

**California Department of Education Assessment Development & Administration Division**



# Summative Alternate English Language Proficiency Assessments for California 2022–23 Technical Report

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**By ETS**



**Contract #CN220002**

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Acronyms and Initialisms Used in the *Summative Alternate English Language Proficiency Assessments for California Technical Report*

|  |  |
| --- | --- |
| Term | Definition |
| 1PL-IRT | one-parameter logistic item response theory |
| AERA | American Educational Research Association |
| AIS | average item score |
| ALTD | Assessment & Learning Technology Development |
| APA | American Psychological Association |
| AST | Administration and Scoring Training |
| CAA | California Alternate Assessment |
| CAASPP | California Assessment of Student Performance and Progress |
| CAI | Cambium Assessment, Inc. |
| CALPADS | California Longitudinal Pupil Achievement Data System |
| CalTAC | California Technical Assistance Center |
| CARS | Crisis Alert Response System |
| *CCR* | *California Code of Regulations* |
| CCSSO | Council of Chief State School Officers |
| CDE | California Department of Education |
| CDS | county/district/school |
| CERS | California Educator Reporting System |
| CI | confidence interval |
| CR | constructed response |
| CSEM | conditional standard error of measurement |
| *DFA* | *Directions for Administration* |
| DIF | differential item functioning |
| DRM | data review meeting |
| *EC* | *Education Code* |
| EL | English learner |
| ELA | English language arts/literacy |
| ELD | English Language Development |
| ELP | English language proficiency |
| ELPAC | English Language Proficiency Assessments for California |
| eSKM | Enterprise Score Key Management |
| GPCM | generalized partial credit model |
| HOSS | highest obtainable scale score |
| IDEA | Individuals with Disabilities Education Act |
| IEP | individualized education program |
| IFEP | initial fluent English proficient |
| IRM | item review meeting |
| IRT | item response theory |
| ISAAP | Individual Student Assessment Accessibility Profile |
| IWW | item writer workshop |
| K | kindergarten |
| LEA | local educational agency |
| LOSS | lowest obtainable scale score |
| MCSS | multiple choice, single select |
| MH | Mantel-Haenszel |
| MH-DIF | Mantel-Haenszel differential item functioning |
| NCME | National Council on Measurement in Education |
| OTI | Office of Testing Integrity |
| PAR | Psychometric Analysis & Research |
| *PFA* | *Preparing for Administration* |
| PLD | performance level descriptor |
| QA | quality assurance |
| QWK | quadratic-weighted kappa |
| RSVP | Rotating Score Validation Process |
| SBE | State Board of Education |
| SCOE | Sacramento County Office of Education |
| SD | standard deviation |
| SEM | standard error of measurement |
| SFTP | secure file transfer protocol |
| SMD | standardized mean difference |
| SR | selected response |
| SSID | Statewide Student Identifier |
| SSR | Student Score Report |
| STAIRS | Security and Test Administration Incident Reporting System |
| TCC | test characteristic curve |
| TDS | test delivery system |
| TIP | Test Item Preview |
| TOMS | Test Operations Management System |
| UAT | user acceptance testing |
| UDL | Universal Design for Learning |
| *USC* | *United States Code* |

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## Introduction

This chapter provides an introduction to the Summative Alternate English Language Proficiency Assessments for California (ELPAC), including background information, purpose of the assessment, test content, intended population, testing windows, organizations and systems involved, and an overview of the technical report.

### Alternate ELPAC Overview

The Alternate ELPAC “is the required state test for English language proficiency (ELP) given to students whose primary language is a language other than English” (California Department of Education [CDE], 2023a) and who have been found eligible for alternate assessments by their individualized education program (IEP) team. State and federal laws require that local educational agencies (LEAs) administer a state assessment of ELP to eligible students in kindergarten through grade twelve (CDE, 2023a). California *Education Code (EC)* Section 313(a) requires that the assessment of ELP be done upon initial enrollment and annually thereafter until the LEA reclassifies the student as fluent English proficient.

### Purposes of the Assessments

The Alternate ELPAC consists of two assessments: the Initial Alternate ELPAC and the Summative Alternate ELPAC. Their purposes are as follows:

1. The Initial Alternate ELPAC provides information to determine a student’s initial classification as an English learner (EL), or as initial fluent English proficient (IFEP), for students with the most significant cognitive disabilities.
2. The Summative Alternate ELPAC provides information on annual student progress toward ELP and supports decisions on student reclassification as fluent English proficient for students with the most significant cognitive disabilities.

The contents of table 1.1 describe the differences between the Initial Alternate ELPAC and the Summative Alternate ELPAC.

Table 1.1 Differences Between the Initial Alternate ELPAC and Summative Alternate ELPAC

|  |  |
| --- | --- |
| Initial Alternate ELPAC | Summative Alternate ELPAC |
| This is an assessment used to identify a student as either an EL who needs support to learn English or as IFEP. | This is an assessment used to measure the ELP of EL students. The results will help the school or LEA determine whether the student is ready to be reclassified as proficient in English. |
| This assessment is administered to students with a home language survey that lists a language other than English as the primary language within 30 days of when the student enrolls in a California public school for the first time. **Eligible students must have an IEP designating the use of alternate assessments.** | This assessment is administered to eligible students every spring, from February 1 to May 31. **Eligible students must have an IEP designating the use of alternate assessments.** |
| A student takes this assessment one time only. The Initial Alternate ELPAC is taken before the Summative Alternate ELPAC or Summative ELPAC, to determine whether the student is identified as an EL. | A student takes this assessment annually until the student is reclassified. |
| There is one test form. | There are two test forms that are refreshed annually. |
| There are six grade levels and grade spans: kindergarten, 1, 2, 3–5, 6–8, and 9–‍12. | There are seven grade levels and grade spans: kindergarten, 1, 2, 3–5, 6–8, 9–10, and 11–‍12. |

### Test Content and Design

The Summative Alternate ELPAC is designed to align with the 2012 *California English Language Development Standards: Kindergarten Through Grade 12* (2012 ELD Standards) via the English Language Development Connectors (ELD Connectors), which reduce the depth, breadth, and complexity of the standards, as appropriate for students with the most significant cognitive disabilities. The ELD Connectors represent the highest level of expected performance in ELP for EL students with the most significant cognitive disabilities at a given grade level or grade span. The ELD Connectors are not intended to represent the full range of performance in ELP that may be measured by a general ELP assessment.

The ELD Connectors were developed through collaboration among California educators, the CDE, and ETS’ research and assessment experts, as well as with guidance from the Alternate ELPAC Test Design Advisory Team of four nationally recognized experts on the assessment of EL students with the most significant cognitive disabilities.

### Intended Population

The Summative Alternate ELPAC is intended only for EL students in kindergarten through grade twelve (up to age twenty-one) who have been found eligible for alternate assessments by their IEP team. These students must be administered the Summative Alternate ELPAC annually during the state’s ELP testing window until they are reclassified as fluent English proficient based on the CDE’s guidelines for reclassification as established by the California State Board of Education (SBE) (*EC*313[f]).

### Testing Windows and Estimated Testing Times

The Summative Alternate ELPAC testing window runs from February 1 through May 31 annually. During this time, any student identified as an EL and who was identified as having the most significant cognitive disabilities was required to be administered the Summative Alternate ELPAC.

The Summative Alternate ELPAC is a computer-based, nonadaptive, untimed assessment that is delivered one-on-one by a test examiner. Students are allowed as much time as they need to complete their responses to each item. The assessment may be administered over multiple days. The estimated testing times for the Summative Alternate ELPAC task types were posted by task type in the *Summative Alternate ELPAC Test Administration Manual* (CDE, 2023d). Estimated testing times were provided for administration planning only.

### Significant Developments in 2022–23

#### Crisis Alert Response System Process

The Crisis Alert Response System (CARS) was introduced as an automatic process to notify a primary LEA ELPAC coordinator and superintendent when a student’s actions or response during testing caused concern. CARS incidents were tracked and maintained in the Test Operations Management System (TOMS). While CARS is a monitoring system used on all assessments, the Summative Alternate ELPAC had no alerts during the 2022–‍23 test administration.

#### *Preparing for Administration* Documents

ETS removed most of the nonsecure common front matter that focused on preparation and planning from all versions of *Directions for Administration (DFAs)* and used it to create a *Preparing for Administration (PFA)* document. Test examiners were directed to use the *PFA* to prepare for test administration and the appropriate *DFA* with the remaining common front matter and item-level content during test administration.

#### Additional Student Score Report Language

Korean was a new language available for Student Score Reports in the 2022–23 Summative Alternate ELPAC test administration in addition to the other languages (English, Filipino, Spanish, Traditional Chinese, and Vietnamese).

#### Second Scoring Assignment

To reduce the burden on LEAs, ETS overhauled the selection procedure that designates the schools required to participate in second scoring each year for the California Alternate Assessment (CAA) for English Language Arts/Literacy (ELA), the Summative Alternate ELPAC, and the Rotating Score Validation Process (RSVP) for the Initial ELPAC. Schools were selected for the Summative Alternate ELPAC second scoring group on an individual school basis from all schools assigned to Form 2. This selection method was new to the 2022–23 test administration. Previously, most schools were automatically assigned second scoring if their LEA was selected.

No school participated in more than one of the second scoring assignments for the CAA for ELA, the Summative Alternate ELPAC, or the RSVP for the Initial ELPAC in a single test administration. Schools with at least 20 students tested in the 2021–22 test administration of either the CAA for ELA or the Summative Alternate ELPAC were asked to second-score only specific grade levels. Schools with fewer than 20 students tested during the 2021–22 test administration were incorporated into a four-year cycle, with schools participating in one activity in three of four test administrations starting with the 2022–23 test administration. For each of the three administrations, schools will participate in no more than one rotation activity each year during the four-year cycle, with one year having no obligations. For Summative Alternate ELPAC second scoring, schools were targeted so that approximately 20 percent of the testing population would receive second scores at each grade level. This overage ensures the target requirement of 10 percent at each grade level could be met.

### Groups and Organizations Involved with the Alternate ELPAC

#### California State Board of Education

The SBE is the state agency that establishes educational policy for kindergarten through grade twelve in the areas of standards, instructional materials, assessment, and accountability. The SBE adopts textbooks for kindergarten through grade eight, adopts regulations to implement legislation, and has the authority to grant waivers of the *EC*.

In addition to adopting the rules and regulations for itself, its appointees, and California’s public schools, the SBE is also the state educational agency responsible for overseeing California’s compliance with programs that meet the requirements of the federal Every Student Succeeds Act as well as the state’s Public School Accountability Act that measures the academic performance and progress of schools on a variety of academic metrics (CDE, 2023c).

#### California Department of Education

The CDE oversees California’s public school system, which is responsible for the education of more than 5,800,000 children and young adults in more than 10,010 schools.[[1]](#footnote-2) California aims to provide a world-class education for all students, from early childhood to adulthood. The CDE serves the state by innovating and collaborating with educators, school staff, parents/guardians, and community partners which together, as a team, prepare students to live, work, and thrive in a highly connected world.

Within the CDE, it is the Instruction, Measurement, & Administration Branch that oversees programs promoting improved student achievement. Programs include oversight of statewide assessments and the collection and reporting of educational data (CDE, 2023b).

#### California Educators

A variety of California educators, including school administrators as well as those experienced in teaching EL students, students with the most significant cognitive disabilities, or both—who were selected on the basis of their qualifications, experiences, demographics, and geographic locations—were invited to participate in the Alternate ELPAC development process. In this process, California educators participated in tasks that included work related to defining the purpose and scope of the assessment, assessment design, item development, item reviews, standard setting, and score reporting.

#### Contractors

A number of organizations contribute to the success of the Summative Alternate ELPAC.

##### Primary Testing Contractor—ETS

The CDE and the SBE contract with ETS to develop, administer, and report the Summative Alternate ELPAC. As the primary testing contractor, ETS has overall responsibility for working with the CDE to implement and maintain an effective assessment system and coordinating ETS’ work with its subcontractors.

