. However, similar spikes in the numbers of students who dropped out during grade twelve compared to earlier grades were seen for the classes of 2008, 2009, and 2010, when the new rules were in effect earlier in the students' high school years.

Table 6.2 reports the number of students who dropped out at each grade as well as the percentage of grade nine enrollment represented by each number. For example, the 51,105 grade twelve dropouts in the Class of 2007 represent 9.7 percent of the grade nine enrollment for that class. This rate decreased to 7.8 percent for the Class of 2010.

Table 6.2. CDE Dropout Counts by Grade Level for Classes of 2007 Through 2010

Class of	Enrollment Grade 9	Number (Percentage of Grade 9 Enrollment)			
		Grade 9 Dropouts	Grade 10 Dropouts	Grade 11 Dropouts	Grade 12 Dropouts
2007	526,442	*11,678 (2.2%)	10,458 (2.0%)	12,529 (2.4%)	*51,105 (9.7%)†
2008	*549,486	10,447 (1.9%)	10,177 (1.9%)	*22,045 (4.0%)†	*50,217 (9.1%)†
2009	547,014	10,643 (1.9%)	18,210 (3.3%)†	19,496 (3.6%)†	55,966 (10.2%)†
2010	545,040	17,375 (3.2%)†	15,168 (2.8%)†	23,346 (4.3%)†	42,586 (7.8%)†

Source: CDE DataQuest. <http://data1.cde.ca.gov/dataquest> (accessed August 23, 2011).

Note. † Indicates dropout rate was calculated under new 2006–07 rule.

The * before a number represents an adjustment in data from the 2010 evaluation report due to an updating of the figures used.

Figure 6.1 is a graphical representation of the same information presented in Table 6.2. Although the dropout rate in grade twelve is larger than all other grades for every graduating class depicted, the Class of 2010 shows a slightly different pattern than the preceding classes. The Class of 2010 has a larger dropout rate at grade 9 and a smaller dropout rate at grade twelve than previous classes. The classes of 2007 through 2009 had more dropouts in grade twelve than in the previous three grades, combined.

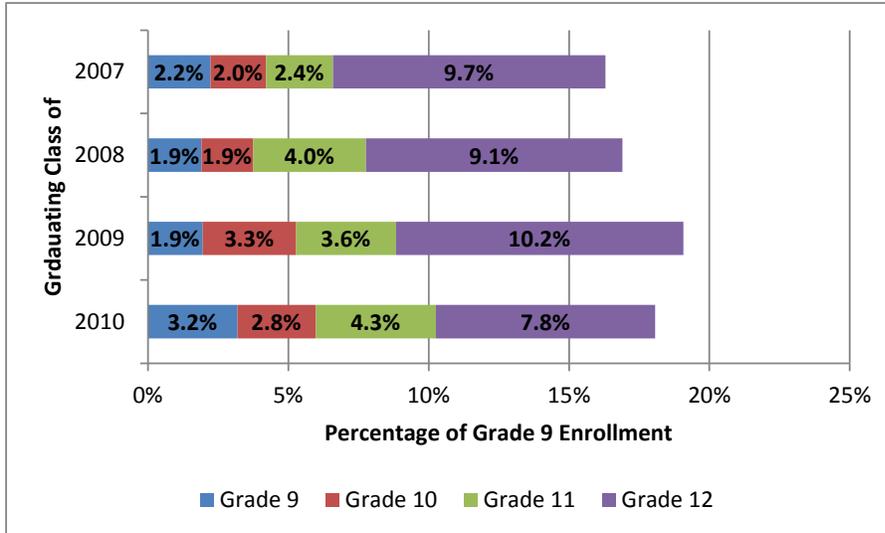


Figure 6.1. Dropout rates by grade level for classes of 2007 through 2010, based on percentage of grade 9 enrollment.

CDE cumulative four-year dropout rate and graduation rate. The CDE also routinely produces a cumulative derived four-year dropout rate, which is another common dropout metric. Equation 6.2 depicts the formula for this rate. This calculation is based upon the number of dropouts at grades nine, ten, eleven, and twelve in a given year, and projects what the four-year dropout rate would be in a four-year period based on these single year data.

Four-year Derived Dropout Rate =

$$(1 - ((1 - (\text{Reported or Adjusted Gr. 9 Dropouts/Gr. 9 Enrollment})) * (1 - (\text{Reported or Adjusted Gr. 10 Dropouts/Gr. 10 Enrollment})) * (1 - (\text{Reported or Adjusted Gr. 11 Dropouts/Gr. 11 Enrollment})) * (1 - (\text{Reported or Adjusted Gr. 12 Dropouts/Gr. 12 Enrollment})))) * 100$$

The four-year derived dropout rate is an estimate of the percent of students who would drop out in a four-year period based on data collected for a single year.

Equation 6.2

In 2010 CDE added a new calculation to its standard reporting on the web: the Cohort Dropout Rate. This is an important calculation that more accurately reports dropouts for the members of a graduating class as they move through their high school years. Equation 6.3 depicts this calculation.

$$\begin{aligned} & \text{Four-Year Adjusted Cohort Dropout Rate for Class of 2010} = \\ & \frac{\text{Number of cohort members who dropped out by the end of the 2009-10 school year}}{\text{Number of first-time grade nine students in Fall 2006 (starting cohort) plus students who transfer in, minus students who transfer out, emigrate, or die during school years 2006-07, 2007-08, 2008-09, and 2009-10}} \end{aligned}$$

Equation 6.3

Source: CDE DataQuest. <http://data1.cde.ca.gov/dataquest>. (Retrieved on August 30, 2011).

Table 6.3 shows the CDE four-year derived dropout rates by race/ethnicity for the school years 2006–07 through 2009–10, ordered by descending rates for the most recent year. As described earlier, the identification of dropouts changed in the 2006–07 school year, so it is not comparable with previous years. Note that the four-year dropout rate is a derived rate based on dropouts at all grade levels in a given year. (See Equation 6.2.)

The table indicates that more than a fifth of students in 2006–07 (21.1 percent) dropped out over the four years. The rate was reduced by 2.2 percent for 2007–08, rose to 21.5 percent in 2008–09, and declined again to 17.7 percent in 2009–10. The rightmost column indicates the decrease in dropout rate across those four years and reveals that the dropout rate for each group is lower in the 2009–10 school year than in 2006–07. Table 6.3 indicates that the four-year dropout rate for African American students in the 2009–10 school year is 30.1 percent—substantially higher than for other groups. Rates for Hispanic, American Indian/Alaskan Native, and Pacific Islander students also exceed the rate for the state as a whole. The percentages of special education students dropping out was more volatile than other groups; this may be due in part to changes in the exemption policies for these students. Students with disabilities (SWD) in the classes of 2006, 2007, 2010, and 2011 were exempt from the CAHSEE requirement as a condition of graduation, while SWD in the classes of 2008 and 2009 were required to pass the CAHSEE to earn a diploma.

Table 6.3 also reports the new dropout calculations in the column labeled Cohort Dropout Rate for Class of 2010. Absent historical data we cannot analyze any trends with these data. They are provided here for comparison to the traditional four-year derived dropout calculation in 2009–10. The two metrics yield similar, but not identical dropout rates.

Table 6.3. CDE Four-Year Derived Dropout Rates by Demographic Group

Demographic Group	Four-Year Derived Dropout Percentage				Cohort Dropout Rate	Percentage Point Decrease in Four-Year Derived Dropout Rate
	2006–07	2007–08	2008–09	2009–10	Class of 2010	
Race/Ethnicity						
African American (not Hispanic)	35.8%	32.9%	36.8%	30.3%	30.1%	5.5
American Indian	28.1%	24.1%	30.0%	23.8%	23.8%	4.3
Hispanic	26.7%	23.8%	26.7%	22.0%	22.7%	4.7
Pacific Islander	24.8%	21.3%	25.4%	18.8%	20.9%	6.0
White	13.3%	11.7%	14.1%	10.8%	11.7%	2.5
Filipino	10.6%	8.6%	10.7%	7.3%	8.4%	3.3
Asian American	9.0%	7.9%	9.6%	7.1%	7.7%	1.9
Multiple/No Response	26.8%	23.3%	N/A	N/A	N/A	N/A
Other Demographic Groups						
Socioeconomically Disadvantaged	*25.4%	*23.2%	25.2%	18.9%	N/A	6.5
LEP†	*23.5%	*21.7%	26.4%	22.7%	N/A	0.8
Special Education ‡	*26.6%	*23.6%	27.0%	15.0%	N/A	11.6
State Totals	21.1%	18.9%	21.5%	17.7%	18.2%	3.4

Source: CDE DataQuest. <http://data1.cde.ca.gov/dataquest> (accessed August 30, 2011).

† Limited English Proficient for federal reporting includes English learners and fluent-English proficient students that have not yet tested at the proficient or above level for three years on the CST ELA test.

‡ Special education students in the Classes of 2006, 2007, 2010 and 2011 were exempt from the CAHSEE requirement.

The * before a number represents an adjustment in data from the 2010 evaluation report due to an updating of the figures used.

Enrollment Trends

Enrollment counts are documented at the schoolhouse level in the fall of each school year. CDE maintains statewide aggregations of these figures. Since the beginning of this evaluation process, we have tracked enrollment figures by graduation class cohort. Comparing enrollment trend patterns over time serves as an independent indicator of trends in retention or dropout rates. California’s student-level data tracking system is still relatively new so we retain this independent measure of student persistence. Overall enrollment figures provide an indication of the extent to which students in each grade do not proceed to the next grade with the rest of their classmates.

Before investigating the California enrollment trends, we offer a description of two typical enrollment patterns that are commonly seen both within and outside California. One persistent enrollment pattern is a grade nine “bubble.” That is, in any given year more students are enrolled in grade nine than in either grade eight or ten. One oft-theorized explanation is that some first-time grade nine students fail to earn sufficient credits to achieve grade ten status on time. Therefore in the fall of each year the grade nine population comprises the prior year’s grade eight graduates plus some number of students who would have been grade ten students, if they were on pace with their classmates. (These students may earn extra credits in the coming year and “catch up” with their classmates, or may drop back to a later graduating class.) At the same time, the grade ten enrollment counts would be suppressed by exclusion of those same students. A second persistent enrollment pattern is a decrease in enrollment (drop-off)

each year after grade nine. This decrease is generally considered to include high school dropouts.

The CDE website (<http://www.cde.ca.gov/ds/>) provides fall enrollment counts by grade level each year. To present enrollment trends in a manner that is comparable across years despite population growth or declines, we have converted these enrollment counts to percentages. Table 6.4 and Figure 6.2 show the decrease in enrollment from grade nine to ten for several recent years, going back far enough to precede the introduction of the CAHSEE. The most recent classes are listed first. The Classes of 2004 and 2005 are highlighted as classes subject to “partial implementation” of the CAHSEE (because the requirement was delayed before any diplomas were withheld) and classes from 2006 on are highlighted as classes for which the CAHSEE requirement was “fully in effect.” As noted in the 2004 evaluation report (Wise, et al., 2004), the grade ten drop-off rate increased by 0.1 percent for the Class of 2006. It was hypothesized that the increased drop-off rate was primarily due to a larger than usual increase in the number of students classified as grade nine students for more than a year. In the 2004–05 school year the drop-off rate declined somewhat to 5.6 percent. This was followed by a substantial increase to 6.1 percent in 2005–06, an even more substantial decrease to 5.3 percent in 2006–07, then increases to 5.7, 6.0, and 6.1 percent in subsequent years. This upward trend reversed in the 2010–11 school year when the grade ten class was only 4.2 percent smaller than the previous year’s grade nine class.

Table 6.4. Enrollment Declines Between Grades Nine and Ten by High School Class

School Year	High School Class	Grade 10 Enrollment	Prior Year’s Grade 9 Enrollment	Decrease	
				Number	Percent
2010–11	2013	502,452	524,527	22,075	4.2%
2009–10	2012	506,042	539,167	33,112	6.1%
2008–09	2011	509,157	541,650	32,622	6.0%
2007–08	2010	513,707	545,040	31,333	5.7%
2006–07	2009	517,873	547,014	29,141	5.3%
2005–06	2008	515,761	549,486	33,725	6.1%
2004–05	2007	497,203	526,442	29,239	5.6%
2003–04	2006	490,465	520,287	29,822	5.7%
2002–03	2005	471,726	499,505	27,779	5.6%
2001–02	2004	459,588	485,910	26,322	5.4%
2000–01	2003	455,134	482,270	27,136	5.6%
1999–00	2002	444,064	468,162	24,098	5.1%
1998–99	2001	433,528	458,650	25,122	5.5%
1997–98	2000	423,865	450,820	26,955	6.0%

Source: CDE DataQuest. <http://data1.cde.ca.gov/datquest> (accessed July 7, 2011).

The * before a number represents an adjustment in data from the 2010 evaluation report due to an updating of the figures used. The light green horizontal line indicates the demarcation between classes prior to and initially subject to the CAHSEE graduation requirement; the heavy green line indicates the transition to the CAHSEE requirement being fully in effect.

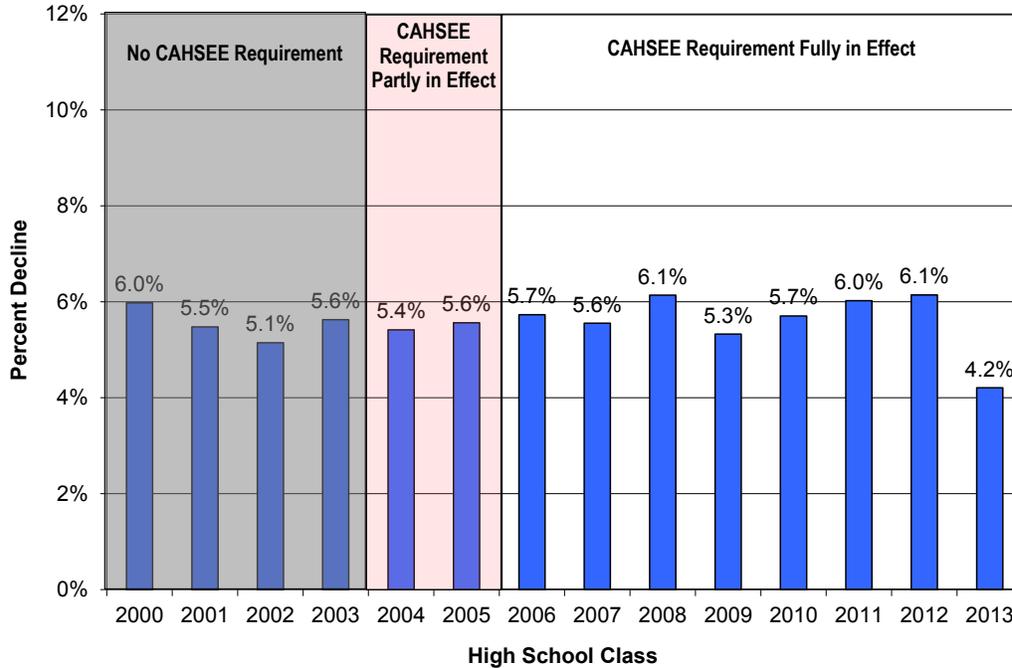


Figure 6.2. Enrollment declines between grades nine and ten by high school class.

Table 6.5 and Figure 6.3 show similar information for the drop-off between grade ten and eleven enrollments. Results show that the drop-off rate between grade ten and eleven enrollments declined beginning with the Class of 2004. The rate declined fairly steadily from 6.4 percent for the Class of 2005 down to 3.5 percent for the Class of 2012.

Table 6.5. Enrollment Declines from Grade Ten to Grade Eleven

School Year	High School Class	Grade 11 Enrollment	Prior Year's Grade 10 Enrollment	Decrease	
				Number	Percent
2010–11	2012	488,530	506,042	17,512	3.5%
2009–10	2011	487,505	509,157	21,523	4.2%
2008–09	2010	489,207	513,707	24,675	4.8%
2007–08	2009	488,227	517,873	28,646	5.5%
2006–07	2008	487,493	515,761	28,268	5.5%
2005–06	2007	467,304	497,203	29,899	6.0%
2004–05	2006	459,114	490,465	31,351	6.4%
2003–04	2005	441,316	471,726	30,410	6.4%
2002–03	2004	428,991	459,588	30,597	6.7%
2001–02	2003	420,295	455,134	34,839	7.7%
2000–01	2002	409,119	444,064	34,945	7.9%
1999–00	2001	401,246	433,528	32,282	7.4%
1998–99	2000	390,742	423,865	33,123	7.8%

Source: CDE DataQuest. <http://data1.cde.ca.gov/dataquest> (accessed July 7, 2011).

