
ADDENDUM TO THE
CALIFORNIA STANDARDS TESTS (CST)
TECHNICAL REPORT
SPRING 2006 ADMINISTRATION

The purpose of this addendum is to provide additional information to the CST Development Process described in Chapter 2 of the California Standards Test Technical Report for the Spring 2006 Administration. Specifically, this addendum provides information about content validity for the CSTs.

Credentials Required for Content Validity

Content validity refers to the degree to which the content of a test is congruent with the purpose of the testing, as determined by subject matter experts of the highest caliber. CST items were developed to align with the California Content Standards that are representative of the broader content domains: English–language arts, mathematics, science, and history–social science. Thus, the content-related evidence of validity concerns the extent to which the test items represent these specified content domains and cognitive dimensions.

Content validity also provides information about how well an item measures its intended construct. Such validity is determined by a critical review of the items by experts in the field. For the CSTs, these reviews are conducted by a number of experts in their designated areas from both the CDE and ETS, with ETS senior content staff working directly with CDE content consultants.

The CDE content consultants each have extensive experience in K–12 assessments, particularly in their subjects of expertise, and many are former teachers. At a minimum, each CDE content consultant holds a bachelor's degree; most have advanced degrees in their area of expertise. All ETS content and test development staff have extensive experience with K–12 assessments, experience in teaching students, and understanding of the California Content Standards, and each hold, at a minimum, bachelor's degrees. Most have advanced degrees within their areas of expertise.

The next section presents the expertise of the content experts used in constructing the CSTs.

CST Assessment Review Panel

In addition to the thorough content reviews completed by ETS content-area experts and the content staff at the CDE, all CST items are reviewed by a content-area Assessment Review Panel (ARP). The ARP is an advisory panel to ETS on areas related to item development for the CSTs. Credentials of ARP participants are presented in Chapter 2 of the *CST 2006 Technical Report*. Additional information on the ARP is provided later in this document.

Purpose

As described in Chapter 2 of the *CST 2006 Technical Report*, ETS is responsible for working with the ARP as items are developed for the CST tests. For the 2006 development cycle, the ARP was responsible for reviewing all newly developed items for alignment to the California Content Standards. The ARP also reviewed the items for accuracy of item content, clarity of phrasing, and item quality. ETS provided the ARP with the opportunity to review the items with the applicable field-test statistics and make recommendations for the use of items in subsequent test forms.

The ARP is also responsible for reviewing all newly developed items for alignment to the California Content Standards. Specifically, the ARP determines if items are:

- Measuring the California standards as appropriate for the CST testing population
- Free from bias to the degree possible
- Interesting and appropriate to students tested at a particular grade/course level

In addition, the ARP may raise concerns in its examination of test items related to age/grade appropriateness and to gender, racial/ethnic, and socioeconomic bias.

Composition

Every effort is made to ensure that the ARP includes representation of gender, geographic regions and ethnic groups in California.

The ARP is comprised of current and former teachers, program specialists, administrators, curriculum experts, and other education professionals. Members generally serve on an ARP that is aligned with their area of expertise, for example, on the English–Language Arts ARP.

Applicants for the ARPs must meet minimum qualifications to serve on the CST ARP. For teachers, minimum qualifications include:

- Three or more years of general teaching experience in grades kindergarten through twelve and in the content areas (English–language arts, mathematics, science, or history–social science);
- Bachelor’s degree or higher in a subject area related to English–language arts, mathematics, science, or history–social science; and
- Knowledge and experience with the California Content Standards in English–language arts, mathematics, science, or history–social science.

For school administrators, district/county content/program specialists, or university educators, minimum qualifications include:

- Three or more years of experience as a school administrator, district/county content/program specialist, or university instructor in areas related to English–language arts, mathematics, science, or history–social science;
- Bachelor’s degree or higher in a subject area related to English–language arts, mathematics, science, or history–social science; and
- Knowledge of and experience with the California content standards in English–language arts, mathematics, science, or history–social science.

ETS, during its contracts with CDE, has recruited ARP members through an application process. Recommendations were solicited from districts and county offices of education in addition to CDE and SBE staff. Applications are received and reviewed throughout the year. ARP applications were reviewed by the ETS Assessment Directors, who confirmed that the applicant’s qualifications met the specified criteria. Applications that meet the criteria are forwarded to the CDE staff for review and final approval. Upon approval, the applicant is notified that he or she has been selected to serve on the ARP committee.

Table 1 shows the qualifications and background of the current CST ARP members.

Table 1 CST ARP Member Education, by Subject and Total

	ELA	Math	Science	History –social science	TOTAL
Total	28	24	34	17	103
Occupation					
Teacher or Program Specialist, Elementary/Middle School	6	5	14	6	31
Teacher or Program Specialist, High School	3	6	13	7	29

	ELA	Math	Science	History –social science	TOTAL
Teacher or Program Specialist, K–12	1	4	0	0	5
University Personnel	2	5	5	2	14
Other School or District Personnel (e.g., Principal, Director of Instruction, etc.)	14	0	1	1	16
Other Education Professionals	2	4	1	1	8
Highest Degree Earned					
Bachelor’s Degree	9	16	10	12	47
Master’s Degree	13	5	13	3	34
Doctorate	6	3	11	2	22
Credential (Members may hold multiple credentials)					
Elementary Teaching (Multiple Subjects)	14	6	6	5	31
Secondary Teaching (Single Subject)	8	8	23	8	47
Special Education	0	0	0	0	0
Reading Specialist	0	0	0	0	0
English Learner (CLAD, BCLAD)	4	1	5	0	10
Administrative	5	0	0	1	6
Other	1	0	0	0	1
None (teaching at university level or occupation does not require educational credential)	7	10	5	4	26

Currently, there are no term limits for ARP members. While most members participate in the ARP meetings for only one STAR testing program, some members serve on more than one panel to encourage consistency in decisions among the STAR testing programs. ETS and CDE annually review the ARP membership for active participation. Members who have not attended a meeting within the last two years are notified that their invitation to participate may be withdrawn due to lack of attendance at meetings. In addition, ETS and CDE regularly review concerns about members whose conduct may be unprofessional and not conducive to the purpose of the ARP.

CST Item Writers

The items selected for each CST test are written by special panels of item writers with expertise in the California Content Standards. Applicants for item writing were screened by senior ETS content staff. Only those with strong content and teaching backgrounds were approved for inclusion in the training. Thus, the participants were particularly experienced in writing to the standards assessed on CST. All item writers met the following minimum qualifications:

- Bachelor’s or master’s degree in a specified content area being tested
- Three or more years of general education teaching experience in the content areas (English–language arts, mathematics, science, or history–social science)
- Knowledge about the capabilities of the students taking these tests
- Knowledge and experience with California Content Standards in English–language arts, math, science, or history–social science.

Participants attended a general CST item development training session, and then were given specific subject-area training. After viewing multiple examples of previously written CST items, participants were given item writing assignments. ETS facilitators provided feedback, and peer review methods were employed.

Additional information about the item writing process is described in Chapter 2 of the *CST 2006 Technical Report*.

CST Development Procedures

The California Standards Tests were constructed to measure the California Content Standards as well as to meet psychometric criteria for difficulty and reliability. The psychometric criteria were evaluated using projections based on item statistics from field testing or previous operational administrations.

Additional information on test assembly, test specifications, item development, and internal and external item reviews are described in Chapter 2 of the *CST 2006 Technical Report*.