Activities conducted directly by ETS include, but are not limited to, the following:

* Providing management of the program activities
* Supporting and training county offices of education, LEAs, and direct funded charter schools
* Constructing, producing, and controlling the quality of Summative Alternate ELPAC test forms and related test materials, including grade- and content-specific *DFAs*
* Hosting and maintaining a website with resources for LEA ELPAC coordinators
* Developing, hosting, and providing support for TOMS
* Supporting the California Educator Reporting System (CERS)
* Processing student test assignments
* Processing orders and shipment of test materials
* Producing and distributing score reports electronically
* Developing a summary score reporting website that can be viewed by the public
* Completing all psychometric procedures
* Providing a tiered help desk support system for LEAs
* Developing high-quality items that are aligned to the 2012 ELD Standards via the ELD Connectors

##### Subcontractor—Cambium Assessment, Inc

ETS also monitors and manages the work of Cambium Assessment, Inc. (CAI), subcontractor to ETS for the ELPAC System of computer-based assessments. Activities conducted by CAI include

* providing the CAI proprietary test delivery system (TDS), including the Student Testing Interface, Test Administrator Interface, secure browser, and practice and training tests;
* hosting and providing support for its TDS, a component of the overall ELPAC Assessment Delivery System;
* hosting and providing support for the Data Entry Interface, the web browser–based application that, for the operational administration of the Summative Alternate ELPAC, allows test examiners to enter second scores for the Summative Alternate ELPAC;
* scoring machine-scorable items; and
* providing high-level technology help desk support to LEAs for technology issues directly related to the TDS.

##### Subcontractor—Sacramento County Office of Education

ETS contracted with the Sacramento County Office of Education to manage all activities associated with educator recruitment, training, and outreach, including the following:

* Supporting and training county offices of education, LEAs, and charter schools
* Developing informational materials
* Recruiting and providing logistics for educator meetings
* Producing Administration and Scoring Training materials and videos, including an online training site for LEA coordinators and test examiners
* Producing *DFA*s

### Systems Overview and Functionality

#### Test Operations Management System

TOMS is the password-protected, web-based system used by LEAs to manage all aspects of ELPAC testing. TOMS serves various functions, including, but not limited to, the following:

* Managing test administration windows
* Assigning and managing ELPAC online user roles
* Managing student test assignments and accessibility resources
* Ordering test materials
* Viewing and downloading reports
* Reporting security incidents
* Providing a platform for authorized user access to secure materials, such as ELPAC *DFAs,* student data and results, ELPAC user information, and access to the ELPAC Security and Test Administration Incident Reporting System/Appeals process

TOMS receives student enrollment data and LEA and school hierarchy data from the California Longitudinal Pupil Achievement Data System (CALPADS) via daily feed. CALPADS is “a longitudinal data system used to maintain individual-level data including student demographics, course data, discipline, assessments, staff assignments, and other data for state and federal reporting.”[[2]](#footnote-3)

LEA staff involved in the administration of the ELPAC—such as LEA ELPAC coordinators, site ELPAC coordinators, and test examiners—are assigned varying levels of access to TOMS. For example, only an LEA ELPAC coordinator is given permission to assign and manage user roles; a test administrator or test examiner cannot download student reports. A description of user roles is explained more extensively in the *2022–23 Summative Alternate ELPAC Test Administration Manual* (CDE, 2023d).

#### Test Delivery System

The TDS is the means by which the statewide computer-based assessments are delivered to students. Components of the TDS include

* the Test Administrator Interface, the web browser–based application that allows test examiners to activate student assessments and monitor student testing;
* the Student Testing Interface, on which students take the assessment using the secure browser; and
* the secure browser, the computer-based application through which the Student Testing Interface may be accessed. (The secure browser prevents students from accessing other applications during testing.)

#### Practice and Training Tests

All California testing programs have practice and training tests to inform educators, parents/‌guardians, and students about the individual assessments. The practice and training tests were provided to LEAs to prepare students and LEA staff for administration of the Summative Alternate ELPAC. These tests simulated the experience of the Summative Alternate ELPAC computer-based assessments. Unlike the summative assessments, the practice and training tests did not gauge student success on the operational assessment, or produce scores. Students, teachers, and the public could access them using a web browser, although accessing them through the secure browser permitted students to take the tests using the text-to-speech embedded accommodation and to test assistive technology.

The purpose of the training tests is to allow students and test examiners to quickly become familiar with the user interface and components of the TDS as well as with the process of starting and completing a testing session.

The purpose of the practice tests is to allow students and test examiners to experience a grade-level assessment, grade-specific items and difficulty levels, and the format and structure of an operational assessment.

A purpose of both the practice and training tests is to provide an opportunity for educators to assign embedded designated supports and accommodations and determine how they worked for their students prior to using the resources in an operational test setting.

#### California Educator Reporting System

CERS is the system used by LEAs to view preliminary student results from ELPAC testing. The primary purpose of CERS is to provide educators and administrators with access to timely assessment results for individual students and groups of students.

CERS allows educators to view their students’ test results at the individual student level and at the aggregated level using grouping and other features. For example, educators can create customized groups from assigned student groups based on demographic information or other characteristics of their choosing. The student results sent to CERS are appropriate for analysis of assessment results for use in informing instruction.

#### Test Results for California’s Assessments Website

The Test Results for California’s Assessments website is used by educators, families, researchers, and interested members of the public to view aggregated results from the Summative Alternate ELPAC. The primary purpose of the Test Results for California’s Assessments website is to provide users with access to results data for groups of students and to allow comparison of test result data for various student groups. Test scores for a given grade level are aggregated at the school, LEA or direct funded charter school, county, and state levels. The aggregated scores are generated for selected student groups of interest (e.g., gender, ethnicity, economic status, migrant status, and disability status) and for the total population.

### Overview of the Technical Report

This technical report addresses the characteristics of the 2022–23 administration of the Summative Alternate ELPAC and contains 10 additional chapters, as follows:

* [Chapter 2](#_Overview_of_Alternate) presents an overview of the processes involved in a testing cycle for the Summative Alternate ELPAC. This includes item development, test assembly, test administration, fairness and accessibility, generation of test scores, and score reports.
* [Chapter 3](#_Item_Development_and_1) describes the procedures followed during item development, various reviews (e.g., item content and bias and sensitivity reviews), and the process of item review.
* [Chapter 4](#_Toc122102494) describes the process of test assembly, including the content being measured and the content and psychometric criteria.
* [Chapter 5](#_Test_Administration) details the processes involved in the actual 2022–23 administration, with emphasis on efforts made to ensure the standardization of Summative Alternate ELPAC computer-based testing. It also describes the procedures followed to maintain test security throughout the test administration process.
* [Chapter 6](#_Standard_Setting) summarizes the standard setting process that established the base-year performance level scores.
* [Chapter 7](#_Scoring_and_Reporting) provides information on the scoring processes and summarizes the types of scores and score reports.
* [Chapter 8](#_Analyses_and_Results) summarizes the statistical procedures conducted for the 2022–23 operational administration. These analyses include
* classical item analyses,
* differential item functioning analyses, and
* item response theory analyses.

This chapter also discusses the procedures designed to support the reliability and validity of score use and interpretations.

* [Chapter 9](#_Quality_Control) highlights the quality-control processes used at various stages of the administration of the Summative Alternate ELPAC, including item development, test form development, test administration, scoring procedures, psychometric analysis, and score reporting.
* [Chapter 10](#_In-Test_Survey_3) describes the development and administration of an in-test survey for test examiners and the results from the analyses of the responses.
* [Chapter 11](#_Continuous_and_Systematic) describes analysis and administration processes and features targeted for improvement during future test administrations.

### References

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## Overview of Summative Alternate ELPAC Processes

This chapter provides an overview of the processes implemented by ETS during a typical, full testing cycle for the Summative Alternate English Language Proficiency Assessments for California (ELPAC), including item development, test design, test administration, and scoring. The details on each step in the process will be presented in the subsequent chapters.

### Item Development

As part of the adaptation and alignment process, ETS developed test questions for the Summative Alternate ELPAC in accordance with the *ETS* *Standards for Quality and Fairness* (ETS, 2014).

#### Selection of ELD Connectors for Development

The Summative Alternate ELPAC is designed to align with the 2012 *California English Language Development Standards: Kindergarten Through Grade 12* (2012 ELD Standards) via the English Language Development Connectors (ELD Connectors), which reduce the depth, breadth, and complexity of the standards, as appropriate for students with the most significant cognitive disabilities (California Department of Education [CDE], 2014, 2019).

The development of the ELD Connectors began with a review of the Council of Chief State School Officers (CCSSO) English Language Proficiency Standards for English Learners (ELs) with Significant Cognitive Disabilities (CCSSO, 2019). A crosswalk was developed to link the CCSSO ELD Standards to the 2012 ELD Standards. The results of the development effort were ELD Connectors for each of the 2012 ELD Standards assessed on the ELPAC at each of the Summative Alternate ELPAC grade levels and grade spans (i.e., kindergarten, grade one, grade two, grade span three through five, grade span six through eight, grade span nine and ten, and grade span eleven and twelve). The development of the ELD Connectors was consistent with the approach used for the California Alternate Assessments for English language art/literacy, mathematics, and science and was a necessary foundational step in the development of the Summative Alternate ELPAC.

The Connectors development plan began with the creation of sample ELD Connectors by ETS, followed by reviews of the sample Connectors by the CDE and the Alternate ELPAC Test Design Advisory Team mentioned in section [*1.3 Test Content and Design*](#_Test_Content_and). The sample ELD Connectors were revised on the basis of the review feedback, and then ETS developed the remaining Connectors. The CDE reviewed the full range of Connectors, revisions were made as necessary, and an in-depth review of the ELD Connectors was made by California educators. The ELD Connectors were approved by the CDE in March 2019 and the California State Board of Education (SBE)—through the approval of the Alternate ELPAC blueprint—in May 2020.

#### Item Format

The Summative Alternate ELPAC includes the following primary computer-based item formats:

* **Selected-response items—**Students are instructed to select one or more choices. Most Summative Alternate ELPAC items have two or three response options. The items are assigned one point and are machine-scored.
* **Constructed-response items—**Students are instructed to respond to the test question, which is scored by the test examiner according to a rubric. Students receive scores of either two points, one point, or zero points on each item.

#### Task Type Specifications

The *Alternate ELPAC Task Type Specifications* describe the tasks contained in the assessment. Each task type is intended to measure specific Connectors consistently (CDE, 2020a). The task type specifications were developed collaboratively by the CDE, ETS, and California educators and approved by the CDE in 2020. The task type specifications are reviewed annually so that refinements can be made to the development of new items based on requirements.

During item development, item developers were provided with the *Alternate ELPAC Task Type Specifications* and a style guide that contained detailed information about the specifications for the various components of item development. Refer to subsection [*3.1.2 Task Type Specifications*](#_Task_Type_Specifications) for detailed information about the task type specifications.

### Test Assembly

The 2022–23 operational assessment was assembled in accordance with the Alternate ELPAC blueprint, which was approved by the SBE in May 2020 (CDE, 2020b).

The assembly began with the selection of seven task types, each with two or four items, for 24 operational items. The task types on the assessment appeared in sequential order according to the blueprint. Each of the two test form versions also had six embedded field test items. The field test items were sequenced immediately after the operational items in the same task type.

After the initial assembly, assessment developers reviewed the assembled forms using comprehensive checklists to evaluate blueprint alignment, item content, clueing and content overlap, and overall balance of content regarding disability, gender, and ethnicity representation; variety of item types; and so forth.

After assessment developers assembled and reviewed the draft test forms, the forms were submitted for psychometric review for consistency with the blueprint and form assembly specifications and received subsequent approval. Approved forms then received additional content and editorial reviews, including key checks and a review of related *Directions for Administration (DFAs)*, before being submitted to the CDE for review and feedback. ETS worked with the CDE to make test form revisions until the CDE approved them.

#### Test Blueprint

The Summative Alternate ELPAC and Initial Alternate ELPAC follow a single test blueprint, as described in the high-level test design for the Alternate ELPAC and as approved by the SBE in May 2020 (CDE, 2020b). The Alternate ELPAC test blueprint defines grade levels or grade spans, differentiates the task types based on the ELD Connectors, and outlines the linear sequence the task types appear on the assessment as they progress from low linguistic complexity to high linguistic complexity. The Alternate ELPAC test blueprint is unique to each grade level or grade span based on the combination of Connectors within each task type. The blueprint specifies the number of items and points for each task type, the total number of items, and the total number of points on each assessment according to standards (CDE, 2020b).