The light green horizontal line indicates the demarcation between classes prior to and initially subject to the CAHSEE graduation requirement; the heavy green line indicates the transition to the CAHSEE requirement being fully in effect.

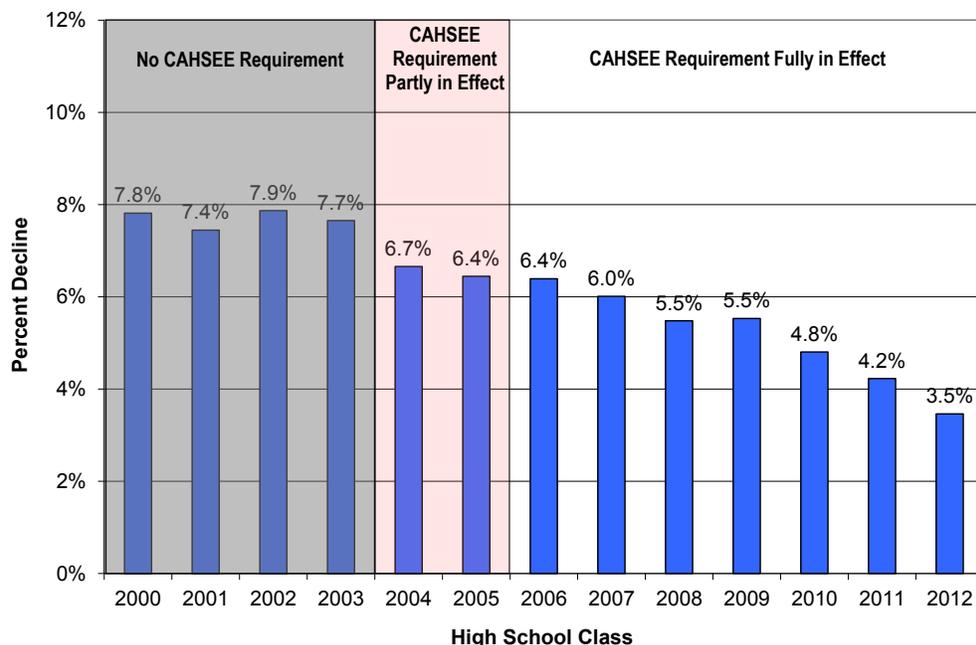


Figure 6.3. Enrollment declines from grade ten to grade eleven by high school class.

Table 6.6 and Figure 6.4 show similar information for the drop-off between grade eleven and twelve enrollments. This rate decreased substantially (2.5 percentage points) with the Class of 2003. The reduced drop-off rate continued for subsequent cohorts, with the exception of the Class of 2006. The drop-off rate from grade eleven to grade twelve for the Class of 2011 actually reversed—that is, more students were enrolled in the Class of 2011’s senior class than had been enrolled at the start of the junior year. This may in part be due to the continuation of grade twelve repeat students after failing to graduate with their original graduating class.

Table 6.6. Enrollment Declines Between Grades Eleven and Twelve

School Year	High School Class	Grade 12 Enrollment	Prior Year’s Grade 11 Enrollment	Decrease	
				Number	Percent
2010–11	2011	492,545	487,505	-5,040	-1.0%
2009–10	2010	477,885	489,032	11,147	2.3%
2008–09	2009	476,156	489,227	13,071	2.7%
2007–08	2008	468,281	487,493	19,212	3.9%
2006–07	2007	443,154	467,304	24,150	5.2%
2005–06	2006	423,241	459,114	35,873	7.8%
2004–05	2005	409,568	441,316	31,748	7.2%
2003–04	2004	396,272	428,991	32,719	7.6%
2002–03	2003	386,379	420,295	33,916	8.1%
2001–02	2002	365,907	409,119	43,212	10.6%
2000–01	2001	357,789	401,246	43,457	10.8%
1999–00	2000	347,813	390,742	42,929	11.0%

Source: CDE DataQuest. <http://data1.cde.ca.gov/dataquest> (accessed July 7, 2011).

The light green horizontal line indicates the demarcation between classes prior to and initially subject to the CAHSEE graduation requirement; the heavy green line indicates the transition to the CAHSEE requirement being fully in effect.

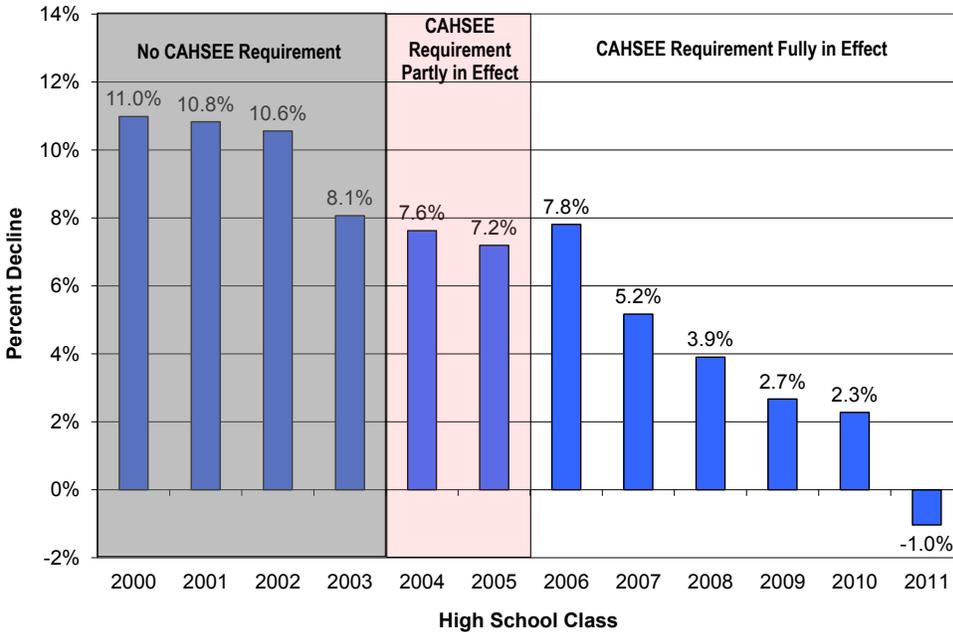


Figure 6.4. Enrollment declines from grade eleven to grade twelve by high school class.

Students Who Leave High School Prematurely: Summary

We examined single-year and four-year dropout rates among high school students in the classes of 2007 through 2010. We found that the dropout rates, while substantial, declined overall and for every demographic group. However, we found that both the one-year and four-year dropout rates among African American students far exceeded those of every other racial/ethnic group, as well as disadvantaged groups such as economically disadvantaged, LEP, and special education students. As reported in previous annual evaluation reports, we found that the bulk of dropouts occur in grade twelve.

We analyzed enrollment trends by graduation class cohort from the Class of 2000 through the fall 2010 enrollment counts. The fall enrollment numbers for the 2010–11 school year reflect lower grade-by-grade reductions than for any year since 1997–98, including a gain in the number of grade twelve students in the Class of 2011.

Graduation Rates

Another indicator that could conceivably be affected by the CAHSEE requirement is the high school graduation rate. In California, high school graduates include students assigned any of the following exit codes by their high school:

- Graduated, standard high school diploma
- Graduated, CAHSEE modifications and waiver for special education
- Graduated, CAHSEE special education exemption
- Adult education high school diploma
- Passed California High School Proficiency Exam

CDE publicly reports the graduation rate in two ways. The following descriptions are taken directly from the CDE website.

- a) **Ninth Grade to Graduate Rate:** “This rate is calculated using two different types of data, single point-in-time data (enrollment) and year-end cumulative data (graduates). When used at the state level, this calculation provides a reasonable statewide graduation rate estimate. However, application of this calculation at the school-level creates invalid rates for schools with increasing or declining enrollment, or moderate student mobility. Therefore this rate is only calculated at the state level.” This rate is calculated as the number of graduates divided by grade nine enrollment from four years prior. Equation 6.4 demonstrates the calculation of the Ninth Grade to Graduate Rate for the Class of 2010.

$$\begin{array}{l} \text{Ninth Grade to Graduate Rate for Class of 2010} = \\ \text{Number of cohort members who earned a regular high school} \\ \text{diploma by the end of the 2009-10 school year} \\ \text{divided by} \\ \text{Number of first-time grade 9 students in Fall 2006} \end{array}$$

Equation 6.4

Source: CDE DataQuest. <http://data1.cde.ca.gov/dataquest>. (Retrieved on August 30, 2011).

- b) **Four-Year Adjusted Cohort Graduation Rate:** This rate complies with the U.S. Department of Education’s *High School Graduation Rate - Non-regulatory Guidance, December 22, 2008*.¹¹ “The four-year graduation rate is calculated by dividing the number of students in the 4-year adjusted cohort who graduate in four years or less with either a traditional high school diploma, an adult education high school diploma, or have passed the California High School Proficiency Exam (CHSPE) by the number of students who form the adjusted cohort for that graduating class. The following formula provides an example of the four-year graduation rate for the cohort entering grade 9 for the first time in the fall of the 2006–2007 school year and graduating by the end of the 2009–10 school year.” Equation 6.5 depicts the calculation of the Four-Year Adjusted Cohort Graduation Rate for the Class of 2010.

$$\begin{array}{l} \text{Four-Year Adjusted Cohort Graduation Rate for Class of 2010} = \\ \text{Number of cohort members who earned a regular high school} \\ \text{diploma by the end of the 2009-10 school year} \\ \text{divided by} \\ \text{Number of first-time grade 9 students in Fall 2006 (starting cohort)} \\ \text{plus students who transfer in, minus students who transfer out,} \\ \text{emigrate, or die during school years 2006-07, 2007-08, 2008-09, and} \\ \text{2009-10} \end{array}$$

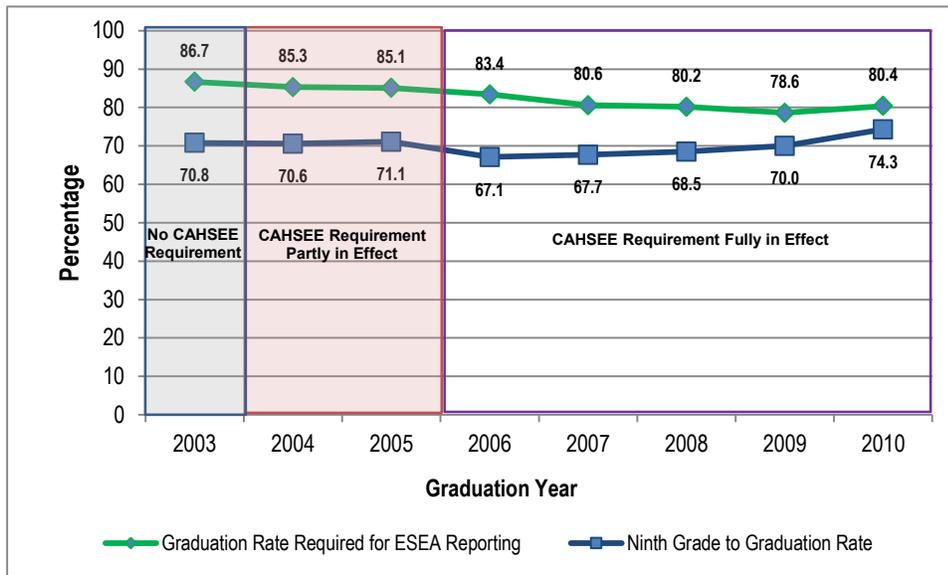
Equation 6.5

Source: CDE DataQuest. <http://data1.cde.ca.gov/dataquest>. (Retrieved on August 30, 2011).

¹¹ See <http://www2.ed.gov/policy/elsec/guid/hsgrguidance.pdf>.

The reader is cautioned that there are a number of types of high school completion that are categorized neither as graduating nor as dropping out, including completing the GED and enrolling in college or an adult education program.

Overall graduation rates. Inspection of Figure 6.5 reveals that both graduation rates dropped in 2006, the first year CAHSEE took effect. The percentage of graduates based on grade nine fall enrollment had increased slightly in previous years but dropped by 4.0 percentage points in 2006. This rate increased in subsequent years to a peak of 74.3 percent in 2010. The graduation rate used for ESEA reporting, however, declined every year from 2003 to 2009, then rose in 2010. Between 2003 and 2010, this graduation rate dropped by 6.3 percentage points.



Source: CDE DataQuest. <http://data1.cde.ca.gov/datquest>. (Data retrieved on August 24, 2011).

Figure 6.5. Trends in two graduation rates.

A careful reader may notice that the graduation rate from grade nine for a given class (depicted in Figure 6.5) and the four-year dropout rate (reported in Table 6.3) do not total to 100 percent. The Class of 2007 had a 67.7 percent graduation rate and a 21.1 percent four-year dropout rate; the Class of 2010 had a 74.3 percent graduation rate and a 17.7 percent four-year dropout rate. These figures represent gaps of approximately 12 percent and 8 percent. Some of the unaccounted for students may have left the state, completed high school without graduating, or continued on for a second year of grade twelve.

Graduation rates for demographic groups. Our next step was to examine graduation rates separately for various demographic groups. We note that the CDE Web site added a new report this year that facilitates these comparisons: *Cohort Outcomes Summary by Race/Ethnicity 2009–10*.

Table 6.7 shows the grade nine to graduation rates by racial/ethnic group. These are presented in order of declining graduation rate for the Class of 2010. Two patterns are notable here. First, the overall graduation rate and the rate for each individual group increased from 2007 to 2010, with the exception of Asian students, which despite a small decline remains the highest-performing group. Second, the graduation rates for three groups of students—African American, American Indian/Alaska Native, and Hispanic students—are substantially lower than the overall graduation rates. The horizontal line in the middle of Table 6.7 separates the groups of students with graduation rates above and below the overall state rate of 74.4 percent.

Table 6.7. Grade Nine to Graduate Rates by Race/Ethnicity

Grade 9 to Graduation Rate	2007	2008	2009	2010	Change in Graduation Rate
Asian	90.0%	92.0%	91.9%	89.4%	-0.6
Filipino	85.4%	89.0%	88.8%	87.5%	2.1
White	77.8%	79.1%	80.4%	83.4%	5.6
Pacific Islander	68.2%	71.4%	75.7%	72.6%	4.4
Hispanic	55.7%	58.0%	61.3%	67.7%	12.0
American Indian/Alaska Native	58.3%	62.3%	61.4%	67.1%	8.8
African American (not Hispanic)	55.3%	54.6%	55.2%	59.0%	3.7
TOTAL	67.7%	68.5%	70.0%	74.4%	6.7

Source: Derived from CDE DataQuest. <http://data1.cde.ca.gov/dataquest> (accessed August 24, 2011).

We noted earlier that the sum of graduation rates and dropout rates does not account for all students. We next explored whether the rates of students not included in either graduation or dropout rates varied by race/ethnicity. Table 6.8 combines the graduation rates in Table 6.7 with derived four-year dropout rates in Table 6.3. The columns labeled “Rate Not Graduating or Dropping Out,” indicate the percentage of students in each racial/ethnic group not included in the graduation or dropout rates in 2008 and 2010. This percentage varied widely by demographic group in 2008, from a low of 0.1 percent of Asian students to 18.2 percent of Hispanic students. The percentages of students unaccounted for dropped from 12.6 percent in 2008 to 7.9 percent in 2010 as seen in the column labeled “Improvement in Accounting for Students.” However, the pattern for individual demographic groups varied. As mentioned earlier, outcomes such as passing the GED are not counted as either graduation or dropping out, so some modest discrepancy is to be expected.¹² Although the percentages of unaccounted-for Hispanic and African American students decreased in 2010, the rates continued to be substantial (at 10.3 percent and 10.7 percent, respectively).

¹² See HumRRO’s 2009 annual report (Becker, Wise, and Watters, 2009) for a detailed mapping of student-level exit codes to categories such as graduation and dropout.