#### Test Length

The number of items in the Summative Alternate ELPAC is the same across grade levels—the blueprint indicates there are 24 operational items and six embedded field test items, for a total of 30 items.

Refer to [*Chapter 4: Test Assembly*](#_Toc122102494) for more details on test form assembly.

### Test Administration

The Summative Alternate ELPAC was administered using the secure browser and test delivery system (TDS), ensuring a secure, confidential, standardized, consistent, and appropriate administration for students. Additional information about the administration of the Summative Alternate ELPAC can be found in [*Chapter 5: Test Administration*](#_Test_Administration).

#### Test Security and Confidentiality

All operational assessments within the ELPAC System are secure. For the Summative Alternate ELPAC administration, every person having access to test materials maintained the security and confidentiality of the assessments. ETS’ internal Code of Ethics requires that all test information, including tangible materials (such as test items and test results), confidential files, processes, and activities were kept secure. To ensure security for all assessments that ETS develops or handles, ETS maintains an Office of Testing Integrity (OTI). A detailed description of the OTI and its mission is presented in subsection[*5.7.1 ETS’ Office of Testing Integrity*](#_ETS’_Office_of_2) in [*Chapter 5: Test Administration*](#_Test_Administration).

In the pursuit of enforcing secure practices, ETS strives to safeguard the various processes involved in an assessment development and administration cycle. Those processes are listed next. The practices related to each of the following security processes are discussed in detail in section [*5.7 Test Security and Confidentiality*](#_Test_Security_and):

* Procedures to maintain standardization of test security
* Test security monitoring
* Security of electronic files using a firewall
* Transfer of scores via secure data exchange
* Data management in the secure database
* Statistical analysis on secure servers
* Student confidentiality
* Student test results

#### Procedures to Maintain Standardization

ETS takes all necessary measures to ensure the standardization of administration of the Summative Alternate ELPAC.

The Summative Alternate ELPAC is administered in conjunction with the other assessments that compose the ELPAC System. ETS employs processes to ensure the standardization of an administration cycle; these processes are discussed in more detail in section [*5.3 User Roles and Standardization*](#_Toc120783965).

Staff at local educational agencies (LEAs) involved in the ELPAC administration include LEA ELPAC coordinators, site ELPAC coordinators, and test examiners. The responsibilities of each of the staff members are described in the *Summative Alternate ELPAC Test Administration Manual* (CDE, 2023d).

Several series of instructions regarding the ELPAC administration are compiled in detailed manuals and provided to the LEA staff. Such documents include, but are not limited to, the following:

* ***Summative Alternate ELPAC Test Administration Manual*—**This web-based manual provides test administration procedures and guidelines for LEA ELPAC coordinators and site ELPAC coordinators (CDE, 2023d). (Refer to [*5.3.4.3 Summative Alternate ELPAC Test Administration Manual*](#_Summative_Alternate_ELPAC) in [chapter 5](#_Test_Administration) for more information.)
* ***California Assessment of Student Performance and Progress (CAASPP) and ELPAC Test Operations Management System (TOMS) User Guide*—**This web-based manual provides instructions for TOMS, allowing LEA staff, including LEA ELPAC coordinators and site ELPAC coordinators, to perform several tasks, including adding and managing users, assigning assessments, and configuring computer-based student test settings (CDE, 2023b). (Refer to [*5.3.4.4 CAASPP and ELPAC Test Operations Management System User Guide*](#_CAASPP_and_ELPAC_2) in [chapter 5](#_Test_Administration) for more information.)
* ***Preparing for Administration—***This document includes planning and preparation content to assist test examiners with test preparation (CDE, 2023c). (Refer to [*5.3.4.1 Preparing for Administration*](#_Preparing_for_Administration) in [chapter 5](#_Test_Administration) for more information.)
* ***DFA*s—**These directions include test examiner directions and scripts for administering the assessments. They contain grade-specific and form-specific information needed by the test examiners during test sessions. (Refer to [*5.3.4.2 Directions for Administration*](#_Directions_for_Administration) in [chapter 5](#_Test_Administration) for more information.)

### Fairness and Accessibility

Several procedures are in place to ensure that the Summative Alternate ELPAC is fair and accessible to all students. This section provides information on the available accessibility resources.

#### Overview

All eligible students enrolled in a California public school participate in the ELPAC System of assessments, including students with disabilities. Additional resources are sometimes needed for these students. The CDE provides a full range of assessment resources for all students, including those who are students with disabilities.

#### Student Accessibility Resources

There are four different categories of student accessibility resources in the California assessment accessibility system, including universal tools, designated supports, accommodations, and unlisted resources that are permitted for use in ELPAC computer-based assessments. These are listed in the CDE California Assessment Accessibility Resources Matrix (Accessibility Matrix) (CDE, 2022).

**Universal tools** are available to all students. These resources may be turned on and off when embedded as part of the technology platform for the computer-based ELPAC on the basis of student preference and selection.

**Designated supports** are available to all students when determined as needed by an educator or team of educators, with parent/guardian and student input as appropriate, or when specified in the student’s individualized education program (IEP) or Section 504 plan.

**Accommodations** must be permitted on the ELPAC for all eligible students when specified in the student’s IEP or Section 504 plan.

**Unlisted resources** are non-embedded and made available if specified in the eligible student’s IEP or Section 504 plan and do not jeopardize test security, and only on approval by the CDE. An unlisted resource may change the construct being measured.

While most of the resources presented for the ELPAC computer-based assessments are available for the Summative Alternate ELPAC, there are a few resources that are not applicable because the Summative Alternate ELPAC is designed to be given one-on-one in the student’s language of instruction, using the student’s identified instructional resources. For example, the speech-to-text accommodation is not available for an alternate assessment.

Table 5.1 and table 5.2 present counts and percentages of students assigned designated supports, accommodations, and unlisted resources for the 2022–23 Summative Alternate ELPAC administration. Table 5.1 and table 5.2 were created using student demographic data in the end-of-year production data file updated on August 22, 2023.

The majority of students did not use any designated supports, accommodations, or unlisted resources.

#### Description of Differential Item Functioning Analyses

Differential item functioning (DIF) analyses are conducted to detect possible test bias by locating items for which one group of students performs significantly better than another group. DIF is a collection of statistical methods used to recognize whether performance varies across different groups of students (e.g., male versus female or White versus Black or African American). If an item performed differentially across student groups, even when students were matched on ability, the item may be measuring something other than the intended construct. Therefore, it is important to identify items flagged for DIF. Content experts and bias and sensitivity experts from diverse backgrounds reviewed these DIF-flagged items to determine the potential sources and meanings of performance differences. Refer to section [*8.3 Differential Item Functioning Analyses*](#_Differential_Item_Functioning) for additional information about DIF.

### Scores

Individual student scores were reported for the 2022–23 Summative Alternate ELPAC administration. Student performance on the reporting scale was designated into one of the three performance levels described in subsection [*7.1.4 Performance Levels*](#_Performance_Levels). For information regarding score specifications and score reports, refer to [*Chapter 7: Scoring and Reporting*](#_Scoring_and_Reporting).

#### Estimating Ability Scores

The item response theory (IRT) inverse test characteristic curve method (Stocking, 1996)—where the student’s ability value is estimated to be the value for which the expected number-correct score is equal to the student’s number-correct score—was used to estimate students’ overall ability parameters. For reporting, students’ ability estimates (theta scores) were then expressed in three-digit scale scores by applying the appropriate linear transformation for each grade level and grade span of the Summative Alternate ELPAC.

Student performance on the reporting scale was designated into one of three levels:

1. Level 1—Novice EL
2. Level 2—Intermediate EL
3. Level 3—Fluent English Proficient

For information regarding score specifications and the establishment of score-reporting scales, refer to [*Chapter 7: Scoring and Reporting*](#_Scoring_and_Reporting)*.* For information regarding Summative Alternate ELPAC performance levels, refer to chapter 6 of the *Alternate ELPAC 2021–22 Operational Field Test Technical Report* (CDE, 2023a) for a description of the process used to set performance-level standards.

#### Score Reporting

TOMS is a secure website hosted by ETS that permits LEA users to manage aspects of ELPAC test administration such as test assignment and the assignment of test settings. TOMS also provides a secure means for LEA ELPAC coordinators to download Student Score Reports as PDF files.

Summative Alternate ELPAC scores can also be viewed through the California Educator Reporting System (CERS), a secure website that provides authorized users with interactive and cumulative online reports for scale scores and performance levels at the student, school, and LEA levels. CERS also provides individual score reports. Refer to subsection [*7.3.1 Online Reporting*](#_Online_Reporting_2) for details about TOMS and CERS and subsection [*7.3.3 Types of Score Reports*](#_Types_of_Score_1) for the content of each type of score report.

#### Aggregation Procedures

To provide meaningful results to interested educators, Summative Alternate ELPAC scores for a given grade-level assessment were aggregated at the school, LEA or direct funded charter school, county, and state levels. State-level results are available on the Test Results for California’s Assessments website. The aggregated scores were presented for all students or selected demographic student groups.

Aggregated scores were generated by combining student scores at the state, LEA or direct funded charter school, or school level; combining student scores for all students; or by combining student scores for students who represent selected demographic student groups.

The aggregation procedures used to present Summative Alternate ELPAC results are described in section [*7.2 Overview of Score Aggregation Procedures*](#_Overview_of_Score). Aggregated results by demographic variables are presented in [appendix 7.C](#_Appendix_7.C:_Means). In table 7.C.1 through table 7.C.7, students are grouped by demographic groups, including (but not limited to) gender, ethnicity, primary disability type, and economic status. The tables show the numbers of students with valid scores in each group, scale score means and standard deviations, and the percentage of students in each performance level. To protect student privacy, statistics are presented in the tables as “N/A” when the number of students in the sample is 10 or fewer. Definitions for the demographic student groups included in these tables are provided in table 7.5.

### Psychometric Analyses

Psychometric analyses were conducted on the data from the Summative Alternate ELPAC, including classical item analyses, DIF analyses, IRT calibration and linking, testing time analyses, and reliability analyses. The results of these analyses support understanding of item performance and internal structure of the assessment and provide validity evidence for both response processes and scoring. Detailed descriptions of these analyses are presented in [*Chapter 8: Psychometric Analyses*](#_Analyses_and_Results).

#### Description of the Classical Item Analyses

The psychometric analyses for the Summative Alternate ELPAC data included classical item analyses and DIF analyses to evaluate the performance of the operational items and the embedded field test items. The classical item analyses included the computation of item difficulty indices, the item-total correlation indices, the omission rate of each item, and the proportion of test takers obtaining each score point for polytomous items. CDE-approved flagging rules based on these statistics identified items that were not performing as expected. A description of the classical item analyses procedure is provided in section [*8.2 Classical Item Analyses*](#_Demographic_Student_Group)*.* A description of the DIF analyses procedure is provided in section [*8.3 Differential Item Functioning Analyses*](#_Differential_Item_Functioning)*.*

#### Description of Item Response Theory Analyses

IRT is used to calibrate items, link item parameter estimates, scale or equate test scores across different forms or test administrations, evaluate item performance, build an item bank, and assemble test forms. Detailed information on the models and the procedures for the calibration and linking analyses are included in section [*8.4 Item Response Theory Analyses*](#_Item_Response_Theory).

### References

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## Item Development and Review

This chapter discusses the detailed procedures of item development for the 2022–23 Summative Alternate English Language Proficiency Assessments for California (ELPAC) administration.

### Overview

In partnership with the Sacramento County Office of Education (SCOE), ETS convened Summative Alternate ELPAC item writer workshops (IWWs) and item review meetings (IRMs) to develop test items for the Summative Alternate ELPAC. In addition, ETS trained a small group of experienced contractors and California educators to draft Summative Alternate ELPAC items. After the items went through ETS internal and California Department of Education (CDE) reviews, California educators reviewed the items during IRMs.

This section describes how California educators were selected and the process used to develop new items. IRMs were conducted in April 2023; some of those items will be used as embedded field test items on future Summative Alternate ELPAC forms for operational use.

#### Preparation

Several test design tasks were conducted to prepare for the 2022–23 Summative Alternate ELPAC. These tasks occurred prior to item development and assessment development tasks. After a review of the Alternate ELPAC test blueprint, a high-level test design was developed, followed by a pilot study using cognitive lab methodology, and, finally, the task type specifications were created. Refer to subsection [*3.2.5.2 Cognitive Laboratory*](#_Cognitive_Laboratory) for information about this study. Additionally, the *Alternate ELPAC Pilot Using Cognitive Lab Methodology Study* report contains more details on how that study informed early item development efforts (CDE, 2020a).

#### Task Type Specifications

Task type specifications describe the types of tasks that are used on the Summative Alternate ELPAC by

* guiding item writers during item development,
* maintaining consistency and efficiency in item development,
* enabling accessibility considerations, and
* providing the CDE with a reference guide to use while reviewing items.

The 2022–23 Summative Alternate ELPAC contains seven task types (CDE, 2020b). Each task type required a student to answer questions about a passage or image to elicit information about the student’s English language proficiency (ELP). Each task type consists of two or more items that align with the 2012 *California English Language Development Standards: Kindergarten Through Grade 12* (2012 ELD Standards) (CDE, 2014) via the English Language Development Connectors (ELD Connectors). The test items within a task type are aligned to one or more primary ELD Connectors and, in some cases, a secondary ELD Connector.

The Summative Alternate ELPAC is designed to assess ELP, including the language domains of Listening, Speaking, Reading, and Writing, in an integrated manner; and report on ELP as a whole, not by individual language domain. Because of the intent to assign an overall score and to provide students with the flexibility to use their individually preferred communication modes, Summative Alternate ELPAC test items are coded as either “receptive” or “expressive.”

##### Receptive (Listening and Reading)

Receptive test items require a student to demonstrate comprehension of a stimulus by selecting a response from two or three options; the student is not required to generate any language. Receptive items are selected-response items.

##### Expressive (Speaking and Writing)

Expressive test items require a student to communicate to others their understandings and ideas related to the stimulus, using an individually preferred expressive mode of communication. Expressive items can be multiple choice or constructed response.

#### Recruitment and Selection of Item Writers

California educators were recruited through the Educator Opportunities Portal and email communications. To ensure broad representation, the CDE sent email messages announcing the opportunities to write items and to review items to various groups, including, but not limited to, the following:

* The CDE Assessment Spotlight listserv (This includes local educational agency [LEA] ELPAC coordinators and interest holders who subscribe.)
* The Bilingual Coordinators Network

Applications were solicited at various interest holder conferences and meetings, including, but not limited to, the following:

* California Association for Bilingual Education
* Bilingual Coordinators Network
* California Assessment Conference
* Special Education Local Plan Areas

The email directed applicants to submit an online application through the Educator Opportunities Portal. The application allowed California educators to apply for a variety of the listed events. The information from the application was loaded into a database that was used for the review and selection process.

Applications were selected from current and retired California educators based on the degree to which they possess the following qualifications:

* Possession of a bachelor’s or higher degree
* Expertise in language acquisition or experience teaching English learner (EL) students in kindergarten through grade twelve
* Experience teaching students with severe cognitive disabilities
* Knowledge of, and experience working with, the 2012 ELD Standards and the ELD Connectors
* Knowledge of, and experience working with, students with exceptionalities such as visual impairment, hearing impairment, deafness, or speech or language disorders
* Experience administering the Alternate ELPAC or California Alternate Assessment

Additional desirable qualifications included the following:

* Specialized teaching certification in reading (e.g., Reading Certificate or Reading and Language Arts Specialist Certificate)
* Specialized teaching certification in special education
* Experience writing or reviewing items for standardized assessments, especially assessments for EL students in kindergarten through grade twelve

Selections were made to ensure representation from different cultural and linguistic groups, LEAs and county offices of education of various sizes, and different geographical regions of the state. ETS and SCOE made preliminary selections, which were reviewed by the CDE, adjusted as needed, and then approved. Seventeen educators were trained to write items during the IWW in November 2022, and 20 educators participated in the April 2023 IRMs (Content Review Meeting and Bias and Sensitivity Meeting).

Table 3.1 shows the self-reported educational qualifications, occupation, and credentials of the individuals who participated in an Alternate ELPAC IWW or IRM.

Table 3.1 Alternate ELPAC IWW and IRM Participant Qualifications by Meeting Type and Total

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Qualification Type | Qualification | 2022 IWW | 2023 IRM | Total |
| **Occupation** | Special Education Teacher | 15 | 18 | 33 |
| **Occupation** | General Education Teacher | 1 | 1 | 2 |
| **Occupation** | Teacher on Special Assignment | 0 | 1 | 1 |
| **Occupation** | LEA or County Office Employee | 1 | 0 | 1 |
| **Highest Degree Earned** | Bachelor’s Degree | 5 | 4 | 9 |
| **Highest Degree Earned** | Master’s Degree | 10 | 14 | 24 |
| **Highest Degree Earned** | Doctorate | 2 | 1 | 3 |
| **K–12 Teaching Credential** | Elementary Teaching (multiple subjects) | 3 | 5 | 8 |
| **K–12 Teaching Credential** | Secondary Teaching (single subject) | 0 | 1 | 1 |
| **K–12 Teaching Credential** | Special Education | 16 | 15 | 31 |
| **K–12 Teaching Credential** | EL (Crosscultural, Language and Academic Development; Bilingual, Crosscultural, Language and Academic Development) | 6 | 9 | 15 |
| **K–12 Teaching Credential** | Administrative | 2 | 0 | 2 |
| **K–12 Teaching Credential** | Other (Autism add on, Reading and Literacy add on, Wilson Dyslexia Practitioner Credential, Early Childhood Education) | 3 | 0 | 3 |
| **Gender** | Male | 3 | 3 | 6 |
| **Gender** | Female | 14 | 17 | 31 |
| **Area of State** | Northern | 6 | 11 | 17 |
| **Area of State** | Southern | 9 | 8 | 17 |
| **Area of State** | Central | 2 | 1 | 3 |
| **Population Type** | City/Urban | 11 | 8 | 19 |
| **Population Type** | Suburban | 5 | 9 | 14 |
| **Totals:** | **N/A** | **114** | **126** | **226** |

**Note:** Numbers may not match the totals because participants may have multiple occupations or teaching credentials or are currently working toward earning their highest degree. The information is self-reported and may not reflect all the experience and earned credentials.

SCOE contacted and invited the participants, as well as contacted the alternates as necessary when confirmed participants cancelled and there was sufficient time to fill the opening. Once all participants were confirmed, SCOE notified those who were not selected.

#### Item Writing by Contractors

In 2022, ETS’ assessment specialists worked with a small group of contractors (i.e., outside item writers) who were fully trained, experienced item writers with a record of developing quality items for other ETS English language assessments. These contractors developed items in accordance with the *Alternate English Language Proficiency Assessments for California Task Type Specifications* (CDE, 2020b).

#### Item Writer Training

Item writer training is a vital part of establishing the validity chain for item and task development. In addition to relying on internal item writing experts for the Summative Alternate ELPAC, ETS recruited and trained educators in 2012 ELD Standards.

The three primary goals for the training were to

1. provide teachers with knowledge, via professional development on writing items and *Directions for Administration (DFA)* scripts, that they can use to help develop or refine their own classroom teaching and assessments;
2. ensure that teachers who successfully completed the training were ready to develop high-quality items for the Alternate ELPAC; and
3. leverage the experiences, perspectives, and expertise of the teachers in writing items for the Alternate ELPAC.

ETS held item writer training workshops to provide prospective item writers with professional development in several areas. A review of the general assessment development process gave trainees a sense of the total life cycle of an item.

Participants learned best practices in item writing to provide clarity within the item and avoid bias or sensitivity concerns, learned how to review a passage for item opportunities, and were introduced to how the new, innovative item types work.

Given that the trainees were California educators and educational leaders, ETS also emphasized incorporation of current effective teaching practices and instructional activities. Small-group and individual work generated sample items that the ETS facilitators then used in a large-group discussion to analyze and ascertain overall item quality. The ETS team also provided post hoc feedback via email and phone calls to trained item writers on further item samples and ideas submitted ahead of contractual item submissions.

### ETS Item Review Process

After items were drafted, ETS placed items and *DFA* scripts developed for the Summative Alternate ELPAC through an extensive internal item review process designed to provide the best standards-based assessments possible. This section summarizes the item review process that confirmed the quality of Summative Alternate ELPAC items.

#### Overview

Once an item was accepted for authoring, ETS employed a series of internal reviews. These reviews used established criteria to judge the quality of item content and to ensure that each item measured what it was intended to measure. These internal reviews also examined the overall quality of the items ahead of their being reviewed by the CDE and by educators at IRMs, which are described in more detail in section [*3.4 California Educator Review*](#_California_Educator_Review_1).

All items were entered into the Item Banking Information System (IBIS) with corresponding artwork and metadata. Within IBIS, items received content reviews by ETS’ assessment specialists and fairness and editorial reviews by ETS’ editors and fairness reviewers.

The CDE reviewed proposed changes to items in response to reviews by the participants of the IRMs to ensure the quality of the item pool. The CDE then gained access to Summative Alternate ELPAC items and conducted reviews in IBIS. ETS revised items in response to comments from the CDE prior to using them in the assessment forms.

The ETS review process for the Summative Alternate ELPAC includes the following; these tasks are described in the next subsections:

1. Content review
2. Accessibility review
3. Editorial review
4. Sensitivity and fairness review

Throughout this multistep item review process, the lead assessment specialists and development team members at ETS continually evaluated the activities and items for adherence to the rules for item development.

#### ETS Content Review

On all items ETS developed, assessment specialists conducted three reviews on items and stimuli. These assessment specialists verified thatthe items, *DFA* scripts, and stimuli were in compliance with ETS’ written guidelines for clarity, style, accuracy, and appropriateness for California students and were also in compliance with the approved item specifications, the *California Assessment of Student Performance and Progress (CAASPP) and ELPAC Item Review Acceptance Criteria* (ETS, 2019), and other ETS-produced procedures such as the ETS guidelines for fair tests and communications (2016). Assessment specialists reviewed each item in terms of the following characteristics:

* Relevance to the purpose of the assessment
* Match of each item to the item specifications, including the tier of item complexity
* Match of each item to the principles of quality item writing
* Match of each item to the identified standard or standards
* Difficulty of the item
* Accuracy of the content of the item
* Readability of the item or passage
* Grade-level and grade-spanappropriateness of the item
* Appropriateness of any illustrations, graphs, or figures

Assessment specialists verified the classification of each item, both to evaluate the correctness of the classification and to confirm that the task posed by the item was relevant to the outcome it was intended to measure. The reviewers could accept the item and classification as written, suggest revisions, or recommend that the item be discarded. These steps occurred prior to the CDE’s review.

#### ETS Accessibility Review

The ETS Accessible Content & Inclusive Solutions team advised on accessibility of items and item types during the ETS content review. These experts on alternate test formats reviewed all items, with a focus on accessibility for all student populations, and provided potential refinement solutions to improve the accessibility in items and assessments.

#### ETS Editorial Review

After assessment specialists and researchers reviewed each item, a group of specially trained editors also reviewed each item in preparation for consideration by the CDE and the item review panelists. The editors checked items for clarity, correctness of language, appropriateness of language for the grade level or grade spanassessed, adherence to the style guidelines, and conformity with accepted item-writing practices.

#### ETS Sensitivity and Fairness Review

##### Review

ETS’ assessment specialists who were specially trained to identify and edit or eliminate items that contained content or wording that could be construed to be offensive to, or biased against, members of specific student groups (e.g., ethnicity, race, or gender) conducted the next level of review (ETS, 2014, 2016). These trained staff members reviewed every item before the CDE and IRMs. Newly developed items were then submitted to the CDE for review prior to educator reviews.