Table 6.8. Combined Dropout and Graduation Rates by Race/Ethnicity

Demographic Group	2010 Grade 9 to Graduation Rate	2010 Derived Four-Year Dropout Rate	Sum of 2010 Graduates and Dropouts	Rate Not Graduating or Dropping Out: 2008	Rate Not Graduating or Dropping Out: 2010	Improvement in Accounting for Students (Percentage Points) ^A
Asian	89.4%	7.1%	96.5%	0.1%	3.5%	-3.4
Filipino	87.5%	7.3%	94.8%	2.4%	5.2%	-2.8
White	83.4%	10.8%	94.2%	9.2%	5.8%	3.4
Pacific Islander	72.6%	18.8%	91.4%	7.3%	8.6%	-1.3
American Indian/Alaska Native	67.1%	23.8%	90.9%	13.6%	9.1%	4.5
Hispanic or Latino	67.7%	22.0%	89.7%	18.2%	10.3%	7.9
African American	59.0%	30.3%	89.3%	12.5%	10.7%	1.8
TOTAL	74.4%	17.7%	92.1%	12.6%	7.9%	4.7

Source: Table 6.3 and 6.7, this report for 2010 rates; 2010 evaluation report for 2008 rates.

^A Positive numbers indicate a larger percentage of students were accounted for in the graduation and dropout rates over time.

Graduation Rates: Summary

We examined two kinds of graduation rates: the graduation rate based on grade nine enrollment, and the graduation rate required by ESEA, which is based upon the number of graduates in a given year and the number of dropouts associated with that class from grades nine through twelve. We found that the graduation rate as a percentage of grade nine students increased each year from 2007 through 2010 while the ESEA rate declined until 2010, when the rate recovered somewhat. Nearly three-quarters (74.3 percent) of students who entered grade nine in the fall of 2006 graduated four years later.

Review of disaggregated grade nine to graduation rates revealed that only the Asian graduation rate declined in 2010 from its 2007 level. Graduation rates vary widely, from 59.0 percent among African American students to 89.4 percent for Asian students.

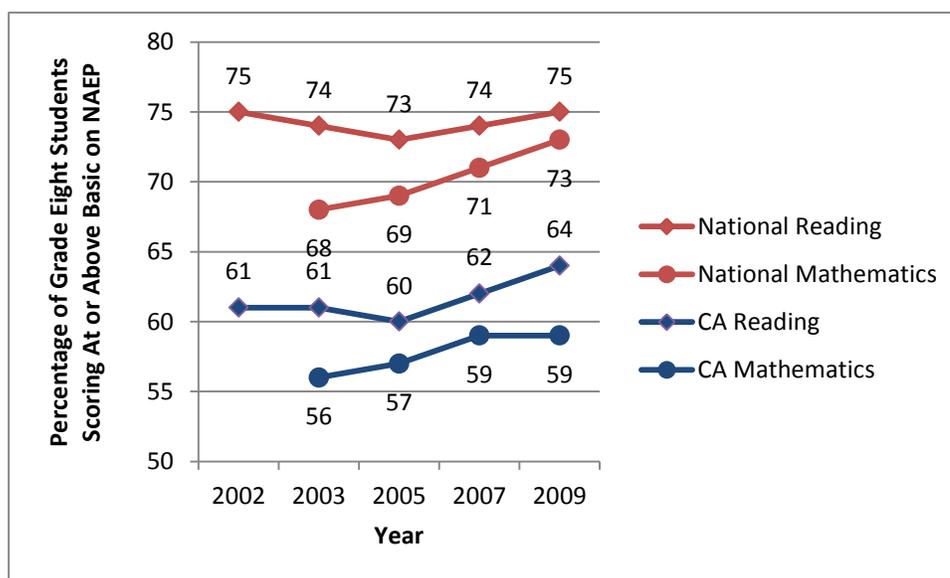
Performance on Other Assessments

The CAHSEE examination is part of a statewide testing program that is aligned to California’s standards for the knowledge and skills students are expected to learn. This is a high-stakes examination for students because passing the CAHSEE is one mandatory accomplishment to earn a high school diploma.

The National Assessment of Educational Progress (NAEP), also known as “the nation’s report card,” is overseen by the U.S. Department of Education. NAEP tracks the progress of U.S. students in key subjects at the national and state levels. The main NAEP assessment is administered every two years and includes national and state results in reading and mathematics. A sample of students from a sample of schools participate in the NAEP examination and meticulous sampling and weighting procedures ensure the results represent all students in the state. Individual student scores are not reported.

Examination of trends on NAEP provides an independent view of student achievement over time that may confirm or disconfirm state-reported trends. Some cautions are in order, however. NAEP is not aligned with any individual state standards so gains or losses in unique areas of state standards may not be reflected. Unlike CAHSEE, NAEP is not a high stakes test for students so student motivation is an ongoing concern. The achievement level cutpoints defining whether a score is below basic, basic, proficient, and advanced are commonly considered to be aspirational; that is, the NAEP achievement levels represent a higher level of achievement than similarly-named state achievement level standards. This last issue leads many researchers to compare state results at the proficient-and-above level to NAEP results at the basic-and-above level. Finally, for the purposes of this report, NAEP grade eight achievement is the most relevant to investigate implications of the CAHSEE. Although NAEP does include a grade twelve assessment, results for individual states are not included.

Figure 6.6 depicts NAEP trends for California students and students in the nation as a whole. The red lines represent national trends and the blue lines reflect California trends. Lines marked with diamonds denote reading performance and lines marked with circles signify mathematics performance. The trend line begins with school year 2001–02, in which the grade eight cohort was in the graduation class of 2006—the first class for which CAHSEE was fully in effect as a graduation requirement.



Note. NAEP began reporting state-level results for Reading in 2002. In 2003 NAEP introduced state-level Mathematics results and commenced a cycle of reporting state-level results every odd year.

Figure 6.6. NAEP state and national trends for grade eight students.

Inspection of Figure 6.6 reveals that the performance of California students was below the nation as a whole, but the pattern of gains and losses were very similar. The most recent year, 2009, deviates somewhat. California gains in Reading exceeded nationwide gains, while California mathematics showed no gains but the nation gained by two percentage points.

College Preparation

Indicators of educational quality include the rigor of coursework undertaken in high school as well as the proportion of students intending and prepared to engage in postsecondary education. We turn now to two sets of indicators (other than the CAHSEE) of student preparedness for college.

Percentage of Students Taking College Preparation Courses

One indicator of educational quality is the caliber of coursework completed. Two of California’s statewide university systems, the University of California (UC) and the California State University (CSU), have developed a list of courses known as “A–G courses” that are required for incoming freshmen. This list includes 16 units of high school courses, of which at least 7 must be taken in the last two years of high school. In this system, a unit represents a full year (two semesters) of study.

Table 6.9 indicates the percentage of public high school graduates who completed A–G courses over several years. Note that this calculation excludes students who did not graduate; if this were based, for example, on grade nine enrollment, the rates would be considerably lower. Demographic groups are listed in order of percentage in 2009–10. Among graduates, the rate of completing A–G courses varies widely, from 24.9 percent among American Indian/Alaska Native students to 60.3 percent among Asian students. The rate of completion overall and for every group increased from 2003–04 to 2009–10. Over one-third (35.6 percent) of the Class of 2010 graduates completed the course requirements to enter a UC or CSU school.

Table 6.9. Trends in Percentages of Graduates Completing Minimum Coursework (A–G courses) for Entry into UC or CSU systems

Ethnic Category	School Year						
	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Asian	56.2%	58.7%	60.2%	59.8%	59.2%	59.3%	60.3%
Filipino	44.9%	46.6%	45.4%	45.7%	44.8%	45.8%	47.6%
Two or More Races	N/A	N/A	N/A	N/A	N/A	40.1%	42.0%
White	39.6%	40.9%	40.5%	39.5%	39.8%	40.5%	40.9%
Pacific Islander	27.2%	27.7%	28.9%	28.1%	27.4%	29.5%	30.7%
African American (not Hispanic)	25.2%	25.2%	25.6%	26.5%	23.3%	26.8%	28.5%
Hispanic	21.9%	24.1%	25.6%	25.2%	22.5%	25.5%	26.5%
None Reported	N/A	N/A	N/A	N/A	N/A	37.3%	25.1%
American Indian/Alaska Native	22.3%	23.0%	23.6%	23.6%	25.7%	23.8%	24.9%
Multiple/No Response	26.9%	31.0%	32.7%	35.4%	32.4%	N/A	N/A
State Total	33.8%	35.2%	36.1%	35.5%	33.9%	35.3%	35.6%

Source: Derived from CDE DataQuest. <http://data1.cde.ca.gov/dataquest> (accessed August 24, 2011).

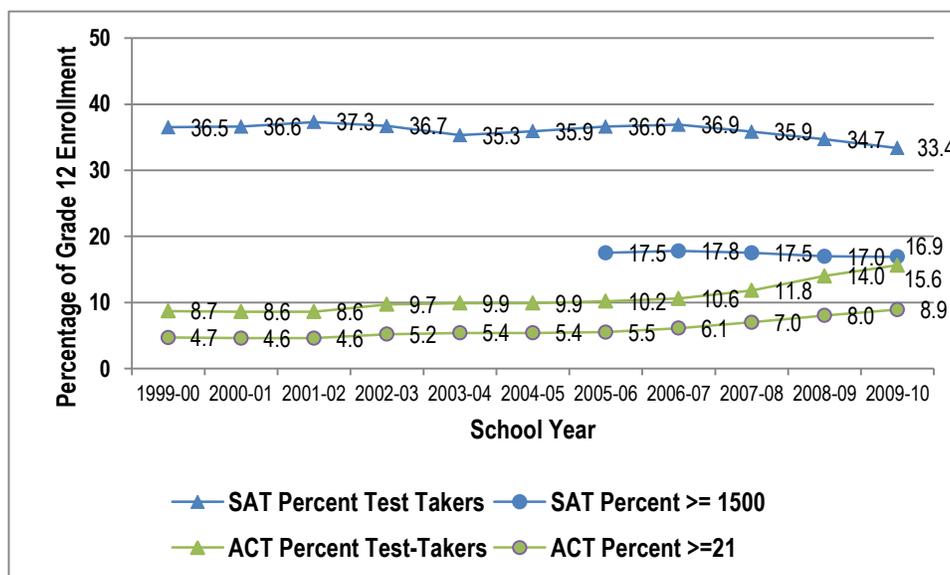
College Entrance Examination Participation and Performance

The level of student aspirations for education beyond high school is reflected in the proportion of students who sit for college entrance examinations. College readiness can also be examined by looking at the performance of students who take such tests.

These two factors are confounded, in that higher participation may be related to lower scores overall. For example, if only a small, high performing proportion of a class takes an examination, scores will be high but participation will be low. If a larger proportion of students, who may be lower performing, are encouraged to take the test, the average scores will drop but participation rates will increase. Interpretation of patterns requires care because of this confounding effect.

Two college-entrance examination programs are most prevalent in the United States: the SAT and the ACT. Figure 6.7 indicates the percentage of California students participating in these two examination programs. The lines with triangle-shaped markers represent the proportion of each grade twelve class that took either the SAT or ACT. Approximately 33 percent of the Class of 2010 took the SAT and nearly 16 percent took the ACT. This was a decrease in SAT participation and an increase in ACT participation relative to the previous year, continuing both trends from the previous two years.

Figure 6.7 also shows the percentage of students who achieved a particular score on these two examinations, over time. The graph uses the same cut points used for reporting on the CDE Web site. The lines with circular pointers reflect the percentage of students *in the class* achieving a minimum combined score of 1500 on the SAT or 21 on the ACT, respectively.¹³ The percentage of students attaining the designated score on the SAT declined from a peak of 17.8 percent in 2007–08 to a low of 16.9 in 2009–10. Student ACT performance continued its upward trajectory of the last several years to a peak of 8.9 percent of students in 2009–10 reaching an ACT score of at least 21.



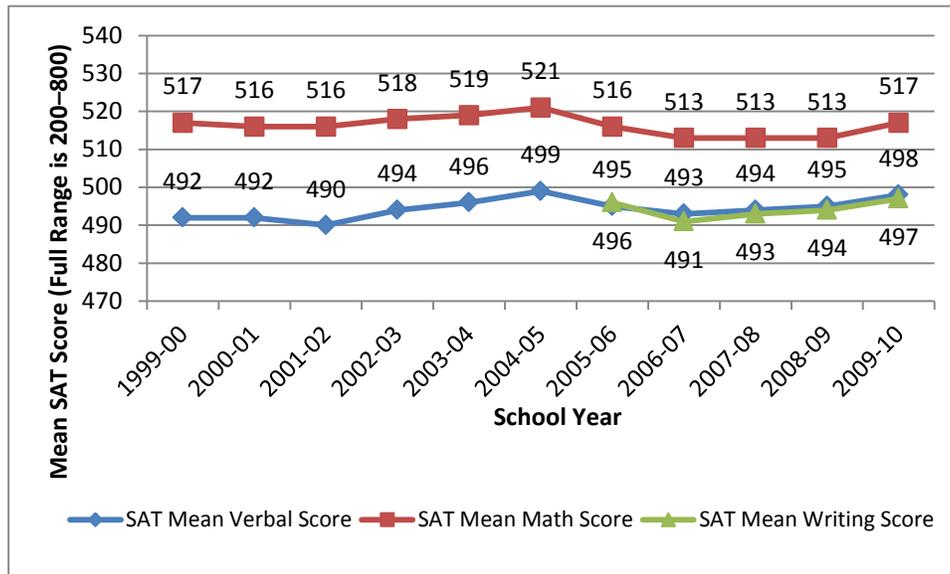
Source: CDE DataQuest. <http://data1.cde.ca.gov/dataquest> (accessed August 24, 2011).

Note. Prior to 2005–06 CDE reported the percentage of students achieving a combined SAT Verbal and Mathematics score of 1,000. SAT Writing was introduced in 2006; in 2005–06 CDE changed its reporting to a combined Verbal, Mathematics, and Writing score. The latter metric is reported here.

Figure 6.7. SAT and ACT participation rates and success rates over time.

¹³ The average national scores for Reading, Mathematics, and Writing at the 50th percentile level are approximately 500 each. The national rank for an ACT Composite score of 21 is the 57th percentile.

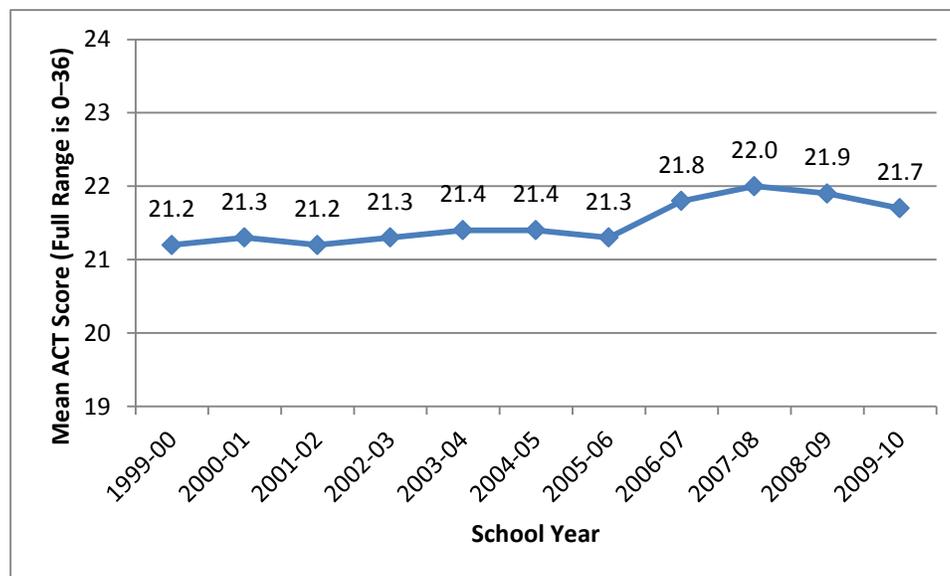
Another metric to assess success on tests such as the SAT and ACT is to look at mean scores. SAT mathematics, verbal, and writing examinations are each scored on a range of 200–800. Figure 6.8 indicates that mean SAT mathematics and verbal scores generally increased each year between 2001 and 2005, but both verbal and mathematics mean scores dropped in 2006 and 2007 (the CAHSEE went into effect in 2006). Verbal and writing scores increased in 2008 and 2009 while mathematics scores remained flat. In 2010 all three mean scores rose. The downward trend in mean scores mimicked a national trend; between 2005 and 2007 the nationwide mean score dropped from 508 to 502 in Critical Reading and from 520 to 515 in Mathematics (see http://professionals.collegeboard.com/profdownload/Total_Group_Report.pdf). SAT writing was introduced in 2006.