The review process promoted a general responsiveness to the following:

* Cultural diversity
* Diversity of background, cultural tradition, and viewpoints to be found in the test-taking populations
* Changing roles and attitudes toward various groups
* Role of language in setting and changing attitudes toward various groups
* Topics that may be unsettling or otherwise distract the student from the content being measured, such as natural disasters, disease, or family discord
* Contributions of diverse groups (including ethnic and minority groups, individuals with disabilities, and women) to the history and culture of the United States and the achievements of individuals within these groups
* Item accessibility for language learners of diverse backgrounds
* Item accessibility for EL students with the most significant cognitive disabilities

##### Cognitive Laboratory

Under the direction of the CDE, ETS conducted a pilot study using cognitive laboratory methodology across California in January 2020 (CDE, 2020a). One of the goals of the study was to collect evidence of the use of accessibility resources for test administration and determine whether the test design supports access for EL students with the most significant cognitive disabilities.

Based on results of the study, minor adjustments to the task types were made, including providing considerations of alternate response options for expressive items to be more inclusive for students who are not verbal communicators. This includes students who are presymbolic communicators; who use few conventional symbols (words, signs, or pictures); or who use Augmentative and Alternative Communication devices. Guidance on how to provide optional individualization was added for rubric-scored expressive items that either allow for the use of real objects or provide picture card responses.

In addition, guidance was developed for increasing the number of objects and manipulatives for students who are presymbolic communicators to use. Guidance has been added for stories, passages, and items in which real objects or manipulatives could be offered to the student that provide optional individualization.

### California Department of Education Review

After ETS reviews of items were completed, the items were reviewed by the CDE content teams. CDE content experts reviewed the items using the same criteria used in the ETS reviews. After CDE reviews occurred, ETS made edits to the items based on the CDE feedback, and the items were then finalized for IRMs with California educators.

### California Educator Review

Each newly developed item is reviewed during the IRMs, which are held annually in April or May. Educators participate in the meetings to review the items for alignment to the standards and appropriateness for the designated grade level or grade span.

Educators can make one of three recommendations regarding each item: accept the item as is, accept the item with revisions, or reject the item. Whenever an item is recommended to be accepted with revisions, educators specify the revisions needed to improve the text or images and the reasons for the proposed revisions.

#### California Educators as Content Experts

During IRMs, California educators serve in an advisory role to the CDE and ETS and provide guidance on matters related to item development for the Summative Alternate ELPAC. The IRMs take place annually before newly developed items are selected for field test positions and are facilitated by ETS’ content experts. Typically, 15 to 20 educators are recruited to attend each meeting.

In the IRMs, the item content, test examiner *DFAs,* and alternative text were presented. ETS facilitated a discussion with the educators for each item using the *CAASPP and ELPAC Item Review Acceptance Criteria* (ETS, 2019). The educators were responsible for reviewing all newly developed items for alignment with the 2012 ELD Standards using the ELD Connectors. IRM participants also reviewed the items for content accuracy, language clarity, and item quality. In their examination of test items, participants could raise concerns about the appropriateness of the items as related to the grade level, age, and cognitive ability of the test takers. Additionally, passages, items, and supporting graphics were evaluated for any potential bias or sensitivity concerns associated with disability, gender, race, ethnicity, religion, or socioeconomic status. ETS recorded educator feedback for each item and adjusted item content based on approval from the CDE.

#### Composition of Item Review Panels

The group of California educators participating in the IRMs consisted of current teachers (some of whom had taught students eligible to take the Summative Alternate ELPAC and others who were subject-matter experts), resource specialists, administrators, curriculum and content experts, and other education professionals.

Applications were selected from California educators based on the degree to which they possess the following qualifications:

* Possession of a bachelor’s or higher degree
* Expertise in language acquisition or experience teaching English learner (EL) students in kindergarten through grade twelve
* Experience teaching students with severe cognitive disabilities
* Knowledge of, and experience working with, the 2012 ELD Standards and the ELD Connectors
* Knowledge of, and experience working with, students with exceptionalities such as visual impairments, hearing impairments, deafness, or speech or language disorders
* Experience administering the Alternate ELPAC or California Alternate Assessment

Additional desirable qualifications included the following:

* Specialized teaching certification in reading (e.g., Reading Certificate or Reading and Language Arts Specialist Certificate)
* Specialized teaching certification in special education
* Experience writing or reviewing items for standardized assessments, especially assessments for EL students in kindergarten through grade twelve

Every effort was made to ensure that each group of item reviewers included a wide representation of gender, geographic regions, and ethnic groups in California. Efforts also were made to ensure representation by members with experience serving California’s diverse special education population.

Item reviewers were recruited through an application process. Recommendations were solicited from LEAs, county education offices, and the CDE. Applications were reviewed by ETS’ assessment directors, who confirmed that an applicant’s qualifications met the specified criteria. Applicants who met the criteria had their information forwarded to the CDE for further review and agreement before invitations to participate were distributed. Refer to table 3.1 for the self-reported characteristics of the IRM participants.

#### Meetings for Review of Summative Alternate ELPAC Items

ETS’ assessment specialists facilitated Summative Alternate ELPAC IRMs. The meetings began with a brief training session on how to review and make recommendations for revising items.

ETS provides training on the following topics:

* Overview of the Test Development Process
* Overview of the purpose and scope of the Summative Alternate ELPAC
* Overview of the Summative Alternate ELPAC standards and task type specifications
* Overview of Linguistic Complexity levels
* Overview of Item and Testing Components
* Overview of considerations and criteria for evaluating test items
* Review and evaluation of items for fairness concerns

The criteria for reviewing items include the following:

* Overall quality
* Item content appropriateness for grade level and population being assessed
* Alignment with the construct being assessed to the Connector
* Linguistic difficulty range
* Clarity
* Correctness of the answer
* Plausibility of the distractors
* Bias and sensitivity factors

ETS provides guidelines for reviewing items, which the CDE approves. The set of guidelines for reviewing items is summarized as follows:

* Does the item align with the ELD Connector and, if applicable, the secondary ELD Connector it was designed to assess?
* Is the language in the item simple, direct, and free of ambiguity? Are jargon and idioms avoided?
* Is the item readability and text complexity appropriate for the grade level and population?
* Is the topic age appropriate and appropriate for the population?
* Does the item meet assigned levels of linguistic complexity?
* Are all components of the item clearly written and accessible to students?
* Are the *DFA* scripts, including the alternative text and optional individualization, written clearly and simply enough for students to understand what they are being asked to do?
* Is the item free of potentially upsetting or offensive graphics or content?
* Does the item follow the principles of universal design?

Once ETS’ staff compile and review the panel’s feedback, the feedback is delivered to the CDE for further review and guidance on decisions on whether to field-test the items.

Table 3.2 provides the status of the items after the 2023 Alternate ELPAC IRMs.

Table 3.2 Status of Items After the 2023 Alternate ELPAC IRMs

|  |  |  |  |
| --- | --- | --- | --- |
| Grade Level or Grade Span | Accept As Is | Accept with Revisions | Rejected |
| Kindergarten | 6 | 6 | 0 |
| 1 | 7 | 5 | 0 |
| 2 | 6 | 6 | 0 |
| 3–5 | 3 | 9 | 0 |
| 6–8 | 4 | 9 | 0 |
| 9–12 | 10 | 14 | 0 |
| **Totals:** | **36** | **40** | **0** |

### Data Review Meeting

After the items were administered to students, ETS identified the statistically flagged items and the associated statistics for review by the CDE and California educators at the data review meeting (DRM) for the 2022–23 Summative Alternate ELPAC administration that occurred on June 27 and June 28, 2023. More information about the statistical flags can be found in subsection [*8.2.6 Summary of Classical Item Analysis Flagging Criteria*](#_Summary_of_Classical_3).

Table 3.3 describes the self-reported qualifications of the panelists.

Table 3.3 Alternate Assessments Combined DRM Qualifications

|  |  |  |
| --- | --- | --- |
| Qualification Type | Qualification | 2023 DRM |
| **Occupation** | Special Education Teacher | 17 |
| **Occupation** | General Education Teacher (Classroom or College) | 4 |
| **Occupation** | Teacher on Special Assignment | 2 |
| **Occupation** | EL or Literacy Coach | 2 |
| **Occupation** | ELD Teacher | 1 |
| **Occupation** | Spanish Teacher | 1 |
| **Highest Degree Earned** | Bachelor’s Degree | 3 |
| **Highest Degree Earned** | Master’s Degree | 22 |
| **Highest Degree Earned** | Doctorate | 2 |
| **K–12 Teaching Credential** | Elementary Teaching (multiple subjects) | 8 |
| **K–12 Teaching Credential** | Secondary Teaching (single subject) | 4 |
| **K–12 Teaching Credential** | Special Education | 19 |
| **K–12 Teaching Credential** | EL (Crosscultural, Language and Academic Development; Bilingual, Crosscultural, Language and Academic Development) | 7 |
| **Gender** | Male | 3 |
| **Gender** | Female | 24 |
| **Area of State** | Northern | 7 |
| **Area of State** | Southern | 17 |
| **Area of State** | Central | 3 |
| **Region Type** | City/Urban | 14 |
| **Region Type** | Suburban | 10 |
| **Region Type** | Rural | 1 |
| **Region Type** | N/A | 2 |
| **Total:** | **N/A** | **27** |

**Note:** Numbers may not match the totals because participants may have multiple occupations or teaching credentials or are currently working toward earning their highest degree. The information is self-reported and may not reflect all their experience and earned credentials.

Review materials included items with their statistical data and statistical flags based on the respective administration’s item analyses along with annotated comment sheets for use by reviewers. Educators who were part of the DRM were assigned a training video in Upskill—a centralized, online location for training materials—giving them an overview of what is involved in a DRM as well as an understanding of the statistical measures used to review the items. This was followed by ETS conducting an introductory training at the beginning of the meeting to highlight any issues and to serve as a statistical refresher.

Reviewers then made decisions about which items should be included in the item bank for future operational forms assembly. Reviewers could determine whether items should be accepted as is or rejected. Because editing an item with statistics can lead to invalidation of the statistics, educators are not given the option to accept with revision. However, if educators had ideas for edits that could positively impact a rejected item, they could also offer suggestions for a rejected item to be revised, field-tested again, and put through another round of item analysis in a future review cycle. ETS’ content staff facilitated the meeting and ensured that all educators gave input on whether there were any reasons to be concerned about the content of the flagged items. ETS’ psychometricians provided training on the interpretation of item statistics and responded to questions about the item statistics during the item discussion. ETS’ psychometric and content staff were available to reviewers throughout this process.

Table 3.4 provides the status of the items after the 2023 Alternate Assessments Combined DRM.

Table 3.4 Status of Flagged Items After the 2023 Alternate Assessments Combined DRM

|  |  |  |
| --- | --- | --- |
| Grade Level or Grade Span | Accept As Is | Rejected |
| Kindergarten | 10 | 0 |
| 1 | 7 | 0 |
| 2 | 6 | 1 |
| 3–5 | 2 | 0 |
| 6–8 | 1 | 0 |
| 9–10 | 1 | 0 |
| 11–12 | 4 | 0 |
| **Total:** | **31** | **1** |

The DRM participants reviewed the content and statistics of each item and then made a recommendation to accept as is or reject an item. ETS’ content staff recorded the participants’ recommendations and comments regarding the flagged items. The feedback was referenced when working with the CDE to reconcile educator feedback and to make a final decision on whether to include particular flagged items in the operational pool. One item out of 32 items was rejected as a result of the DRM. The accepted items were placed in the operational item bank and made available for future refreshing of the Summative Alternate ELPAC.

### References

California Department of Education. (2014). *California English language development standards: Kindergarten through grade 12.* California Department of Education website.

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California Department of Education. (2020b). *Alternate English Language Proficiency Assessments for California task type specifications.* California Department of Education website.

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Educational Testing Service. (2019). *CAASPP and ELPAC item acceptance criteria* [Unpublished manuscript]. Princeton, NJ: Educational Testing Service.

## Test Assembly

This chapter discusses the detailed procedures of test assembly for the 2022–23 Summative Alternate English Language Proficiency Assessments for California (ELPAC) administration.

### Overview

ETS’ assessment specialists assembled the Summative Alternate ELPAC, which was reviewed and approved by the California Department of Education (CDE). This process began with the creation of the high-level test design (CDE, 2019b), which the California State Board of Education (SBE) approved in May 2019 and provides the following information about the Summative Alternate ELPAC:

* Assessment purposes
* Test-taking population
* Guiding principles
* Key assumptions
* Test design recommendations
* Online test administration
* Accessibility
* Task types
* Test and blueprint development specifications
* Scoring and reporting specifications

The test form assembly process is described in the form assembly specifications (CDE, 2022). The form assembly specifications detail the content characteristics, psychometric characteristics, and number of items to be used on the 2022–23 Summative Alternate ELPAC. ETS created the form assembly specifications that the CDE reviewed and approved.

### Assessment Development

The Summative Alternate ELPAC incorporates evidence-centered design, which is especially useful for the development of new constructs and prioritizes ongoing collection of validity evidence to show that the assessment measures what it is intended to measure. It also incorporates universal design principles to ensure that it would be accessible to the intended testing population. All items and tasks were developed to grade-level standards and the 2012 *California English Language Development Standards: Kindergarten Through Grade 12* (2012 ELD Standards) (CDE, 2014) via the English Language Development Connectors (ELD Connectors) (CDE, 2019a). The ELD Connectors provide an aligned expectation of English language proficiency (ELP) that has been reduced in depth, breadth, and complexity to be appropriate for English learner (EL) students identified with the most significant cognitive disabilities. This approach is consistent with that of other alternate assessments developed for California, in which Connectors are used to define how content standards are to be interpreted for this testing population.

#### High-Level Test Design

##### Test Design Principles

Three principles guided the design of the Alternate ELPAC. The principles were based on discussions with, and feedback from, various interest holder groups and local educational agencies (LEAs) as well as the Alternate ELPAC Test Design Advisory Team mentioned in section [*1.3 Test Content and Design*](#_Test_Content_and). The guiding principles were as follows (CDE, 2020b):

1. The assessments must be designed to ensure that the intended test-taking population is able to demonstrate its ELP.
2. The test design must be tailored to the range of needs of the students with the most significant cognitive disabilities, including providing maximum accessibility as well as ensuring linguistic and cultural fairness and sensitivity.
3. The test design must take into consideration the testing burden for students and test examiners.

##### Task Types

The Summative Alternate ELPAC assesses the four domains of Listening, Reading, Speaking, and Writing. However, it does so in an integrated manner; that is, a single task type assesses multiple domains. Receptive items assess the Listening and Reading domains, while expressive items assess the Speaking and Writing domains.

For the Summative Alternate ELPAC, the term “task type” is used to categorize test items based on their content and the evidence of student language proficiency they are designed to gather (e.g., *Recognize and Use Common Words*). In contrast, the term “item type” is used to describe items based on the form they take in the test delivery system (TDS) (e.g., selected response or CR). Each Summative Alternate ELPAC task type contains multiple item types. The test questions within a task type are aligned to one or more primary and secondary ELD Connectors. Additionally, to ensure that EL students with the most significant cognitive disabilities can fully access and participate in the Summative Alternate ELPAC, these receptive and expressive task types are assessed via students’ individually preferred receptive and expressive communication modes. Such a design—one that helps ensure maximum participation of all eligible test takers—helps to eliminate the need to provide domain exemptions.

The Summative Alternate ELPAC is administered one-on-one: one test examiner assessing one student at a time. The test examiner should be an educator familiar with the student and the student’s preferred communication mode(s). This facilitates a primary test-design feature of allowing a student to have the assessment administered in a way that provides access via an individually preferred communication mode(s). Communication modes include, but are not limited to, the following:

* Verbal communication
* Communication via sign language, eye gaze, facial expressions, gestures, picture exchange system
* Use of an assistive technology device or Augmentative and Alternative Communication device

Access to each domain is provided via the communication mode(s) that are used by, and are appropriate for, an individual student.

#### Test Blueprint

The Alternate ELPAC test blueprint provides guidance for the development of all Alternate ELPAC test forms, ensuring that they appropriately sample the knowledge, skills, and abilities defined by the 2012 ELD Standards via the ELD Connectors; provide enough score points to support reliable score reporting; and support a test form that is appropriate in length for the Alternate ELPAC testing population (CDE, 2020b). The blueprint specifies the order of task types, which are sequenced from simple (lowest) to more complex (highest) linguistic complexity. The Alternate ELPAC test blueprint is similar in format to the ELPAC test blueprint and includes the

* task types assessed;
* task type linguistic complexity level;
* aligned ELD Connectors;
* number of receptive items (by task type);
* number of receptive score points (by task type);
* number of expressive items (by task type);
* number of expressive score points (by task type);
* total number of items; and
* total number of points.

In January 2020, a pilot study using cognitive lab methodology (CDE, 2020a) was administered to inform the proposed *Test Blueprint for the Alternate ELPAC* (CDE, 2020b), which the SBE approved in May 2020.

Analysis of the pilot study results led to modifications of the Alternate ELPAC test blueprint. For example, all but one of the piloted task types was retained. In addition, test design features were added to increase the accessibility of expressive (constructed response [CR]) items. Optional individualization was added to the assessment to allow students who use picture cards and realia as a form of expressive language to communicate, as they do within the classroom setting. Additional pictures were added to text-only answer choices to increase access. Text was culled from the story or passage and added to item stems, lessening the need for student recall.

The preliminary decision to implement a single test blueprint for both the Summative Alternate ELPAC and the Initial Alternate ELPAC was confirmed as an appropriate means of assessing the ELP of the Alternate ELPAC student population. Seven task types were retained in the final Alternate ELPAC test blueprint, with 24 operational items and six embedded field test items. The SBE approved the Alternate ELPAC test blueprint in May 2020, which was before the first operational field test administration of the Summative Alternate ELPAC on November 1, 2021.

The test blueprint provided information about the number of receptive and expressive items and points administered per task type within each grade level and grade span. The test blueprint also provided two types of alignment between task types and the ELD Connectors: “primary” and “secondary.” Primary alignment indicated there was a close or strong match in terms of the language knowledge, skills, and abilities covered by both the task type and the standard. Secondary alignment indicated a moderate or partial match between the standard and the item in language knowledge, skills, and abilities.

#### Form Assembly Specifications

The Summative Alternate ELPAC consisted of two test forms for each grade level or grade span. Each test form contained 24 operational items, described in table 4.1, and six embedded field test items. The 24 operational items were identical across the two forms in each grade level or grade span; the field test items on each form were unique to the form, for a total of 12 field test items at each grade level or grade span.

Table 4.1 displays the

* task types,
* communication modes assessed by each task type,
* number of items on the test blueprint,
* available points per item, and
* total number of items for each summative form.

Table 4.1 Kindergarten Through Grade Twelve Summative Alternate ELPAC Forms Plan

|  |  |  |  |
| --- | --- | --- | --- |
| Task Type | Communication Mode | Number of Items | Available Points |
| *Recognize and Use Common Words* | Receptive | 1 | 1 |
| *Recognize and Use Common Words* | Expressive | 1 | 1–2 |
| *Communicate About Familiar Topics* | Receptive | 1 | 1 |
| *Communicate About Familiar Topics* | Expressive | 1 | 1–2 |
| *Understand a School Exchange* | Receptive | 3 | 3 |
| *Understand a School Exchange* | Expressive | 1 | 1–2 |
| *Describe a Routine* | Receptive | 3 | 3 |
| *Describe a Routine* | Expressive | 1 | 1–2 |
| *Understand and Express an Opinion* | Receptive | 2 | 2 |
| *Understand and Express an Opinion* | Expressive | 2 | 4 |
| *Interact with a Literary Text* | Receptive | 2 | 2 |
| *Interact with a Literary Text* | Expressive | 2 | 3 |
| *Interact with an Informational Text* | Receptive | 2 | 2 |
| *Interact with an Informational Text* | Expressive | 2 | 3 |
| **Totals:** | **N/A** | **24** | **28–32** |

After the form assembly specifications were approved, ETS’ assessment specialists assembled the assessments according to the specifications into form planners. ETS’ assessment specialists and psychometricians reviewed the form planners before they were delivered to the CDE for review. The CDE reviewed and approved the form planners after ETS revised the form planners as needed.

### Test Production Process

The high-level test design for the Summative Alternate ELPAC describes the Summative Alternate ELPAC as a computer-based, linear assessment (i.e., not adaptive). The test forms are assembled so that task types are presented in order of linguistic complexity, from simple (lowest) to more complex (highest). There are three linguistic complexity levels on the Summative Alternate ELPAC: low, medium, and high. The ELD Connectors, as well as the high linguistic complexity descriptors, provide expectations for students at the highest level. The high linguistic complexity descriptors are the precise measurable skills described in each ELD Connector. The test design allows for potential exit points once the test examiner determines the student’s highest limit of linguistic skills has been reached, which may occur during or after a task type (CDE, 2020b). Exit points help to minimize the degree to which students at the early stages of language development are required to respond to items that are beyond their level of English language proficiency.

#### Selection of Task Types and Items

From the eligible item pool, assessment developers selected items that

* met the coverage specifications of the test blueprint,
* met the form-building guidelines developed by the ETS psychometrics team,
* represented a variety of accessible item types, and
* provided a wide variety of task type context.

#### Test Forms

Each grade level and grade span of the 2022–23 Summative Alternate ELPAC had two forms created. Each form met the operational test blueprint, and each had six embedded field test items.

Table 4.1 in subsection [*4.2.3 Form Assembly Specifications*](#_Form_Assembly_Specifications) provides an overview of the number of operational items and points by task type and communication mode.

#### Psychometric Criteria and Review

ETS’ psychometricians reviewed and confirmed that each test form was consistent with the form assembly specifications.

The following criteria were used to review operational forms:

* Forms align with the Alternate ELPAC test blueprint.
* Items selected for use meet the following criteria:
* The range for *p*-values is between 0.20 and 0.95.
* Item-total correlations are greater than 0.20.
* Items flagged for C-DIF—differential item functioning—are used only when necessary to meet the test blueprint and with CDE approval.
* Item response theory *b*-parameter estimates are within the range of −4.0 to +4.0.
* Forms should have average item difficulty that is similar to the historical forms and can provide sufficient information around the threshold scores for the performance levels.
* The raw scores corresponding to the performance level cut scores are either the same as in the previous test administration or, at most, only one raw score point different from the previous test administration.
* The test characteristic curve and test information function should look reasonable and similar to the previous test administration.
* Multiple-choice, single-select (MCSS) items’ correct response options are approximately equally distributed among the possible answer choices A, B, and C (i.e., key balance for MCSS).
* Key runs—four or more consecutive keys of a single response option (A, B, or C)—should not occur.

#### Content Review of Forms

After psychometric approval, the proposed assessment underwent two additional content reviews and one editorial review. The content reviewers were assessment developers who had not previously worked on the development of the test forms they were reviewing. These reviewers brought a fresh perspective to the review. They were given the appropriate materials and documentation to complete the following tasks:

* Verification of item keys
* Identification of possible clueing across the items
* Verification that individual items aligned with the 2012 ELD Standards, as interpreted for EL students with significant cognitive disabilities through the ELD Connectors
* Verification of coverage of the 2012 ELD Standards, as interpreted for EL students with significant cognitive disabilities through the ELD Connectors
* Identification of any possible grammatical or production errors

#### California Department of Education Forms Review

The CDE used a gatekeeper process to review all test materials. Test materials for review and approval by the CDE included form planners, *Directions for Administration (DFAs),* and student-facing items in the TDS. All test materials were approved before they were made available for use.

For the reviews of form planners and the *DFAs,* ETS initiated the review by submitting materials to the CDE via the gatekeeper system, along with the criteria for the review. CDE consultants performed the initial review and returned comments and requests for revisions to ETS. ETS’ staff then revised the materials as requested and returned them to the CDE consultants, who reviewed the updated materials. If the test materials needed additional revisions, they were returned to ETS for further modifications.

Once CDE consultants found that the test materials met the review criteria, the CDE consultants submitted the test materials to the CDE administrator for approval. Test materials that were approved with revisions were revised by ETS and resubmitted for approval. Test materials that were not approved needed significant revisions and had to be submitted to the consultants again before they could be resubmitted to the CDE administrator for approval.