Source: CDE DataQuest. <http://data1.cde.ca.gov/dataguest> (accessed August 29, 2011).

Figure 6.8. SAT mean math, verbal, and writing scores over time.

Figure 6.9 shows mean scores on the ACT examination over the same period. Scores were highly consistent until 2006–07, when they increased from 21.3 to 21.8. The next three years stayed comparatively flat near this higher level of performance. ACT examinations are scored on a range of 1–36; a smaller range is depicted to make the trends more visible.



Source: CDE DataQuest. <http://data1.cde.ca.gov/dataquest> (accessed August 29, 2011).

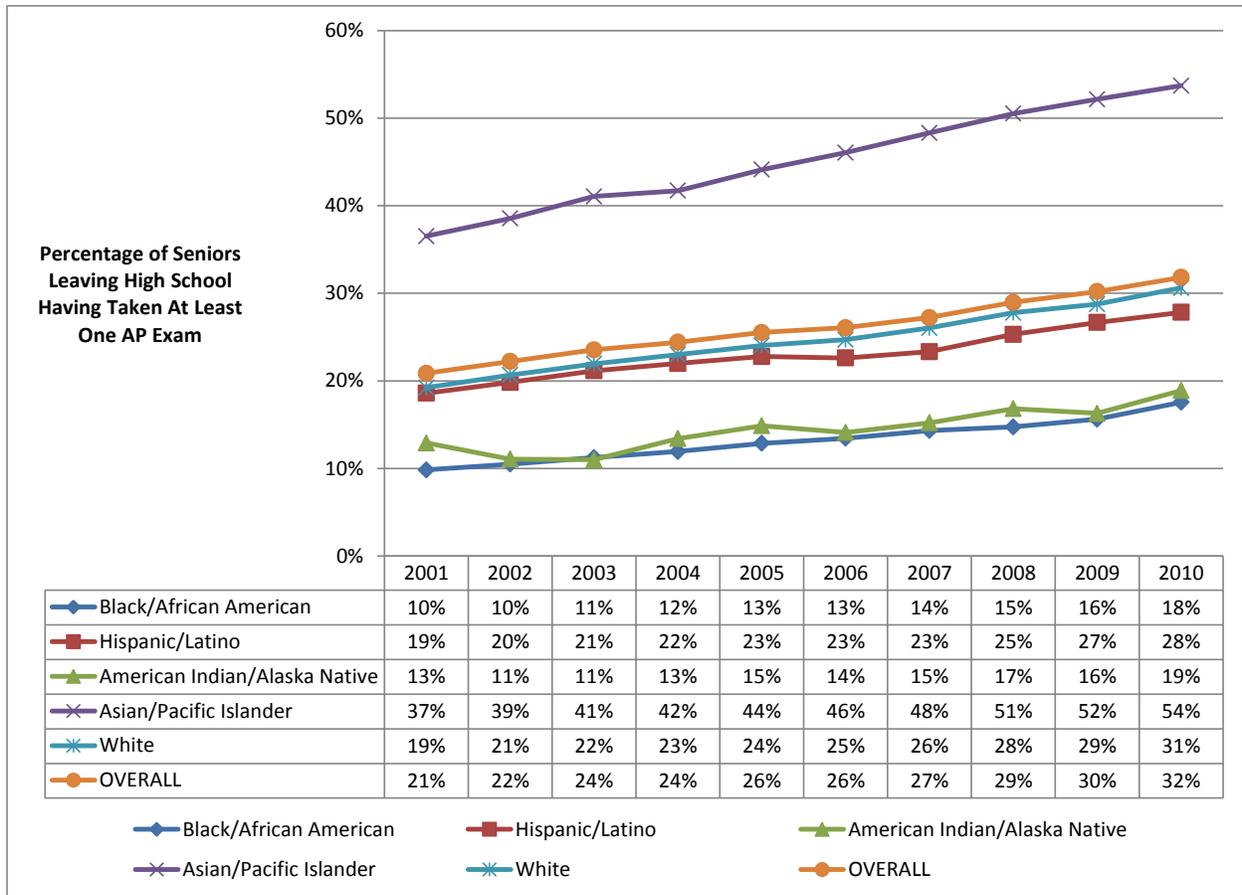
Figure 6.9. ACT mean scores over time.

AP Test Achievement

The College Board’s Advanced Placement (AP) program comprises a set of college-level courses offered in high school. Students have the option of taking a standardized AP examination after completing the course to earn college credit and/or gain placement in advanced college courses. AP examination participation rates and scores are indicators of the rigor of high school courses as well as of the intentions of students to attend college. The College Board currently offers more than 30 AP courses and examinations, but not all courses are offered at all high schools.

In previous HumRRO annual reports, AP participation rates and performance were drawn from the CDE website. These data were difficult to interpret for the purposes of this report because they represented the number of examinations rather than the number of examinees. In other words, a high school student who completed five AP examinations was counted five times. In the current report, AP results were retrieved from the College Board website and represent the number of seniors in a given cohort leaving high school having taken an AP exam at any point in high school.

Figure 6.10 displays AP examination participation rates among California students over time. The orange line with the circular pointers shows the percentage of seniors in each graduating class that participated in at least one AP examination by the end of senior year, rising steadily from 21 percent in the Class of 2001 to 32 percent in the Class of 2010. Each additional line represents a single racial/ethnic group. Every group increased participation over time.

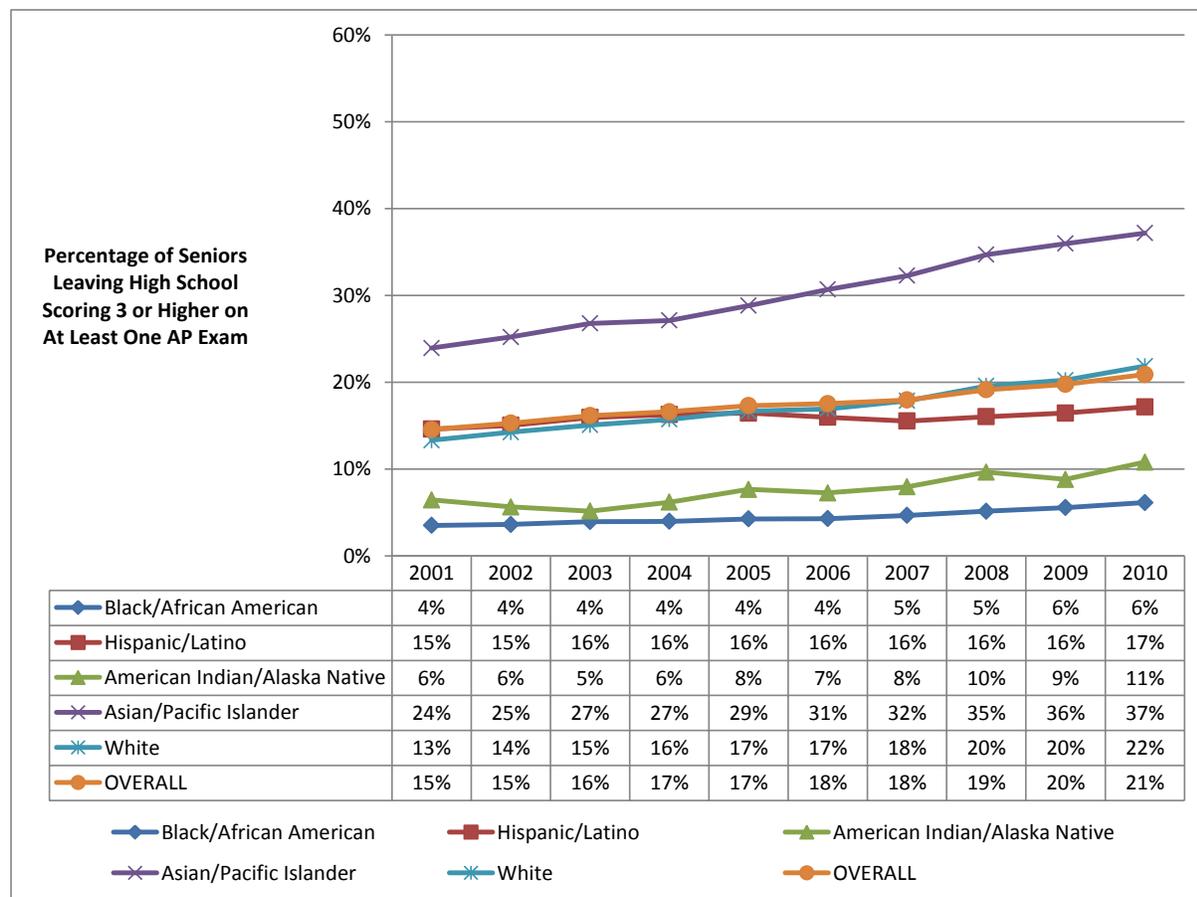


Source: College Board website. <http://apreport.collegeboard.org/report-downloads> (accessed August 30, 2011).

Figure 6.10. AP participation rates over time, by race/ethnicity and overall.

Figure 6.11 provides a measure of success by reporting the percentage of seniors in each graduating class that earned a score of 3 or greater¹⁴ on at least one AP examination by the end of senior year. The orange line with the circular pointers represents students overall and shows a slow but steady increase from 15 percent in 2001 to 21 percent in 2010. Each additional line represents a single racial/ethnic group. Results for every group increased over time. The greatest gains were made among Asian students, which climbed from 24 percent to 37 percent over ten years.

¹⁴ AP examination scores are on a scale of 1–5. Typically postsecondary institutions grant credit or advanced placement for minimum scores of 3 or 4. A score of 3 is a commonly accepted indicator of success on an AP examination.



Source: College Board website. <http://apreport.collegeboard.org/report-downloads> (accessed August 30, 2011).

Figure 6.11. Percentage of seniors leaving high school after scoring 3 or higher on at least one AP examination by race/ethnicity and overall.

College Preparation: Summary

Among graduates, the rate of completing A–G courses varies widely, from 24.9 percent among American Indian/Alaska Native students to 60.3 percent among Asian students. The rate of completion overall, and for every racial/ethnic group, increased from 2003–04 to 2009–10. Over one-third of the Class of 2010 (35.6 percent) completed the course requirements to enter a UC or CSU school.

The percentage of high schools seniors taking the SAT examination decreased in the most recent years available, from 36.9 percent in 2006–07 to 33.4 percent in 2009–10. Over the same time period the percentage of students achieving a score of 1500 or better declined from 17.8 percent to 16.9 percent. On the other hand, the participation and performance of students on the ACT in terms of percentage of students scoring 21 or above has continued its steady climb over several years. On both the SAT and ACT, however, the trend in mean scores was the reverse of the analyses of percentages about the common cutpoints. Between 2004–05 and 2009–10, the participation rate increased from 9.9 percent to 15.6 percent and the percentage of students reaching a score of 21 or better rose from 5.4 percent to 8.9 percent.

A given student may take the SAT, the ACT, or both. We cannot determine the overlap between the SAT and ACT examinee groups, but do note that summing the percentages of students taking the two examinations increased steadily from a total of 45.8 percent in 2004–05 to 49.0 percent in 2009–10. This may indicate that more students are taking both examinations, or possibly the inclusion of a wider range of students in this important step toward college participation.

Another indicator of the rigor of high school coursework is participation in, and success on, Advanced Placement examinations. The 2009–10 school year brought increased participation and increased achievement on these examinations. Participation and success for every racial/ethnic group increased steadily as a percentage of exiting seniors from 2001 through 2010. Nearly a third of the 2010 graduating class (32 percent) took at least one AP examination and over one-fifth (21 percent) achieved a score of 3 or better on at least one AP examination.

Summary Findings

Data sources outside the CAHSEE program provide indications of the state of education in California. The Class of 2006 was the first cohort required to pass both parts of the CAHSEE to receive a high school diploma, so trends from 2006 through 2010 are of particular import. Results for the Class of 2011 were not available in time for this report.

One important indicator of the impact of the CAHSEE requirement is whether the proportion of students who leave high school without a diploma changes in some way. This seemingly straightforward question demands a multifaceted answer. In 2007, California made important improvements in its student-level data systems, facilitating more accurate dropout tallies. Therefore we report here trends from 2007 through 2010; the reader is referred to previous reports in this series for earlier trends.

First, we note that the 2007 dropout rates were substantially larger than previous rates but we cannot disentangle how much of this change is a real increase in dropouts versus more accurate reporting. We found that official dropout rate calculations indicate that both single-year and four-year dropout rates decreased between 2007 and 2010, overall and for all ethnic categories. Both dropout metrics revealed that African American students drop out at a substantially higher rate than every other group, including groups such as economically disadvantaged, Limited English Proficient (LEP) and special education students. In addition, American Indian/Alaskan Native, Hispanic, Pacific Islander, economically disadvantaged, LEP, and special education students show notably higher dropout rates than White, Filipino, and Asian students. As reported previously, we found that the bulk of dropouts occur in grade twelve.

As a second look at students leaving high school prematurely, we investigated enrollment trends by grade and over time. While this measure does not directly account for mobility in and out of the state, substantial changes in enrollment declines can be interpreted as an indirect indicator of dropout rates. Enrollment patterns indicate that the drop-off rates of sophomores, juniors and seniors declined in fall 2010; in fact the

number of grade twelve students in the Class of 2011 exceeded the number of juniors in that same class. This grade twelve phenomenon may be attenuated by the continuation of students in a second senior year. In short, we found a trend toward more students persisting to the fall of their senior year, and more students dropping out during their senior year.

High school graduation rates can also be measured in multiple ways. We examined two measures: the graduation rate as a percentage of grade nine enrollment four years earlier, and the graduation rate required by ESEA, which is based upon the number of graduates in a given year and the number of dropouts in the relevant grade nine through grade twelve years. We found that the graduation rate as a percentage of grade nine students increased each year from 2007 through 2010 while the ESEA rate declined until 2010, then recovered somewhat. Nearly three-quarters (74.3 percent) of students who entered grade nine in the fall of 2006 graduated four years later.

Review of disaggregated grade nine to graduation rates revealed that graduation rates for most racial/ethnic groups increased from 2007 to 2010; the only exception was the group with the highest graduation rate, Asian students. Graduation rates vary widely, from 59.0 percent among African American students in 2010 to 89.4 percent for Asian students. We also note that CDE added disaggregated graduation rates for graduating cohorts in 2010 for the first time, making this important educational indicator more transparent.

We also looked at the percentage of students by demographic group who are not accounted for in either the grade-nine-to-graduation or the four-year dropout rates. We found that more students were accounted for in 2010 than 2008. However, large differences remain across racial/ethnic groups, to a high of 10.7 percent of African American students not included in either the graduation or dropout rates. The recently introduced cohort analyses provide information heretofore unavailable such as the number of cohort members still enrolled after their original class graduated, the number of cohort members who completed the GED, and the number of special education completers. As this information is tallied over time this will facilitate important improvements in the evaluation, as well as transparency to interested parties.

Participation in the SAT College entrance examination, as well as the percentage of students reaching a score of 1500 or higher, continued a three-year decline in the 2009–10 school year, while participation and performance on the ACT increased for the fifth year in a row.

In short, we found that graduation rate trends varied depending on the metric used, either rising slightly or declining less quickly in 2010 relative to 2007. While rates overall are worrisome—just under three-quarters of grade nine students graduated on time in 2010—rates for specific demographic groups are substantially lower. Dropout rates decreased for the Class of 2010 compared with the Class of 2007. The dropout rates for African American students are nearly three times the rates for White students, and rates for American Indian, Hispanic, and English learners are more than twice the rate for White students, for example.

Over one-third of the graduates in the Class of 2010 completed the A–G courses required by the University of California and California State University systems. Rates varied widely among racial/ethnic groups. Participation in Advanced Placement examinations increased in 2010, as did measures of success on the AP. Nearly a third of the 2010 graduating class (32 percent) took at least one AP examination and over one-fifth (21 percent) achieved a score of 3 or better on at least one AP examination.

Post-High School Outcomes Study

Introduction

More than ten years ago, the High School Exit Examination Panel recommended the content to be included in the California High School Exit Examination (CAHSEE), and the State Board of Education (SBE) adopted both the content blueprints and passing standards for each of the two CAHSEE tests (ELA and mathematics). In 2003, when the SBE determined that schools and students needed more time to prepare for the CAHSEE and deferred the requirement for two years, they adopted minor revisions to both the CAHSEE content blueprints and the passing levels. The revised standards have now been in place for seven years. Six high school classes (2006 through 2011) have had to meet the CAHSEE requirement to receive a diploma. When the SBE set the initial cut score for the graduation requirement, the board expressed an intention of increasing the rigor of the CAHSEE requirement over time. It is now reasonable to ask how students who graduated with differing levels of success on the CAHSEE are doing after high school, so as to help evaluate the CAHSEE passing standards and blueprints. Other states and the nation are also taking a serious look at what it means to be ready for college or work at the end of high school.

As part of the contract with the California Department of Education (CDE) to conduct an independent evaluation of the CAHSEE, the Human Resources Research Organization (HumRRO) has been tasked to conduct a Post-High School Outcomes (PHO) Study. Initial activities have already been conducted. This evaluation plan summarizes the activities completed to date and describes the plans for the remainder of the study.

Study Question

This study seeks to answer the following question:

“How do different levels of performance on the CAHSEE ELA and mathematics tests relate to student success in post-high school endeavors?”

It should be noted that this is an exploratory study that will investigate the feasibility of working with local educational agencies (LEAs) to gather and aggregate data on important post-high school outcomes. Along the way, the study will address a number of more specific questions, as detailed in the analysis section of this plan.

Approach

The PHO Study is designed as a collaborative effort between HumRRO and several educational agencies. These agencies are volunteering to participate and include school districts and charter schools; we will refer to them as LEAs throughout this document. Through this collaboration, HumRRO will assemble valuable student-level information to address the study question. At the same time, participating LEAs will gain information about their students' outcomes relative to those of the whole group, and perhaps gain capacity to conduct similar investigations in future.

Table 6.10 lists the schedule of activities planned for this study. Initial steps of recruiting LEAs, conducting a planning workshop with those LEAs, and obtaining agreements regarding specific levels of participation have already been completed. Seventeen LEAs have committed to participate.

Table 6.10. Schedule of Post-High School Outcomes Study Activities

Task/Activity	Date	Status
Recruit LEAs	3/15/11	Completed
Conduct Planning Workshop with LEAs	3/28/11–3/29/11	Completed
LEA Signup	4/15/11	Completed
Evaluation Plan – Draft	6/15/11	Completed
Evaluation Plan – Final	7/31/11	Scheduled
Collect LEA Data	Fall 2011	Scheduled
Analyses	Winter/Spring 2012	Scheduled
Preliminary Findings Report	6/1/2012	Scheduled
Conduct Results Workshop with LEAs	Early Summer 2012	Scheduled
Draft Report to CDE	8/31/12	Scheduled
Final Report	11/1/12	Scheduled

Recruiting LEAs

HumRRO e-mailed an open invitation to the state's CAHSEE coordinators in summer 2010 to gauge interest in participating in this study. Responding LEAs were not obligated to participate at that time. This poll was used to inform the feasibility of HumRRO's proposed approach. The CDE subsequently awarded the independent CAHSEE evaluation contract to HumRRO and authorized the initiation of the PHO study.

In the winter of 2010–11, HumRRO again contacted the CAHSEE coordinators of all LEAs that originally expressed interest in the study. This sample was supplemented with additional LEAs to render a more representative sample of LEAs based on region (i.e., north versus south), size, ethnicity distribution, and CAHSEE mathematics pass rates. LEAs were considered for this supplemented sample if they had not responded to

the initial open invitation to explicitly indicate a lack of interest. In other words, LEAs that had expressed interest to the open invitation, and select LEAs that did not respond to the open invitation, were contacted at this time. This expanded set of LEAs was invited via e-mail to participate in a planning workshop to explore the possibilities of such a study. Interested LEAs were asked to gather some basic information about their own data availability as preparation.

Planning Workshop with LEAs

HumRRO hosted a planning workshop on March 28–29, 2011, in Sacramento, California. Representatives of 17 LEAs participated in the workshop. The workshop included presentations of the study intentions and preliminary plans, other work regarding post-high school outcomes (i.e., National Assessment Governing Board), existing metrics of post-high school activities (e.g., O*NET), and opportunities for LEA representatives to brainstorm and share ideas and experiences.

HumRRO informed the LEAs of the goals of the study, the nature of the collaboration and the types of analyses that would be possible with various types of data. HumRRO noted that LEAs could participate in varying degrees, depending on their ability to collect and share different types of information. HumRRO provided general guidelines to LEAs about conducting senior surveys because some LEAs might be able to field a new survey before the end of the current school year. The guidelines included a description of potential sampling approaches to lessen the burden.

HumRRO illustrated how data would be used in this study, including existing processes to ensure security of data. LEAs were assured that results for individual LEAs would be shared only with that LEA, while public reports would summarize findings at an aggregate level.

Workshop participants shared valuable insights and experiences regarding their own efforts to assess their LEAs' efficacy in preparing students for life after high school. For example, several LEAs reported that they routinely administer surveys to their high school seniors. Administration methods and specific contents varied, but generally they noted that their senior surveys included questions about students' plans following graduation. Some LEAs also ask their near-graduates to reflect upon the strengths and weaknesses of their education, to date.

LEA Signup

Following the workshop, HumRRO distributed a packet of information to 22 LEAs, including those that participated in the workshop as well as a few that had expressed interest in the study but were unable to attend. The packet included a document with brief highlights of the study and a signup form. The highlights document described the study purpose, timeline, responsibilities of LEAs, benefits to LEAs, and confidentiality considerations, including exemption from Family Educational Rights and Privacy Act (FERPA) and secure treatment of personally identifiable information (PII). The signup form asked for information such as types and years of available data,

sources of data (e.g., senior surveys, parent surveys, post-graduation follow-up surveys), types of guidance or assistance the LEA would be interested in receiving, and the signature of an authorizing individual. Seventeen LEAs, including three charter schools, signed up to participate in the study.

Next Steps

As of the writing of this report, HumRRO has submitted a *California Post-High School Outcomes Study Evaluation Plan* to CDE. The plan describes the specific data to be selected and the nature of planned analyses. As described in Table 6.10, data will be collected in fall 2011; data will be analyzed in winter/spring 2012; and results will be reported in summer 2012. An update on this study will be provided in HumRRO's 2012 annual evaluation report.

Chapter 7: Findings and Recommendations

Michele M. Hardoin, D.E. (Sunny) Becker, Laress L. Wise

Background

As described in Chapter 1, an independent evaluation of the CAHSEE was launched in January 2000 and has continued every year since. The evaluation is required to assess both the impact of the CAHSEE requirement and the quality of the CAHSEE tests. Key 2010–11 evaluation activities included:

- review of test administration, essay scoring, and score equating analyses (Chapter 2),
- review of the quality of the assessment (Chapter 3),
- analyses of 2010–11 test results (Chapter 4),
- analyses of student questionnaire responses (Chapter 5), and
- examination of other indicators of student achievement and success (Chapter 6).

In this final chapter, we summarize key findings from each of these activities and the conclusions we derived from these findings about the CAHSEE and its impact. We also offer several recommendations for improving the quality and effectiveness of the CAHSEE.

Key Findings

Test Administration, Essay Scoring, and Score Equating (Chapter 2)

We observed two March 2011 test administrations of the CAHSEE. Although no significant problems were encountered, we raise several concerns about the use of modifications for students with disabilities (SWD). We offer a few suggestions for improving district and school site test administration training and for modifying ETS test administration manuals for district and school personnel. Based on the variety of quality assurance situations we encountered, we recommend CDE continue to have HumRRO perform such site visits to supplement the ETS test site audits.

We observed one range-finding session conducted by ETS to select field-tested student responses for use in training readers of CAHSEE essays. No significant problems were encountered. We offer a few suggestions for improvement of meeting process and scoring consistency.

We analyzed the consistency with which the CAHSEE essays were scored and found results generally comparable to last year. We noted slightly lower levels of scoring consistency for the February 2011 administration, the first very high volume administration of the year. It is likely that new scorers were recruited and trained to

handle the extra volume of scoring. ETS may want to review selection, training, qualification, and monitoring procedures to achieve higher levels of consistency with new scorers.

We replicated the equating of the March 2011 CAHSEE test form, using different software and a slightly different calibration sample and obtained the same results as ETS. It is reassuring to know that the equating results are not dependent on the particular software used or the sample being analyzed. Since our equating results validated the current operational procedures, we have no suggestions for changes to the equating procedures.

Test Quality (Chapter 3)

We addressed three aspects of CAHSEE item quality this year. With respect to test development, we observed two item review sessions, one for content and one for bias and sensitivity, conducted by ETS with high school teachers of ELA and mathematics. No significant problems were encountered. We offer a few suggestions for improving the item review process. ETS procedures for item development have been affected in recent years by California budget cuts. Content reviews as well as bias and sensitivity reviews were cut last year but reinstated this year. These reviews by subject-matter experts are vital steps in quality assurance of item content, resulting in substantial improvements to the content accuracy and expected measurement quality of CAHSEE test questions prior to field testing.

HumRRO conducted another study of content alignment of the CAHSEE, this year reviewing the March 2011 ELA and mathematics tests against their respective content specifications. Both the study design and the study results were very similar to the studies conducted in 2005, 2008, and 2009, although this year's smaller panel of independent reviewers was comprised of experts in alignment and universal design for assessment rather than California teachers. Overall the alignment was judged to be good, although a few specific areas were identified where the depth of knowledge required by the test questions or the clarity of their coverage of targeted standards might be improved. In both ELA and mathematics, as noted in prior years, there was some disagreement between the test developers and our independent reviewers about the specific objectives assessed by each test question. We offer specific suggestions for addressing persistent alignment issues for the strands of Mathematical Reasoning, Reading Comprehension, and Writing Applications.

HumRRO partnered with the National Council on Educational Outcomes (NCEO) to review the March 2011 ELA and mathematics tests relative to the principles of universal design for assessment (UDA). While this study was limited by a small number of reviewers, it identified visual presentation or visual components of a number of items in both subject area tests as potentially challenging for students without the cultural knowledge or visual capacity to understand the item context. Given the changing procedures that have recently been in place for CAHSEE item development, it will be important for ETS to attend to visual presentation and standardized formatting (e.g.,

typeface) to address UDA concerns when readying field-tested items for operational use on CAHSEE test forms.

Test Results (Chapter 4)

CAHSEE test results show significant increases in competency in targeted skills since the implementation of the CAHSEE requirement. As shown in Table 4.11, overall passing rates for seniors have increased steadily from 91.2 percent for the Class of 2006 to over 94.2 percent for this year's Class of 2011. Similarly, overall passing rates for grade ten students taking the CAHSEE for the first time have increased steadily from 64.3 percent for the Class of 2006 (tested in 2004) to 73.8 percent for the Class of 2013 tested this year.

As shown in Table 4.23 initial passing rates have increased significantly for all demographic groups, including SWD, whose initial passing rates increased from 18.8 percent to 23.1 percent. In addition, passing rates for Hispanic, African-American, and economically disadvantaged students increased more than the overall grade ten passing rate, indicating a modest closing of the achievement gap at grade ten. That said, it should also be noted that passing rates for SWD are still unacceptably low: only about half the special education students who receive regular instruction more than 80 percent of the time pass the CAHSEE in grade ten and passing rates for students who receive regular instruction less frequently are quite a bit lower. Passing rates for English learners are also very low and have increased only modestly since the CAHSEE requirement went into effect. Passing rates for economically disadvantaged and some groups of minority students also continue to be significantly lower than passing rates for white and Asian students.

Another encouraging finding is the considerable number of students who continue to try to pass the CAHSEE after their originally scheduled graduation date. Roughly 25,500 general education students who were first-time seniors in 2010 had not met the CAHSEE requirement by June 2010 (Table 4.33). More than a third of these students took the CAHSEE at least once this year, and more than 2,600 of them completed the requirement in their fifth year of high school. A similar pattern was observed last year, when nearly half of the general education students in the Class of 2009 who had not completed the CAHSEE requirement by the end of their senior year took the CAHSEE in 2010. This year, nearly 2,500 students in the Class of 2009 who had not yet passed the CAHSEE continued to try to pass it, and over 600 of them did.

One new analysis HumRRO conducted this year looked more closely at the 2010–11 testing status of students in the Class of 2011 who had not passed one or both parts of the CAHSEE as grade eleven students, with testing status defined as either “continuing” or “not continuing” to test in grade twelve. The latter group includes transfers out of state or to private schools as well as students who left school altogether. As might be expected, the percentage of students not continuing to test was higher for those who had passed neither the ELA nor mathematics test through grade eleven (35.5%) than for those who had passed one of the two tests, with 21.5 percent of those

who had passed ELA not continuing, and 18.6 percent of those who had passed mathematics not continuing (Table 4.12). The percentage of students who did not continue to take the CAHSEE was generally higher for white students than for other racial/ethnic groups. When testing status was compared to the prior mean CAHSEE score earned by students on the test they had yet to pass, the prior mean was found to be only very slightly higher for students who continued to test compared to the mean for students who did not. This seems to indicate that there is a reason other than prior test performance that may be responsible for students choosing not to continue testing, hence denying themselves the opportunity to be successful on the CAHSEE.

One other significant trend since the implementation of the CAHSEE requirement has been the proportion of students taking more advanced mathematics courses in high school. As shown in Table 4.25, the percentage of students taking math courses beyond Algebra I by grade ten has increased from 56 percent for the Class of 2006 to 73 percent for this year's grade ten students in the Class of 2013. All demographic groups showed significant increases in the percentage of students taking more advanced courses, including very significant gains for students in special education, which increased from 19 percent in the Class of 2006, to 42 percent of those in the class of 2013. Here too, however, significant gaps exist. Analyses show that, compared to white and Asian students, smaller percentages of SWD, English learners, economically disadvantaged students, and African American and Hispanic students are taking advanced mathematics courses by grade ten.

Student Questionnaire Responses (Chapter 5)

Students completed a brief questionnaire following each part of the CAHSEE. Over the past six years student perceptions about the CAHSEE have changed in several positive ways, including changes in test preparation, perception of test importance, coverage of CAHSEE topics in class, and future plans. Analyses of responses for grade ten students, in which all students were required to participate, indicated several interesting trends. Specifically, in 2011 an increased percentage of students reported:

- A teacher spent time in class helping them to prepare for the CAHSEE.
- They used the CAHSEE online prep to prepare for the CAHSEE.
- They will attend a four-year college or university after high school.
- Test items were similar to those that they had seen in class.
- None of the test topics were difficult for them (reported only after ELA).
- They did not have to work any harder to pass the CAHSEE requirement.

A decreased percentage of grade ten students reported:

- The CAHSEE might prevent them from earning a high school diploma

Though students answer the questionnaires before they receive their test scores, our analyses are able to compare responses in light of actual test performance. We compared student responses for those who passed both tests, passed only ELA,

passed only mathematics, and passed neither. Overall, in 2011 grade ten students who passed both tests reported the most positive perceptions about the CAHSEE, and those who passed neither test reported the most negative perceptions.

A higher percentage of students who passed both tests were most likely to report that:

- They used release (sample) items to prepare for the CAHSEE.
- They would graduate with the rest of their class or earlier.
- They were confident that they would receive a high school diploma.
- The topics and test questions were familiar and easy.

While the 2011 student questionnaire grade ten results were generally positive and were fairly consistent with previous years, some differences in responses across key demographic characteristics are important to note. These results indicate schools may need to pay special attention to ensure that all students have the opportunity to learn the content included in the test.