#### Configuration of the Test Delivery System

Once all the test reviews were completed and concerns, if any, had been resolved, the official ordered item sequence of the proposed forms was sent to Cambium Assessment, Inc. (CAI) for configuration of the TDS. Unlike other stages of the test production process, this stage must occur prior to every administration of the Summative Alternate ELPAC, even in the case of a form reuse.

Each item underwent an extensive platform review on different operating systems, such as Windows, Linux, and iOS, to ensure that the item’s appearance was consistent across all platforms.

The platform review was conducted by a team at CAI consisting of a team leader and several team members. The team leader presented the item as it was approved in ETS and CAI item banks. Each team member was assigned a different platform—hardware device and operating system—and reviewed the item to see that it rendered as expected. This platform review meeting ensured that all items were presented consistently to all students regardless of testing device or operating system for standardization of the test administration.

Prior to operational deployment, the testing system and content were deployed to a staging server where they were subject to user acceptance testing (UAT) by both ETS and CAI staff. The TDS UAT served as both a software evaluation and a content approval.

Following the UAT by ETS and CAI staff, separate UAT cycles were conducted by the CDE. The UAT review provided the CDE with an opportunity to interact with the exact assessment that would be administered to the students. The CDE had to approve the Summative Alternate ELPAC UAT before the assessment could be released for administration to students.

#### Test Form Delivery

The TDS is the means by which the statewide computer-based assessments are delivered to students. Components of the TDS include

* the Test Administrator Interface, the web browser–based application that allows test examiners to activate student assessments;
* the Student Testing Interface, on which students take the Summative Alternate ELPAC using the secure browser and with assistance from the test examiner as needed; and
* the secure browser, the web-based application through which the Student Testing Interface may be accessed. (The secure browser prevents a student from accessing unapproved applications and resources during testing.)

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## Test Administration

This chapter details the processes involved in the administration of the 2022–23 Summative Alternate English Language Proficiency Assessments for California (ELPAC). It also describes the procedures followed by ETS to maintain test security throughout the test administration process.

### Overview

The Summative Alternate ELPAC was administered to students in kindergarten through grade twelve in 2022–23 in conjunction with the other assessments that compose the ELPAC System.

In accordance with the procedures for the computer-based ELPAC, local educational agencies (LEAs) identified test examiners and entered the test examiners as users into the Test Operations Management System (TOMS). ETS provided LEA staff with the appropriate training materials, such as test administration manuals, videos, and webinars, to ensure that the LEA staff and test examiners understood how to administer the computer-based Summative Alternate ELPAC.

The testing window for the 2022–23 administration of the Summative Alternate ELPAC was planned for February 1 through May 31. Specific test administration schedules within that window were determined locally pursuant to *California Code of Regulations,* Title 5 (5*CCR*), Section 11518(d).

The Summative Alternate ELPAC did not allow remote testing, as it uses the one-on-one administration model that all other California alternate assessments use, which requires the assessment only be given when the test examiner and student are together in the same room. The one-on-one administration model allows for the test examiner to interact with the computer on behalf of the student as appropriate to the student’s individual needs and abilities. This ensures that the test examiner provides individualized support as needed for each student.

### Administration and Scoring Training

#### Overview

The training team for the Summative Alternate ELPAC Administration and Scoring Training (AST) created a completely virtual training model for the 2022–23 administration of the Summative Alternate ELPAC.

Every LEA that had an eligible Summative Alternate ELPAC student in California was required to complete the online LEA Certification course on the Moodle Training Site (Moodle). The alternative was to coordinate with another certified LEA via a Memorandum of Understanding stating that the certified LEA would either provide test examiner training or provide a trained test examiner to administer the assessment. The LEA ELPAC coordinator, or a designee, was responsible for overseeing all training for the LEA. This includes nonpublic schools and independent charter schools so that every eligible student is provided with an opportunity to test.

An online Moodle training site was developed as a restricted site that could be accessed only by LEA ELPAC coordinators, LEA lead trainers, Alternate ELPAC test examiners, and others requiring general training in the administration of the Summative Alternate ELPAC. Access to Moodle was restricted in two ways. First, it was restricted by the use of Moodle keys, which are passkeys used by LEA staff to access the various secure training courses; without the Moodle keys, the contents of Moodle cannot be accessed. Second, it was restricted because the Moodle keys are stored on a secure website that can be accessed only by logging on to the site using access codes provided to LEA ELPAC coordinators.

Moodle contained all resources needed to conduct a local test examiner training, such as training videos and PowerPoint training presentations. All aspects of the training courses and materials were developed for the first time using training materials and experiences learned from the pilot study.

The following items list high-level assumptions for the 2022–23 Summative Alternate ELPAC training:

* All LEA ELPAC coordinators from LEAs that had an eligible student to take the Summative Alternate ELPAC were expected to complete, or designate staff to complete, the LEA certification training requirement.
* The Test Examiner’s course in Moodle was developed to provide test examiners with the necessary knowledge to properly administer the Summative Alternate ELPAC. LEAs were permitted to choose to either have their test examiners complete the online training course individually or provide their own local group training.

#### Goals

The four goals of the 2022–23 Summative Alternate ELPAC AST were to

1. introduce the Summative Alternate ELPAC to new testing staff in the field;
2. standardize the administration of the Summative Alternate ELPAC;
3. train LEA trainers to score the rubric-scored items accurately and reliably so that they could effectively train test examiners and other qualified persons to locally administer and score the Summative Alternate ELPAC rubric-scored items (which includes secondary test examiners who back-scored these rubric-scored items); and
4. provide resources so test examiners could prepare for, and individualize, test administration.

#### Local Educational Agency Training Requirement

All LEA ELPAC coordinators from LEAs with an eligible student to take the Summative Alternate ELPAC were expected to complete, or designate staff to complete, the LEA certification requirement.

##### Certification of Training

ETS provided the Sacramento County Office of Education (SCOE) with a list of LEAs that registered eligible students for the Summative Alternate ELPAC. Of the 767 LEAs with eligible students, 696 LEAs completed the LEA certification, which resulted in a completion rate of 91 percent. LEAs that had not completed training were tracked and reported regularly to ETS for follow-‍up. ETS reached out by phone and email to those LEAs that had not completed LEA certification training. After several attempts, ETS contacted the superintendents for the LEAs that had not completed their training. When that was unsuccessful, ETS provided the California Department of Education (CDE) with a list of LEAs that had not completed LEA certification during the testing window. The CDE followed up with those specific LEAs during that same period.

Between November 1, 2022, and May 31, 2023, 873 individuals completed the Summative Alternate ELPAC—LEA Certification course, representing 1,152 LEAs. There were 4,896 test examiners who trained before or during the 2022–23 Summative Alternate ELPAC testing window.

##### Monitoring Test Examiner Calibration

Each LEA has a unique user group in Moodle, with each LEA being issued a unique enrollment key for each of the training courses. Each LEA ELPAC coordinator can designate Alternate ELPAC trainers within the site and request that trainers have access to view reports and monitor test examiner completion status.

The LEA ELPAC coordinator, or a designee, was responsible for overseeing test examiners’ calibration progress and completion. Test examiners were emailed a certificate of completion upon successfully completing and passing calibration, and test examiners were expected to email their certificate to their LEA ELPAC coordinator. LEA ELPAC coordinators could also monitor test examiners’ progress in the Activity Completion Report and Grade Book in Moodle.

#### Materials on the Moodle Training Site

The Alternate ELPAC Moodle Training Site provided California LEAs with necessary training resources to train test examiners who would administer the Summative Alternate ELPAC. The Moodle site provided a password-protected, online platform where developed course materials were made available to ELPAC coordinators, trainers, and test examiners. LEA trainers who wished to conduct a group training session could download materials to prepare. ELPAC coordinators shared access to Moodle with the test examiners within the LEA. Test examiners used the site to review training materials and complete their individual certifications.

Training materials included, but were not limited to, the following:

* *Preparation for Administration (PFA)—*This nonsecure document contained much of the information found previously in the front portion of the *Directions for Administration (DFA)*. It was a stand-alone document designed for test planning and preparation. The *PFA* was posted in Moodle and on the ELPAC website.
* *Draft Summative Alternate ELPAC DFA*—SCOE used a draft version of the *DFA,* watermarked as “DRAFT,” to allow test examiners to plan and prepare for testing. This allowed LEAs to have draft versions of the secure *DFAs* to use while watching training videos and for reference during local training, since the final version of the *DFA* was not approved until after the AST was released. Once finalized in January, the *DFAs* were posted in TOMS, and the draft *DFAs* were removed from Moodle.
* Summative Alternate ELPAC Test Item Preview (TIP)—This secure booklet corresponded to the *Summative Alternate ELPAC DFA* for each grade level and grade span. Using the booklet, test examiners could view each item with the *DFA* to plan and prepare materials for each student’s test administration, with considerations to the student’s individual communication mode(s). It provided a rendering of what test examiners and students would see on the screen in the test delivery system (TDS). This TIP document was similar to a print-on-demand book.
* *Alternate ELPAC Practice Test DFA*—Links to the nonsecure practice test *DFAs* for each grade level and grade span were made available as appropriate in the resources section after each video listing and at the end of the course. They were used in the administration video and the videos about rubric-scored items. Some of the training modules used items from the practice test showing students being administered the assessment. LEAs were also encouraged to have their test examiners use the practice tests and *DFAs*
* in local training as an activity to familiarize test examiners with the assessment,
* with their students to familiarize the students with the structure and format of the assessment, and
* with their students to test individualization strategies for each student.
* Check for Understanding Quizzes––Quizzes were used after each video. The content of each quiz represented the key concepts of each video. Users were required to pass each quiz before accessing the next module and were provided with the correct answer as a reinforcement of the key concepts of the video.
* Alternate ELPAC Picture Cards—The Alternate ELPAC picture cards were created and posted for test examiners to use as appropriate for individualization. SCOE printed and shipped precut and sorted, reusable picture cards at no cost to LEAs that ordered them, thus reducing the financial burden on participating LEAs.

##### Training Module Content

Training courses were divided into four modules. The LEA Certification course included all four modules, while the Test Examiner Certification course included only the first three modules. The module sections for the training materials included content and documents as described in this subsection and were as follows:

* Module 1—Overview
* Module 2—Test Administration
* Module 3—Rubrics and Scoring
* Module 4—Trainer

What follows are descriptions of the modules:

* **Module 1—Overview Module**

Module content included the following:

* Student eligibility for taking the Summative Alternate ELPAC (including the Alternate Assessment Decision-Making Tool for California web document [CDE, 2023a])
* Explanation of what is being measured with the Summative Alternate ELPAC
* Instructions on how the Summative Alternate ELPAC is administered
* Assessment arranged by task type
* Assessment having three levels of linguistic complexity
* Domain integration to allow individually preferred communication modes
* Grade levels or grade spans tested
* Two forms available for each grade level or grade span tested
* **Module 2—Test Administration Module**

Module content included the following:

* Technical requirements and setup
* Appropriate testing environment
* Instructions on how to prepare to test students
* Alternate presentation options for students with visual impairments
* Individualization options available
* Picture cards
* Appendix of manipulatives
* Alternative text
* Test settings and accommodations
* Augmentative and Alternative Communication devices and other accessibility resources
* Guidance on how the *DFA* relates to the TDS
* Engagement strategies
* Reprompting strategies
* Management of breaks
* Stopping policy
* Instructions on how to conduct second scoring
* **Module 3—Rubrics and Scoring Module**

Module content included the following:

* Review of the three rubrics
* Instructions on how to score difficult responses
* Second scoring of rubric-scored questions
* **Module 4—Trainer Module**

Module content included the following:

* Training requirements
* Tracking of test examiner training status
* Anticipated testing time
* Guidelines for who needs to be trained
* Training options and resources
* Ordering of picture cards
* Test preparation and individualization time
* Instructions on how to manage second scoring
* Score reports
* Second scoring issues

##### Training Videos

Modules were divided into several shorter training videos. For example, Module 1 was composed of three videos, one of which was optional. Module 2 was split into four videos. Module 3 was composed of three videos that covered the administration and scoring of rubric-scored items, and Module 4 was composed of two videos. As appropriate, videos included footage of real students taking items from the practice test that demonstrated administration, scoring, and strategies.