- **By Ethnicity.** Black or African American and Hispanic or Latino students were more likely than other races to report that test items were more difficult than those they had seen in class, and they were the least likely to report that they did not have to work harder to meet the CAHSEE requirement.
- **By Disability and English Learner Status.** The pattern of student responses for SWD and EL students were similar. SWD and EL students were less likely to be familiar with the CAHSEE topics and test items than the general population. They also reported higher levels of nervousness while taking the CAHSEE than any other group. A lower percentage of SWD and EL students than among the general population reported that they would stay in school and try again if they did not pass the CAHSEE, and fewer of these students planned to attend a four-year college after high school.
- **By Economically Disadvantaged Status.** In general, ED students were more likely than the general student population to respond that test items and topics were different and more difficult than those they had seen in class. They were also more likely to report nervousness as preventing them from doing as well as they could. Fewer ED students planned to attend a four-year college or university than those who were not ED, and they were less confident that they would receive a high school diploma.

We also used the student questionnaire data to investigate how grade twelve students still taking the CAHSEE in 2011 responded to the questions pertaining to post-graduation plans and content and instruction coverage. To compare perceptions of these students, near the end of their education, to their perceptions when they were in grade ten, we analyzed a selection of questionnaire responses from 2011 and from 2009 (when these students first took but did not pass the examination), and we

compared the responses of grade twelve students who passed the CAHSEE in 2011 to those who did not.

About one fourth of the students who did not pass the CAHSEE as grade twelve students were confident that they would receive a high school diploma. Slightly more than half of the students who did not pass the CAHSEE as grade twelve students believed that the CAHSEE would prevent them from earning a high school diploma. About two-thirds of those not passing indicated that they would continue to try to pass the CAHSEE – either by staying in school, taking a community college course, or participating in some other type of program to help them pass the CAHSEE.

Of the grade twelve students who had not yet passed the CAHSEE in 2011, only a small percentage more in 2011 than in 2009 responded that test items and topics were similar to those they had encountered in class. This indicates that some students may not be passing due to a lack of exposure to CAHSEE topics and test items throughout their entire high school career.

Trends in Educational Achievement and Persistence (Chapter 6)

Data sources outside the CAHSEE program provide indications of the state of education in California. The Class of 2006 was the first cohort required to pass both parts of the CAHSEE in order to receive a high school diploma, so trends from 2006 through 2010 are of particular import. Results for the Class of 2011 were not available in time for this report.

One important indicator of the impact of the CAHSEE requirement is whether the proportion of students who leave high school without a diploma changes in some way. This seemingly straightforward question demands a multifaceted answer. In 2007, California made important improvements in its student-level data systems, facilitating more accurate dropout tallies. Therefore we report here trends from 2007 through 2010; the reader is referred to previous reports in this series for earlier trends.

First, we note that the 2007 dropout rates were substantially larger than previous rates but we cannot disentangle how much of this change is a real increase in dropouts versus more accurate reporting. We found that official dropout rate calculations indicate that both single-year and four-year dropout rates decreased between 2007 and 2010, overall and for all ethnic categories. Both dropout metrics revealed that African American students drop out at a substantially higher rate than every other group, including groups such as economically disadvantaged, Limited English Proficient (LEP) and special education students. In addition, American Indian/Alaskan Native, Hispanic, Pacific Islander, economically disadvantaged, LEP, and special education students show notably higher dropout rates than white, Filipino, and Asian students. As reported previously, we found that the bulk of dropouts occur in grade twelve.

As a second look at students leaving high school prematurely, we investigated enrollment trends by grade and over time. While this measure does not directly account for mobility in and out of the state, substantial changes in enrollment declines can be

interpreted as an indirect indicator of dropout rates. Enrollment patterns indicate that the drop-off rates of sophomores, juniors and seniors declined in fall 2010; in fact the number of grade twelve students in the Class of 2011 exceeded the number of juniors in that same class. This grade twelve phenomenon may be attenuated by the continuation of students in a second senior year.

High school graduation rates can also be measured in multiple ways. We examined two measures: the graduation rate as a percentage of grade nine enrollment four years earlier, and the graduation rate required by ESEA, which is based upon the number of graduates in a given year and the number of dropouts in the relevant grade nine through grade twelve years. We found that the graduation rate as a percentage of grade nine students increased each year from 2007 through 2010 while the ESEA rate declined until 2010, then recovered somewhat. Nearly three-quarters (74.3 percent) of students who entered grade nine in the fall of 2006 graduated four years later.

Review of disaggregated grade nine to graduation rates revealed that graduation rates for most racial/ethnic groups increased from 2007 to 2010; the only exception was the group with the highest graduation rate, Asian students. Graduation rates vary widely, from 59.0 percent among African American students in 2010 to 89.4 percent for Asian students. We note that the California Department of Education (CDE) added disaggregated graduation rates for graduating cohorts in 2010 for the first time, making this important educational indicator more transparent.

We also looked at the percentage of students by demographic group who are not accounted for in either the grade-nine-to-graduation or the four-year dropout rates. We found that more students were accounted for in 2010 than in 2008. However, large differences remain across racial/ethnic groups, with a high of 10.7 percent of African American students not included in either the graduation or dropout rates. The recently introduced cohort analyses provide information heretofore unavailable, such as the number of cohort members still enrolled after their original class graduated, the number of cohort members who completed the GED, and the number of special education completers. As this information is tallied over time, the accumulated data will facilitate important improvements in the evaluation, as well as transparency to interested parties.

Participation in the SAT College entrance examination, as well as the percentage of students reaching a score of 1500 or higher, continued a three-year decline in the 2009–10 school year, while participation and performance on the ACT increased for the fifth year in a row.

In short, we found that graduation rate trends varied depending on the metric used, either rising slightly or declining less quickly in 2010 relative to 2007. While rates overall are worrisome—just under three-quarters of grade nine students graduated on time in 2010—rates for specific demographic groups are substantially lower. Dropout rates decreased for the Class of 2010 compared with the Class of 2007. The dropout rates for African American students are nearly three times the rates for white students, and rates for American Indian, Hispanic, and English learners are more than twice the rate for white students, for example.

Over one-third of the graduates in the Class of 2010 completed the A–G courses required by the University of California and California State University systems. Rates varied widely among racial/ethnic groups. Participation in Advanced Placement examinations increased in 2010, as did measures of success on the AP. Nearly a third of the 2010 graduating class (32 percent) took at least one AP examination and over one-fifth (21 percent) achieved a score of 3 or better on at least one AP examination.

Recommendations

As in past years, we offer a number of recommendations for improving the CAHSEE and its use. The first two general recommendations are addressed to the state legislature, the governor, and the State Board of Education (SBE), as well as to the CDE. These recommendations grow out of specific findings from this year’s evaluation activities. We have chosen not to simply repeat prior recommendations for which no new information is available, but will consider recommendations cumulatively in our 2012 Biennial Report. The remaining specific recommendations offer suggestions for specific improvements to CAHSEE development, administration, and scoring processes and are addressed to the CDE and the CAHSEE contractor.

Based on our analyses over the past several years, we conclude that the CAHSEE is a reasonably accurate measure of competency in the required ELA and mathematics content. Six high school classes (2006 through 2011) have been required to demonstrate competency in the targeted content by passing the CAHSEE ELA and mathematics tests. The first general recommendation suggests the need to review the CAHSEE content requirements in light of six years of experience in helping students to meet them.

General Recommendation 1: The State Board of Education and the California Department of Education should review the content and rigor of the CAHSEE requirement and propose alternatives for consideration by the Legislature and the Governor.

It has been more than ten years since the content requirements for the CAHSEE were first adopted by the SBE. Over this time only one minor change was introduced, reducing slightly the scope of the mathematics test. Since then, instruction has improved, initial passing rates for grade ten students have increased, and the proportion of students passing by the end of grade twelve has increased steadily. It is reasonable to ask whether expectations for high school graduates should now be increased.

California recently adopted the Common Core State Standards (CCSS) and is participating as a governing state in the Smarter/Balanced Assessment Consortium (SBAC). By the 2014–15 school year, a new set of assessments measuring competency in the CCSS will be in place. The CCSS were developed to build student knowledge and skill toward a rigorous conception of college and career readiness by

the end of high school. It is reasonable to ask whether expectations for high school graduates should be aligned to the new CCSS.

Many states have moved away from a single graduation test to a series of end-of-course tests (Zabala, Minnici, McMurrer & Briggs, 2008). In addition to demonstrating competency in core ELA and mathematics courses, students are often given options for demonstrating competencies in additional areas of study, such as science, social studies, foreign language, or even the arts. It is reasonable to ask whether competencies in subjects beyond ELA and mathematics should be required and whether students should be allowed to demonstrate these competencies whenever they complete the related course.

As part of the current CAHSEE evaluation contract, HumRRO is engaged in an effort to relate scores on each of the CAHSEE tests to post-high school outcomes, including college attendance and graduation. Initial results will be reported in 2012. This information would be helpful to a new panel appointed by SBE and CDE to consider recommendations for revision to the CAHSEE requirement.

The appropriateness of the CAHSEE requirement for SWD has been a continuing question over the past decade. The second general recommendation concerns the need to clarify expectations for SWD.

General Recommendation 2: California should set and maintain consistent requirements for students with disabilities with respect to the CAHSEE.

The CAHSEE requirement was appropriately deferred for two years for all students, from 2004 to 2006, to allow time for instruction at earlier grades to prepare students to take and pass Algebra I and also to prepare students to meet high school ELA expectations. The requirement was deferred two additional years for SWD, from 2006 to 2008, while a law suit on behalf of these students was resolved. This additional delay provided additional time to adjust individual education programs (IEPs) at earlier grades to prepare students for the high school requirements. For the high school classes of 2008 and 2009, SWD had to meet the CAHSEE requirement to receive a diploma, although waivers were granted if students needed a testing modification to receive a passing score. During the period from 2004 through 2009 initial passing rates for SWD increased, reflecting more rigorous and effective instruction for SWD.

Under current law, the CAHSEE requirement has once again been deferred for SWD, leaving teachers, parents, and the students themselves uncertain as to what is expected of them. Issues leading to the current exemption need to be resolved so that efforts to improve instruction for SWD will resume in full. Resolution of these issues will require agreement on appropriate alternative ways that SWD can demonstrate required knowledge and skills, and might include identifying appropriate goals for students who are not able to participate in regular academic instruction.

Several more specific recommendations for improving the CAHSEE were noted during our review of CAHSEE processes. The first aims to improve the provision of appropriate testing variations for SWD.

Specific Recommendation 1: California should ensure that LEAs and school site test administration personnel are trained to deliver appropriate accommodations and modifications to students with disabilities.

Our limited observations of test administration identified weaknesses in the process for identifying and delivering appropriate testing accommodations and modifications to SWD, for example with respect to the “test questions read aloud” sessions. CDE should review the training materials provided through ETS to LEAs and school site personnel and ensure the IEP decision-making team is engaged in the test preparation process for SWD—the subgroup that has demonstrated the greatest difficulty meeting the CAHSEE requirement.

Our next specific recommendation concerns the statewide data systems that support analysis and interpretation of CAHSEE results.

Specific Recommendation 2: California should ensure that statewide student data systems are as accurate and up-to-date as possible.

CDE is responsible for an extremely large and geographically dispersed educational system. With such size and diversity come many challenges, and an effective data system is crucial to understanding, monitoring, and improving the effectiveness of our educational systems. The California Longitudinal Pupil Achievement Data System (CALPADS) includes a comprehensive design for the collection and integration of student data. Budget limitations and other constraints have slowed the full implementation of this system, including key quality assurance components. As in prior years, we found, for example, the exit information collected on high school students was not consistent with information from the CAHSEE test records. We were thus not able to identify unambiguously students who left high school having completed all requirements except the CAHSEE.

The following two specific recommendations address the outcomes of our alignment reviews of CAHSEE test forms with respect to content and accessibility.

Specific Recommendation 3: California should work with its test administration vendor to achieve improved content alignment of items assessing the content standards in the strands of Mathematical Reasoning and Reading and Comprehension.

While the overall content alignment of the CAHSEE in both mathematics and ELA is quite positive, we believe alignment for these two strands can be strengthened. For both the Mathematical Reasoning and Reading and

Comprehension strands, the issue is that test items may be assessing students at a lower level of rigor than called for by the content standards. It may be that, when California responds to our first general recommendation, the content standards for these strands will be changed or clarified, but until that time greater attention is needed to verify the content of items targeted to these areas.

Specific Recommendation 4: California should examine the visual presentation of the CAHSEE to achieve closer alignment with the principles of universal design for assessment.

Small changes in the visual presentation of items, which should not impact the validity of the items' ability to measure certain California state standards, are advised so as to improve the accessibility of the test to SWD. There may be cost implications to making such changes, so further study of particular populations' visual presentation needs may be warranted. As new versions of tests emerge, CDE should direct test designers to attend to visual and sensitivity aspects so as to help create assessments that closely align with universal design principles.

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**Appendix A
Observation Checklist for CAHSEE Range-Finding Session**

Indicate whether or not you observed the following and briefly describe:

1.	Welcome and Introductions Note number of Facilitators/Trainers and number of experienced & first-time Scoring Leaders: _____
2.	Security and Nondisclosure Forms
3.	Overview of Agenda and Goals, Schedule for Reviewing Sets of Field Test Responses
4.	Roles and Responsibilities (Facilitators/Trainers, Scoring Leaders, ETS staff)
5.	Project Overview (Standards, Assessment Design, Scoring Guide Overview, General Guidelines for Scoring)
6.	Adult Learning Techniques (realistic goals, relevant information, feedback, coaching, respectful, etc.)
7.	Training Procedures and Scoring Materials:
a.	Explanation of independent scoring process
b.	Handouts of scoring guides/rubrics
c.	Handouts of field test responses
d.	Handouts of rating forms
e.	Other handouts
8.	Identifying Anchors and Range Finder Responses:
a.	Explanation of process for group review of scoring decisions
b.	Development of item-specific annotations and notes
c.	Choosing exemplary responses
d.	Resolving discrepant scoring decisions
9.	Scoring and Monitoring Procedures
a.	Inter Rater Reliability targets
b.	Monitoring the pace
c.	Fine points of interpreting and applying rubric
d.	Scorer feedback and intervention process
e.	Calibration to pre-scored responses
f.	Special scoring situations

Indicate whether or not you observed the following BEST PRACTICES and briefly describe:

1.	The materials help the participants master the tasks or procedures.
2.	The session design is based on a logical sequencing of the tasks or procedures (e.g., general to specific, known to unknown, step-by-step).
3.	Adult learning principles are employed throughout the session (realistic goals, relevant information, feedback, coaching, respectful treatment, etc.)
4.	The session makes ample use of examples.
5.	The session includes elements to reinforce retention, transfer of learning, and mastery of the tasks (e.g., Q&A guided discussions, small group activities, summaries, reviews).
6.	The session's content is current and technically correct.

Appendix B
Example Materials from CAHSEE Test Quality Reviews

Unless otherwise noted, materials are displayed here exactly in the format presented to reviewers.

Alignment Review Materials

Agenda

California High School Exit Exam (CAHSEE) Alignment-Universal Design Review

April 12-13, 2011

Alignment Review

DAY 1

- 8:30am Introductions and Workshop Overview
- 9:00am Alignment Training:
Human Resources Research Organization (HumRRO)
- 9:45am Universal Design (UD) Training:
National Center on Educational Outcomes (NCEO)
- 10:30am Break
- 10:35am Alignment Breakout: Depth-of-knowledge (DOK) ratings of standards
- 11:45pm Lunch
- 12:45pm Alignment Breakout: Training on released CAHSEE items
- 1:15pm Alignment Breakout: Test form ratings
- 2:00pm Alignment Breakout: Calibration on items
- 2:15pm Break
- 2:20pm Alignment Breakout: Continue item ratings
- 4:00pm Alignment Breakout: Adjudicate items and alignment summary
- 4:30pm Adjourn

Universal Design Review

DAY 2

- 8:00am Alignment Breakout: Finish item ratings per group (if needed)
- 8:45am UD Breakout: Review procedure
- 9:00am UD Breakout: Begin item review
- 10:15am Break
- 10:30am UD Breakout: Continue item review
- 11:30am Lunch
- 12:30pm UD Breakout: Continue item review
- 2:15pm Break
- 2:30pm UD Breakout: Whole test review
- 3:00pm Group debriefing: Alignment and UD
- 4:30pm Adjourn

Instructions to Reviewers: Performing Alignment Tasks

Before you begin...

- What you need:** Laptop
- What to do:** (a) Check for Excel spreadsheets, (b) set autosave, (c) rename files

Step 1 – Review DOK of content standards:

- What you need:** (1) DOK Definitions, (2) Printed standards, and (3) DOK_standards_RatingForm
- What to do:** (a) Train on DOK definitions and rating procedures with HumRRO Facilitator.
- (b) Independent Ratings: Determine DOK for each highlighted standard. Enter single value into cell.
- (c) Consensus Ratings: Review all ratings with group. Come to consensus no discrepant ratings. Facilitator will enter consensus DOKs and notes.

Step 2 – Train on released items.

- What you need:** (1) DOK Definitions, (2) Printed standards, and (3) Released items
- What to do:** (a) Rate DOK of released items. Review with group.
- (b) Identify content assessed (standard) by released items. Identify Degree of Alignment Rating (see scale below). Review with group.

Step 3 - Review items.

- What you need:** (1) DOK Definitions, (2) Printed standards with numeric codes, (3) Test form, and (4) Excel Item Rating form
- What to do:** (a) Sign out test form.
- (b) Begin rating items.
- (c) If you do not match to a standard, or entered a '1' or '2' for Degree of Alignment rating, please provide explanation in NOTES column.
- (d) Sign in test form.

Step 3 – Adjudicate.

If Facilitator determines that ratings on some items are highly discrepant, panelists will be encouraged to review and discuss those items. HumRRO Facilitator will record notes on these items. NOTE: Unless you made an error in your rating of an item, please DO NOT change your individual rating. We retain both consensus and individual ratings to capture the full perspective on items.

Step 5 - Alignment Summary: Survey and Debriefing

Complete a survey describing overall alignment judgments.

Degree of Alignment: Rating Scale

- | | |
|---|---|
| 1 | Not aligned to any standard (Use ONLY if you did not assign a standard to the item). |
| 2 | Weakly aligned to this standard – does not assess the content of the academic standards well. |
| 3 | Highly aligned to this standard - targets core content reasonably well. |
| 4 | Fully aligned to the benchmarks - Exemplary item, clear example of standard to which it is matched. |

Mathematics DOK Levels

Adapted from N. L. Webb (2005). Web Alignment Tool (WAT): Training Manual.

Level 1 (Recall) includes the recall of information such as a fact, definition, term, or a simple procedure, as well as performing a simple algorithm or applying a formula. That is, in mathematics, a one-step, well-defined, and straight algorithmic procedure should be included at this lowest level. Other key words that signify Level 1 include “identify,” “recall,” “recognize,” “use,” and “measure.” Verbs such as “describe” and “explain” could be classified at different levels, depending on what is to be described and explained.

Level 2 (Skill/Concept) includes the engagement of some mental processing beyond an habitual response. A Level 2 assessment item requires students to make some decisions as to how to approach the problem or activity, whereas Level 1 requires students to demonstrate a rote response, perform a well-known algorithm, follow a set procedure (like a recipe), or perform a clearly defined series of steps. Keywords that generally distinguish a Level 2 item include “classify,” “organize,” “estimate,” “make observations,” “collect and display data,” and “compare data.” These actions imply more than one step. For example, to compare data requires first identifying characteristics of objects or phenomena and then grouping or ordering the objects. Some action verbs, such as “explain,” “describe,” or “interpret,” could be classified at different levels depending on the object of the action. For example, interpreting information from a simple graph, or reading information from the graph, also are at Level 2. Interpreting information from a complex graph that requires some decisions on what features of the graph need to be considered and how information from the graph can be aggregated is at Level 3. Level 2 activities are not limited only to number skills, but may involve visualization skills and probability skills. Other Level 2 activities include noticing or describing non-trivial patterns, explaining the purpose and use of experimental procedures; carrying out experimental procedures; making observations and collecting data; classifying, organizing, and comparing data; and organizing and displaying data in tables, graphs, and charts.

Level 3 (Strategic Thinking) requires reasoning, planning, using evidence, and a higher level of thinking than the previous two levels. In most instances, requiring students to explain their thinking is at Level 3. Activities that require students to make conjectures are also at this level. The cognitive demands at Level 3 are complex and abstract. The complexity does not result from the fact that there are multiple answers, a possibility for both Levels 1 and 2, but because the task requires more demanding reasoning. An activity, however, that has more than one possible answer and requires students to justify the response they give would most likely be at Level 3.

Other Level 3 activities include drawing conclusions from observations; citing evidence and developing a logical argument for concepts; explaining

phenomena in terms of concepts; and deciding which concepts to apply in order to solve a complex problem.

Level 4 (Extended Thinking) requires complex reasoning, planning, developing, and thinking, most likely over an extended period of time. The extended time period is not a distinguishing factor if the required work is only repetitive and does not require applying significant conceptual understanding and higher-order thinking. For example, if a student has to take the water temperature from a river each day for a month and then construct a graph, this would be classified as a Level 2. However, if the student is to conduct a river study that requires taking into consideration a number of variables, this would be a Level 4. At Level 4, the cognitive demands of the task should be high and the work should be very complex. Students should be required to make several connections—relate ideas *within* the content area or *among* content areas—and have to select one approach among many alternatives on how the situation should be solved, in order to be at this highest level. Level 4 activities include designing *and* conducting experiments and projects; developing and proving conjectures, making connections between a finding and related concepts and phenomena; combining and synthesizing ideas into new concepts; and critiquing experimental designs.

NOTE: Many on-demand assessment instruments will not include assessment activities that could be classified as Level 4. However, standards, goals, and objectives can be stated so as to expect students to perform thinking at this level. On-demand assessments that do include tasks, products, or extended responses would be classified as Level 4 when the task or response requires evidence that the cognitive requirements have been met. *[added October 2009_LRT]*

Reading DOK Levels

Adapted from N. L. Webb (2005). *Web Alignment Tool (WAT): Training Manual*.

The reading levels are based on Valencia and Wixson (2000, pp. 909-935). The writing levels were developed by Marshá Horton, Sharon O’Neal, and Phoebe Winter.

Reading Level 1. Level 1 requires students to receive or recite facts or to use simple skills or abilities. Oral reading that does not include analysis of the text, as well as basic comprehension of a text, is included. Items require only a shallow understanding of the text presented and often consist of verbatim recall from text, slight paraphrasing of specific details from the text, or simple understanding of a single word or phrase. Some examples that represent, but do not constitute all of, Level 1 performance are:

- Support ideas by reference to verbatim or only slightly paraphrased details from the text.
- Use a dictionary to find the meanings of words.
- Recognize figurative language in a reading passage.

Reading Level 2. Level 2 includes the engagement of some mental processing beyond recalling or reproducing a response; it requires both comprehension and subsequent processing of text or portions of text. Inter-sentence analysis of inference is required. Some important concepts are covered, but not in a complex way. Standards and items at this level may include words such as summarize, interpret, infer, classify, organize, collect, display, compare, and determine whether fact or opinion. Literal main ideas are stressed. A Level 2 assessment item may require students to apply skills and concepts that are covered in Level 1. However, items require closer understanding of text, possibly through the item’s paraphrasing of both the question and the answer. Some examples that represent, but do not constitute all of, Level 2 performance are:

- Use context cues to identify the meaning of unfamiliar words, phrases, and expressions that could otherwise have multiple meanings.
- Predict a logical outcome based on information in a reading selection.
- Identify and summarize the major events in a narrative.

Reading Level 3. Deep knowledge becomes a greater focus at Level 3. Students are encouraged to go beyond the text; however, they are still required to show understanding of the ideas in the text. Students may be encouraged to explain, generalize, or connect ideas. Standards and items at Level 3 involve reasoning and planning. Students must be able to support their thinking. Items may involve abstract theme identification, inference

across an entire passage, or students' application of prior knowledge. Items may also involve more superficial connections between texts. Some examples that represent, but do not constitute all of, Level 3 performance are:

- Explain or recognize how the author's purpose affects the interpretation of a reading selection.
- Summarize information from multiple sources to address a specific topic.
- Analyze and describe the characteristics of various types of literature.

Reading Level 4. Higher-order thinking is central and knowledge is deep at Level 4. The standard or assessment item at this level will probably be an extended activity, with extended time provided for completing it. The extended time period is not a distinguishing factor if the required work is only repetitive and does not require the application of significant conceptual understanding and higher-order thinking. Students take information from at least one passage of a text and are asked to apply this information to a new task. They may also be asked to develop hypotheses and perform complex analyses of the connections among texts. Some examples that represent, but do not constitute all of, Level 4 performance are:

- Analyze and synthesize information from multiple sources.
- Examine and explain alternative perspectives across a variety of sources.
- Describe and illustrate how common themes are found across texts from different cultures.

NOTE: Many on-demand assessment instruments will not include assessment activities that could be classified as Level 4. However, standards, goals, and objectives can be stated so as to expect students to perform thinking at this level. On-demand assessments that do include tasks, products, or extended responses would be classified as Level 4 when the task or response requires evidence that the cognitive requirements have been met. *[added October 2009_LRT]*

Writing DOK Levels

Adapted from N. L. Webb (2005). *Web Alignment Tool (WAT): Training Manual*.

Writing Level 1. Level 1 requires the student to write or recite simple facts. The focus of this writing or recitation is not on complex synthesis or analysis, but on basic ideas. The students are asked to list ideas or words, as in a brainstorming activity, prior to written composition; are engaged in a simple spelling or vocabulary assessment; or are asked to write simple sentences. Students are expected to write, speak, and edit using the conventions of Standard English. This includes using appropriate grammar, punctuation, capitalization, and spelling. Students demonstrate a basic understanding and appropriate use of such reference materials as a dictionary, thesaurus, or Web site. Some examples that represent, but do not constitute all of, Level 1 performance are:

- Use punctuation marks correctly.
- Identify Standard English grammatical structures, including the correct use of verb tenses.

Writing Level 2. Level 2 requires some mental processing. At this level, students are engaged in first-draft writing or brief extemporaneous speaking for a limited number of purposes and audiences. Students are expected to begin connecting ideas, using a simple organizational structure. For example, students may be engaged in note-taking, outlining, or simple summaries. Text may be limited to one paragraph. Some examples that represent, but do not constitute all of, Level 2 performance are:

- Construct or edit compound or complex sentences, with attention to correct use of phrases and clauses.
- Use simple organizational strategies to structure written work.
- Write summaries that contain the main idea of the reading selection and pertinent details.

Writing Level 3. Level 3 requires some higher-level mental processing. Students are engaged in developing compositions that include multiple paragraphs. These compositions may include complex sentence structure and may demonstrate some synthesis and analysis. Students show awareness of their audience and purpose through focus, organization, and the use of appropriate compositional elements. The use of appropriate compositional elements includes such things as addressing chronological order in a narrative, or including supporting facts and details in an informational report. At this stage, students are engaged in editing and revising to improve the quality of the composition. Some examples that represent, but do not constitute all of, Level 3 performance are:

- Support ideas with details and examples.
- Use voice appropriate to the purpose and audience.
- Edit writing to produce a logical progression of ideas.

Writing Level 4. Higher-level thinking is central to Level 4. The standard at this level is a multi-paragraph composition that demonstrates the ability to synthesize and analyze complex ideas or themes. There is evidence of a deep awareness of purpose and audience. For example, informational papers include hypotheses and supporting evidence. Students are expected to create compositions that demonstrate a distinct voice and that stimulate the reader or listener to consider new perspectives on the addressed ideas and themes. An example that represents, but does not constitute all of, Level 4 performance is:

- Write an analysis of two selections, identifying the common theme and generating a purpose that is appropriate for both.

Example: Depth of Knowledge Rating Form for Mathematics Content Standards

Reviewers entered DOK ratings for content standards in Excel spreadsheets. This page illustrates the format of the electronic Standards DOK Rating Form. The text was taken exactly from the CAHSEE Test Blueprints for mathematics (2003 version). Reviewers only entered DOK ratings for standards targeted for assessment (unshaded cells).

Strand	Substrand	Standard	Enter DOK Level (1 to 4)
1	Grade 6—Statistics, Data Analysis, and Probability	<p>1.0 Students compute and analyze statistical measurements for data sets:</p> <p>1.1 Compute the range, mean, median, and mode of data sets.</p> <p>1.2 Understand how additional data added to data sets may affect these computations of measures of central tendency.</p> <p>1.3 Understand how the inclusion or exclusion of outliers affects measures of central tendency.</p> <p>1.4 Know why a specific measure of central tendency (mean, median, mode) provides the most useful information in a given context.</p> <p>2.0 Students use data samples of a population and describe the characteristics and limitations of the samples:</p> <p>2.1 Compare different samples of a population with the data from the entire population and identify a situation in which it makes sense to use a sample.</p> <p>2.2 Identify different ways of selecting a sample (e.g., convenience sampling, responses to a survey, random sampling) and which method makes a sample more representative for a population.</p> <p>2.3 Analyze data displays and explain why the way in which the question was asked might have influenced the results obtained and why the way in which the results were displayed might have influenced the conclusions reached.</p> <p>2.4 Identify data that represent sampling errors and explain why the sample (and the display) might be biased.</p> <p>2.5 Identify claims based on statistical data and, in simple cases, evaluate the validity of the claims.</p> <p>3.0 Students determine theoretical and experimental probabilities and use these to make predictions about events:</p> <p>3.1 Represent all possible outcomes for compound events in an organized way (e.g., tables, grids, tree diagrams) and express the theoretical probability of each outcome.</p>	

Example: Depth of Knowledge Rating Form for ELA Content Standards

Reviewers entered DOK ratings for content standards into Excel spreadsheets. This page illustrates the format of the electronic Standards DOK Rating Form. The text in the form was taken exactly from the CAHSEE Test Blueprints for English-language arts (2003 version).

Strand	Substrand	Standard	Enter DOK Level (1 to 4)
Reading (Grades Nine and Ten with two standards from Grade Eight as noted)			
<p>1 Word Analysis, Fluency, and Systematic Vocabulary Development.</p> <p>Students apply their knowledge of word origins to determine the meaning of new words encountered in reading materials and use those words accurately.</p>			
<p>1.1 Identify and use the literal and figurative meanings of words and understand word derivations.</p> <p>1.2 Distinguish between the denotative and connotative meanings of words and interpret the connotative power of words.</p> <p>1.3 Identify Greek, Roman, and Norse mythology and use the knowledge to understand the origin and meaning of new words (e.g., the word narcissistic drawn from the myth of Narcissus and Echo).</p>			
<p>2 Reading Comprehension (Focus on Informational Materials)</p> <p>Students read and understand grade-level-appropriate material. They analyze the organizational patterns, arguments, and positions advanced. The selections in Recommended Literature, Grades Nine Through Twelve (1990) illustrate the quality and complexity of the materials to be read by students. In addition, by grade twelve, students read two million words annually on their own, including a wide variety of classic and contemporary literature, magazines, newspapers, and online information. In grades nine and ten, students make substantial progress toward this goal.</p> <p>Structural Features of Informational Materials</p>			
<p>†8.2.1 Compare and contrast the features and elements of consumer materials to gain meaning from documents (e.g., warranties, contracts, product information, instruction manuals).</p> <p>2.1 Analyze the structure and format of functional workplace documents, including the graphics and headers, and explain how authors use the features to achieve their purposes.</p>			

Example: Item Rating Form

Reviewers entered item ratings into Excel spreadsheets. The same general format was used for mathematics and for ELA. This page illustrates the format of the electronic Item Rating Form.

Item Number	Depth Of Knowledge	Content Standard	Content Standard	Degree of Alignment	Explanation
(Number Listed in Test Form)	(Enter 1 to 4)	(Enter Standard Code)	(Enter Standard Code)	(Enter 1 to 4)	Make notations if you give low ratings or cannot match to content standard
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					



Human Resources Research Organization

Debriefing: Analysis of Alignment Outcomes

Please respond to the following questions based on your overall impressions of alignment. You are welcome to discuss with other panelists.

Content Area _____

Grade _____

For each standard, did the items cover the most important topics you expected by the standard? If not, what topics were not assessed that should have been?

For each standard, did the items cover the most important performance (DOK levels) you expected by the standard? If not, what performance was not assessed?

Was there any content you expected to be assessed, but found no items assessing that content? What was that content?

What is your general opinion of the alignment between the standards and assessment:

- i. Perfect alignment
- ii. Acceptable alignment
- iii. Needs slight improvement
- iv. Needs major improvement
- v. Not aligned in any way?

Adapted from N. L. Webb (2005). *Web Alignment Tool (WAT): Training Manual*.

Universal Design Review Materials

Reviewers completed a rating form on the Considerations for Universally Designed Assessments (NCEO). This page illustrates the format of the rating form used for mathematics and for ELA.

For each bullet point, respond with: “+” if the consideration is present, “-” if the consideration is NOT present, “NA” if consideration is not applicable to item, “DK” if you don’t know	Passage (cite page #)	Item #1	Item #2	Item #3	Item #4	Item #5	Describe Concerns and Suggestions for items and reading passages (include item # with comment)
Item respects the diversity of the assessment population							
<ul style="list-style-type: none"> • Sensitive to test taker characteristics and experiences (gender, age, ethnicity, SES, region, disability, language) 							
<ul style="list-style-type: none"> • Avoids content that might unfairly advantage or disadvantage any student subgroup 							
Item has concise and readable text							
<ul style="list-style-type: none"> • Commonly used words (except vocabulary tested) 							
<ul style="list-style-type: none"> • Vocabulary appropriate for grade level 							
<ul style="list-style-type: none"> • Minimum use of unnecessary words 							
<ul style="list-style-type: none"> • Technical terms and abbreviations avoided unless tested 							
<ul style="list-style-type: none"> • Sentence complexity appropriate for grade level 							
<ul style="list-style-type: none"> • Question to be answered identifiable 							
Item has a clear format for text							
<ul style="list-style-type: none"> • Standard typeface 							
<ul style="list-style-type: none"> • Twelve (12) point minimum size for all print 							
<ul style="list-style-type: none"> • High contrast between text and background 							
<ul style="list-style-type: none"> • Sufficient blank space 							
<ul style="list-style-type: none"> • Staggered right margins 							
Item has clear visuals (use NA for none)							
<ul style="list-style-type: none"> • Visuals are needed to answer the question 							
<ul style="list-style-type: none"> • Visuals have clearly defined features 							
<ul style="list-style-type: none"> • High contrast between visuals and background 							
<ul style="list-style-type: none"> • Visuals are clearly labeled 							
Item allows changes to format without changing meaning or difficulty (check allowed accommodations)							
<ul style="list-style-type: none"> • Braille or other tactile format 							
<ul style="list-style-type: none"> • Sign language interpretation 							
<ul style="list-style-type: none"> • Assistive technology 							
<ul style="list-style-type: none"> • Translation into another language 							
Describe other considerations specific to item on back							

**Appendix C
Alignment Review: Detailed Statistical Results**

In this appendix, we include detailed alignment results underlying summary tables included in Chapter 2, as well as supplemental results from the universal design review.

***Statistical Results per Webb Alignment Indicator
for March 2011 CAHSEE Operational Items***

Tables C-1 through C-8 present descriptive statistics corresponding with each Webb alignment measure. We present all results first for mathematics, followed by ELA.

Categorical Concurrence

This measure determines the extent to which items cover the content strands included in the CAHSEE test blueprints. Webb recommends a minimum of six test questions to adequately assess each content strand. This criterion serves as a guideline for reasonable content coverage. Analysis involves (a) determining the frequency of items matched to standards per strand for each reviewer, (b) calculating mean (M) items per strand across reviewers, and (c) calculating standard deviation (SD) to determine how much, or far, reviewers' ratings diverged from the mean number.

Starting with Column 1, the table lists the number of strands per content area, the title of the strand, the target number of items listed in the test blueprint, the average number of items matched by reviewers, and the conclusion of this alignment analysis (Yes or No).

Table C-1. Categorical Concurrence for Mathematics: Mean Number of Items per Strand

	Content Strand	Number of Items Per Strand			At Least Six Items
		Target Number	Mean Number Matched	Standard Deviation	
1	Statistics, Data Analysis, and Probability	12	13.50	1.00	Yes
2	Number Sense	14	14.00	.00	Yes
3	Algebra and Functions	17	18.75	4.50	Yes
4	Measurement and Geometry	17	16.25	1.26	Yes
5	Mathematical Reasoning	8	4.25	.50	No
6	Algebra I	12	13.25	1.89	Yes
Percent of strands with at least six items					83%

Table C-2. Categorical Concurrence for ELA: Mean Number of Items per Strand

	Content Strand	Number of Items Per Strand			At Least Six Items
		Target Number	Mean Number Matched	Standard Deviation	
1	Word Analysis, Fluency, and Systematic Vocabulary Development	7	7.60	1.95	Yes
2	Reading Comprehension	18	16.40	2.41	Yes
3	Literary Response and Analysis	20	19.00	4.06	Yes
4	Writing Strategies	12	9.00	1.58	Yes
5	Writing Applications	1	1.00	.00	^a No
6	Written and Oral English Language Conventions	15	17.60	.89	Yes
Percent of strands with at least six items					83%

^a The number of items matched to Writing Applications by reviewers correspond with the CAHSEE test blueprint. While test forms only include a single constructed response item targeting Writing Applications, this item is weighted and intentionally assesses more than one standard.

Depth-of-Knowledge (DOK) Consistency

Analyses of DOK measure the type of cognitive processing required of students by content standards. The DOK requirements implied by the California standards should be reflected in the corresponding CAHSEE assessment items. To confirm this match, the Webb method requires reviewers to separately rate the standards and the test items on depth of knowledge on a 4-point scale (see Appendix C for example of DOK scale). Webb includes an alignment measure, referred to as depth-of-knowledge consistency, which directly compares panelists' DOK ratings of content standards to their ratings of test items.

Generating the DOK consistency measure involves several calculations. First, we determined the mean number of items with DOK below, at, and above the DOK level of the matched standards. These means were produced by calculating the frequency of items per reviewer at each DOK level relative to the corresponding standards. Next, we summed item frequencies across standards per reviewer, and then calculated the mean number of items with DOK below, at, and above the standard DOK. We established the decision criterion that at least 50% of items per strand must match the DOK level of corresponding standards for acceptable alignment¹⁵.

Table C-x displays the mean number of items with DOK at the same level, or above or below, the level of the corresponding standards. Column 5 (last column) specifies whether or not the amount of DOK consistency was acceptable per strand as well as noting the sum percentage of items at or above the strand DOK level.

¹⁵ Webb's criterion is that DOK for 50% of items must be at *or above* corresponding content objective. HumRRO applies the criterion of requiring a match at the same level only because assessing students above the level expected for proficiency also potentially assesses students inaccurately.

Table C-3. Depth-of-Knowledge Consistency for Math: Mean Percent of Items per Strand with DOK Below, At, and Above DOK Level of Standards

Content Strand	Mean Items per Strand	Depth-of-Knowledge Consistency						50% or More Items Match Standard DOK
		% Items Below		% Items At Same Level		% Items Above		
		M	SD	M	SD	M	SD	
1 Statistics, Data Analysis, and Probability	13.50	43	.18	55	.16	2	.04	Yes
2 Number Sense	14.00	29	.06	66	.12	5	.07	Yes
3 Algebra and Functions	18.75	28	.04	63	.05	9	.01	Yes
4 Measurement and Geometry	16.25	22	.09	64	.07	14	.09	Yes
5 Mathematical Reasoning	4.25	78	.17	23	.17	0	.00	No
6 Algebra I	13.25	17	.07	81	.11	2	.04	Yes

Percent of strands with 50% of item DOK at or above standard DOK: 83%

Table C-4. Depth-of-Knowledge Consistency for ELA: Mean Percent of Items per Strand with DOK Below, At, and Above DOK Level of Standards

Content Strand	Mean Items per Strand	Depth-of-Knowledge Consistency						50% or More Items Match Standard DOK
		% Items Below		% Items At Same Level		% Items Above		
		M	SD	M	SD	M	SD	
1 Word Analysis, Fluency, and Systematic Vocabulary Development	7.60	40	.35	60	.35	0	.00	Yes
2 Reading Comprehension	16.40	56	.25	37	.20	7	.16	No
3 Literary Response and Analysis	19.00	41	.12	47	.15	12	.06	No
4 Writing Strategies	9.00	42	.19	58	.19	0	.00	Yes
5 Writing Applications	1.00	80	.45	20	.45	0	.00	No
6 Written and Oral English Language Conventions	17.60	52	.33	44	.35	3	.03	No

Percent of strands with 50% of item DOK at or above standard DOK: 33%

Range-of-Knowledge Correspondence

The range-of-knowledge measure examines content breadth in greater detail. This measure considers how many standards within a strand are represented by items using the guideline that all standards targeted for assessment should be linked with at least one item. Webb’s minimum level of acceptability for range is that at least 50% of standards per strand link with items for adequate breadth *within* strands.

To determine how many standards were matched to items, we first computed the frequency of standards covered (per strand) separately for each reviewer. Next, we calculated the mean number of standards linked with items across reviewer.

Table C-5. Range-of-Knowledge for Math: Mean Percent Standards per Strand Linked with Items

Content Strand	Number of Target Standards	Mean Items per Strand	Range of Standards			Range-of-Knowledge Correspondence
			Standards with At Least One Item	% of Standards per Strand		
			M	SD	M	
1 Statistics, Data Analysis, and Probability	7	13.50	5.50	.58	79	Yes
2 Number Sense	10	14.00	9.00	.00	90	Yes
3 Algebra and Functions	10	18.75	8.50	1.73	85	Yes
4 Measurement and Geometry	10	16.25	8.75	.50	88	Yes
5 Mathematical Reasoning	6	4.25	3.00	.00	50	Yes
6 Algebra I	10	13.25	7.75	.50	77	Yes
Percentage of strands with 50% of standards linked to at least one item						100%

Table C-6. Range-of-Knowledge for ELA: Mean Percent Standards per Strand Linked with Items

Content Strand	Number of Target Standards	Mean Items per Strand	Range of Standards			Range-of-Knowledge Correspondence
			Standards with At Least One Item	% of Total Standards per Strand		
			M	SD	M	
1 Word Analysis, Fluency, and Systematic Vocabulary Development	2	7.60	1.40	.55	70%	Y
2 Reading Comprehension	6	16.40	2.60	1.34	43%	Y
3 Literary Response and Analysis	12	19.00	8.20	1.92	68%	Y
4 Writing Strategies	5	9.00	3.60	.89	72%	Y
5 Writing Applications	6	1.00	1.00	.00	17%	N
6 Written and Oral English Language Conventions	3	17.60	3.00	.00	100%	Y
Percentage of strands with 50% of standards linked to at least one item						83%

Balance-of-Knowledge Representation

The fourth measure of alignment included in the Webb method is balance-of-knowledge representation. This measure describes the distribution of items linked to each standard within each strand. The number of items should be distributed relatively

evenly between standards to achieve good balance. However, the balance-of-knowledge results should be evaluated within the context of the state test blueprint, as well as against the other three Webb alignment indicators.

The content balance is determined by calculating an index, or score, for each strand based on the number of items per standard associated with that strand¹⁶. This index is based on item frequencies per standard, which first are summed per reviewer. We then generated the mean frequency of items per standard across reviewers for each strand. According to Webb, the minimum acceptable index for a single strand is 0.70 (on a scale of 0 to 1, with 1 representing perfect balance). An index of 0.70 or higher suggests that items broadly assess the standards matched to items by reviewers instead of clustering around one or two standards.

One point should be noted regarding the balance index when interpreting the results. Only those standards actually matched to items by the panelists are included in calculations of the balance index. A given strand may include more standards than are actually linked to items by panelists. For example, if a particular strand includes eight standards in the state content standards document but panelists found items matching to just three standards, only these three standards are evaluated for item distribution. Recognizing this feature of the balance index is important in cases when the range measure and balance measure produce seemingly contrasting results.

Table C-7. Balance of Knowledge for Math: Mean Balance Index per Standard

Content Strand	Balance-of-Knowledge Representation						
	Number of Target Standards	Mean Items per Standard	Mean Stds Linked with Items	Mean % of Items Linked to Standard	Mean Balance Index	SD.	Balance Index Target Met
		M	M	M			
1 Statistics, Data Analysis, and Probability	7	13.50	1.40	17	.88	0.71	Yes
2 Number Sense	10	14.00	2.60	18	.77	0.86	Yes
3 Algebra and Functions	10	18.75	8.20	23	.79	1.14	Yes
4 Measurement and Geometry	10	16.25	3.60	20	.82	0.72	Yes
5 Mathematical Reasoning	6	4.25	1.00	5	.90	0.77	Yes
6 Algebra I	10	13.25	3.00	17	.76	0.94	Yes
Percentage of standards with a balance of representation index of 70 or greater							100%

¹⁶ The exact formula for calculating the balance index is explained in detail in Webb’s (2005) alignment training manual: <http://www.wcer.wisc.edu/WAT/index.aspx> .

Table C-8. Balance of Knowledge for ELA: Mean Balance Index per Standard

Content Strand	Balance-of-Knowledge Representation						
	Number of Target Standards	Mean Items per Standard	Mean Stds Linked with Items	Mean % of Items Linked to Standard	Mean Balance Index	Acceptability of Balance Index (70 or above)	
		M	M	M	M	SD	
1 Word Analysis, Fluency, and Systematic Vocabulary Development	2	7.60	1.40	11	.74	2.97	Y
2 Reading Comprehension	6	16.40	2.60	23	.86	.51	Y
3 Literary Response and Analysis	12	19.00	8.20	27	.85	.69	Y
4 Writing Strategies	5	9.00	3.60	13	.89	.66	Y
5 Writing Applications	6	1.00	1.00	1	1.00	.00	Y
6 Written and Oral English Language Conventions	3	17.60	3.00	25	.84	2.37	Y
Percentage of standards with a balance of representation index of 70 or greater							80%

Item DOK Distribution

Table C-9 displays the distribution of mathematics items on the March 2011 CAHSEE test form by item DOK level. Ratings reflect reviewers' judgments on the cognitive skills required for students to respond to items. Mean ratings are presented across reviewers by item type (operational and field-test items).

Table C-9. Mean Item DOK Ratings by Item Type for Mathematics

Item DOK Ratings	Operational items		Field-test items	
	M	S.D.	M	S.D.
Recall	45.50	2.08	5.25	1.71
Comprehension	33.75	2.22	6.75	1.71
Strategic planning	>1	0.47	0.00	0.00
Extended thinking	0.00	0.00	0.00	0.00

Table C-10 displays the distribution of ELA items on the March 2011 CAHSEE test form by DOK level. Ratings reflect reviewers' judgments on the cognitive skills required for students to respond to items. Mean ratings are presented across reviewers by item type (operational and field-test items).

Table C-10. Mean Item DOK Ratings by Item Type for ELA

Item DOK Ratings	Operational items		Field-test items	
	M	S.D.	M	S.D.
Recall	19.40	6.43	2.75	0.96
Comprehension	37.20	10.26	3.80	1.79
Strategic planning	16.20	4.32	1.25	0.50
Extended thinking	>1	0.45	0.00	0.00

Degree of Alignment Ratings

Table C-11 displays the distribution of mathematics items on the March 2011 CAHSEE test form by Item Alignment ratings. Ratings reflect reviewers’ judgments on the extent to which content standards matched to items (based on standards selected by individual reviewers). Mean ratings are presented across reviewers by item type (operational and field-test items).

Table C-11. Mean Ratings on Degree of Alignment by Item Type for ELA

Degree of Alignment Ratings	Operational items		Field-test items	
	M	S.D.	M	S.D.
Not aligned	1.50	0.71	0.00	0.00
Weakly aligned	6.75	4.35	1.67	1.15
Highly aligned	63.00	14.70	10.00	2.16
Fully aligned	12.67	16.77	1.50	0.71

Table C-12 displays the distribution of ELA items on the March 2011 CAHSEE test form by Item Alignment ratings. Ratings reflect reviewers’ judgments on the extent to which content standards matched to items (based on standards selected by individual reviewers). Mean ratings are presented across reviewers by item type (operational and field-test items).

Table C-12. Mean Ratings on Degree of Alignment by Item Type for ELA

Degree of Alignment Ratings	Field-test items		Operational items	
	M	S.D.	M	S.D.
Not aligned	17.00	4.85	>1	0.45
Weakly aligned	14.80	6.26	2.50	0.58
Highly aligned	31.80	10.69	3.20	0.84
Fully aligned	11.75	10.08	2.67	2.08