### User Roles and Standardization

The test administration procedures were designed so that the assessments are administered in a standardized manner. ETS took all necessary measures to ensure the standardization of test administration, as described in this section.

#### Local Educational Agency ELPAC Coordinator

An LEA ELPAC coordinator was designated by the district superintendent or charter school administrator at the beginning of the 2022–23 school year. LEAs include public school districts, California State Board of Education–authorized charter schools, county office of education programs, and direct funded charter schools.

LEA ELPAC coordinators were responsible for ensuring the proper and consistent administration of the ELPAC. In addition to the responsibilities set forth in 5*CCR* Section 11518.40, their responsibilities included

* adding site ELPAC coordinators and test examiners into TOMS;
* training site ELPAC coordinators and test examiners regarding the state requirements and ELPAC administration as well as security policies and procedures;
* providing checklists for site ELPAC coordinators and test examiners to review in preparation for administering the summative assessments;
* overseeing test administration activities;
* reporting test security incidents (including testing irregularities) to the CDE using the online Security and Test Administration Incident Reporting System (STAIRS)/Appeals process;
* requesting an Appeal (if indicated by TOMS prompts while reporting an incident using the STAIRS/Appeals process);
* ensuring that correct testing procedures were followed;
* ensuring that test materials were distributed to the schools and kept in a locked, secure area at all times;
* ordering test materials and supplemental test materials in TOMS; and
* ensuring adequate test materials were on hand and redistributed throughout the LEA during the testing window as needed.

#### Site ELPAC Coordinator

A site ELPAC coordinator is trained by the LEA ELPAC coordinator for each test site (5*CCR* Section 11518.40[b][7]). A site ELPAC coordinator must be an employee of the LEA and must sign a security agreement (5 *CCR* Section 11518.45[b][3]).

A test site coordinator was responsible for identifying test examiners and ensuring that they have signed *ELPAC* *Test Security Affidavits* (5 *CCR* Section 11518.45[b][3]). A site ELPAC coordinator’s duties may have included

* adding test examiners into TOMS;
* entering test settings for students;
* creating testing schedules and procedures for a school consistent with state and LEA policies;
* working with technology staff to ensure secure browsers are installed and any technical issues are resolved;
* monitoring testing progress during the testing window and ensuring all students take the Summative Alternate ELPAC, as appropriate;
* coordinating and verifying the correction of student data errors in the California Longitudinal Pupil Achievement Data System;
* ensuring a student’s test session is rescheduled, if necessary;
* addressing testing problems;
* reporting test security incidents (including testing irregularities) to the CDE using the online STAIRS/Appeals process;
* overseeing administration activities at a school site; and
* requesting an Appeal (if indicated by TOMS prompts while reporting an incident using the STAIRS/Appeals process).

#### Test Examiner

Test examiners were identified by site ELPAC coordinators as individuals who would administer the Summative Alternate ELPAC.

A test examiner must have signed a security affidavit (5 *CCR* Section 11518.50[d]).

A test examiner’s duties may have included

* ensuring the physical conditions of the testing room meet the criteria for a secure test environment;
* administering the ELPAC, including the Summative Alternate ELPAC;
* reporting all test security incidents to the site ELPAC coordinator and LEA ELPAC coordinator in a manner consistent with state and LEA policies;
* viewing student information prior to testing to ensure that the correct student receives the proper assessment with appropriate resources and reporting potential data errors to site ELPAC coordinators and LEA ELPAC coordinators;
* monitoring student progress throughout the test session using the Test Administrator Interface; and
* fully complying with all directions provided in the *DFAs* for the Summative Alternate ELPAC (CDE, 2023g).

#### Instructions for Test Administration

##### *Preparing for Administration*

The nonsecure *Preparing for Administration (PFA)* (CDE, 2023f) documents contained the planning and preparation content from the *DFAs* and were posted on the Manuals and Instructions web page on the ELPAC website. The *PFA* was used by test examiners to prepare for the test administration and to become familiar with testing guidelines.

The *PFA* included the following:

* Administration notes
* Linked resources
* Necessary testing materials
* Information about student engagement
* Use of the “Mark as No Response” option

##### *Directions for Administration*

Test examiners were required to use the *DFAs*, housed securely in TOMS, to administer assessments to all eligible students. There was one *DFA* for each of the two forms for each grade-level and grade-span assessment. These two *DFAs* included field test items. Test examiners could only access the *DFAs* for the form(s) their LEA was assigned to. LEA ELPAC coordinators could access all *DFAs*, regardless of form assignment, so that if a student moved to an LEA assigned to a different form from the previous LEA during testing, the student could continue testing using the same form and the test examiner could use the appropriate *DFA*.

##### *Summative Alternate ELPAC Test Administration Manual*

The *Summative Alternate ELPAC Test Administration Manual* (CDE, 2023g) contained information and instructions on overall procedures and guidelines for all LEA and test site staff involved in the administration of computer-based assessments. Sections included the following topics:

* Roles and responsibilities of those involved with ELPAC testing
* Test administration resources
* Test security
* Administration preparation and planning
* General test administration
* In-person test administration
* Remote test administration
* Instructions for steps to take before, during, and after testing
* Dates for ordering materials and testing
* Guidelines for handling materials

Appendices included definitions of common terms and descriptions of different aspects of the assessment and systems associated with the assessment.

##### *CAASPP and ELPAC Test Operations Management System User Guide*

TOMS is a web-based application that allows LEA ELPAC coordinators to set up test administrations, add and manage users, and submit computer-based student test settings.

TOMS modules described in the *TOMS User Guide* included the following (CDE, 2023e):

* **Adding and Managing Users—**This module allowed LEA ELPAC coordinators to add site ELPAC coordinators and test examiners to TOMS so that the designated user could administer, monitor, and manage the ELPAC computer-based assessments.
* **Reports—**This module allowed LEA ELPAC coordinators and site ELPAC coordinators access to the various reports in TOMS.
* **STAIRS/Appeals—**This module allowed LEA ELPAC coordinators and site ELPAC coordinators access to create new STAIRS cases or search for STAIRS/Appeals cases.
* **Student Profile—**This module allowed LEA ELPAC coordinators, site ELPAC coordinators, and test examiners to view and manage student’s test assignments and test settings.

##### Other System Manuals

Other manuals were created to assist LEA ELPAC coordinators and others with the technological components of the ELPAC System and are listed next.

* ***California Assessment of Student Performance and Progress (CAASPP) and ELPAC Technical Specifications and Configuration Guide for Online Testing*—**This manual provided information, tools, and recommended configuration details to help technology staff prepare computers and install the secure browser to be used for the computer-based ELPAC (CDE, 2023d).
* ***CAASPP and ELPAC Security Incidents and Appeals Procedure Guide*—**This manual provided information on how to report a testing incident and submit an Appeal to reset, reopen, invalidate, or restore individual computer-based student assessments (CDE, 2023c).
* ***CAASPP and ELPAC Accessibility Guide*—**This manual provided descriptions of the accessibility features for computer-based assessments as well as information about supported hardware and software requirements for administering assessments to students using accessibility resources, including those with a braille accommodation using Job Access With Speech® (software) or a braille embosser (hardware) (CDE, 2023b).

### Local Educational Agency Training

Each year, ETS, in collaboration with the CDE and its Assessment Validity and Outreach contractor, SCOE, establishes and implements a comprehensive training plan for LEA assessment staff and educators on all aspects of the assessment program. The ETS and SCOE annual training plans specify the audience, topics, frequency, and mode (synchronous or asynchronous) of the training, including such elements as format, participants, and organization.

Knowing that educators were confronted with challenges daily that put additional demands on their time, ETS and SCOE made every effort to make the information available in a variety of ways that allowed educators access to training at a time that was responsive to their varying circumstances. This included offering training events on multiple days and times, livestreaming events, recording and archiving training, and converting training to self-paced modules that could be taken any time, at the learner’s convenience.

All training opportunities were posted in one centralized location on the ELPAC website. LEA staff were able to register for training opportunities in one place, on the Upcoming Training Opportunities web page. Archived training was made available on the Past Training Opportunities web page, making it easier for educators to find a training they missed, and providing easier access to recorded training. ETS also employed a new strategy for providing access to training materials. Participants could register to receive a copy of the training materials without registering to attend a live training. Training materials were developed in such a way that educators could consume the information independently by reading through materials.

#### Synchronous and Asynchronous Training

All synchronous training was offered on Zoom, recorded, and made available for on-demand viewing. Zoom provides an opportunity for educators to ask questions and get answers in real time. Coffee Sessions were livestreamed on YouTube.

In response to an environment where educators had competing priorities to juggle, ETS and SCOE used various strategies to increase engagement during synchronous trainings. Live polls were presented to get real-time feedback about attendees’ knowledge of a particular topic, allowing presenters to tailor presentations to the audience’s level of understanding. The chat functionality was enabled to give participants an opportunity to interact with each other or to provide open-ended feedback, or it was disabled to minimize distraction and drive attendees’ focus to the information being presented. Breakout groups were used in smaller group trainings, as appropriate. Breaks and processing time were incorporated into presentations to give attendees opportunities to attend to other responsibilities that might result as part of their work environment.

Working closely with the CDE, ETS and SCOE continued to provide informal support to educators by offering monthly Coffee Sessions. Coffee Sessions included CDE and ETS’ staff who could answer questions about all aspects of testing. ETS also offered several Office Hours for coordinators where support staff were generally available from 9 a.m. to 3 p.m., allowing coordinators to join as needed and get customized support. SCOE continued to offer Assessment and Accountability Information Meetings intended to provide LEA coordinators with regular updates about California’s assessment and accountability systems. All trainings and meetings were recorded and archived for on-demand viewing on the Past Training Opportunities web page on the ELPAC website.

#### Videos and Guides

ETS produced videos on various aspects of administering the ELPAC, including how to perform functions within TOMS, such as setting up a test administration window, adding users, assigning assessments to students, and uploading test settings. SCOE produced the accompanying quick reference guides, providing multiple avenues of support for educators administering the assessments.

In addition to the standard administration videos, ETS produced additional videos to support administration. Some videos were geared toward parents/guardians to help them understand the assessment’s purpose. Other videos were intended to help coordinators or other users complete a process, such as administering a practice or training test, starting and stopping a test session, how to monitor student completion, and how to complete second scoring that is required for some of the assessments. This list is a sampling of the available videos intended to capture the major areas of support for various interest holders. The comprehensive suite of training videos can be found on the ELPAC Videos and Quick Reference Guides web page.

#### Training for Proper Identification and Assignment of Designated Supports and Accommodations

ETS developed a video with LEA staff to help California educators learn more about the importance of implementing ELPAC accessibility resources and best practices used by educators in the field. The “Importance of Implementing CAASPP and ELPAC Accessibility Resources: Voices from Educators” video was available on the Videos and Quick Reference Guides web page on the ELPAC website.

ETS also produced short demonstration videos for every embedded accessibility resource, demonstrating how to use the resource for educators, students, and parents/guardians. The videos were available in both English and Spanish on the Accessibility Resources Demonstration Videos web page on the ELPAC website. Demonstration videos were also created for the most frequently used non-embedded accessibility resources. These videos were linked within the Individual Student Assessment Accessibility Profile (ISAAP) Tool, increasing access to the demonstration videos. Educators using the ISAAP Tool to determine the student’s needs could view the corresponding demonstration video without having to navigate away from the tool.

A video on how to use the ISAAP Tool was also available to support educators in the process of creating an individual student profile and matching accessibility resources to student needs to ensure a fair and valid testing experience for all students.

For the 2022–23 ELPAC administration, ETS produced a two-part asynchronous training module. Module A, Matching Accessibility Resources to Students’ Needs, focused on providing participants with an understanding of the importance of accessibility resources, the categories of accessibility resources, and the process for matching students with appropriate accessibility resources for daily instruction and on assessments. Module B, Using Accessibility Resources in Daily Instruction, focused on the importance of removing barriers to student learning and using accessibility resources in daily instruction. Educators could complete the training independently or had the option to attend one of two live sessions held by ETS to extend and deepen the learning experience.

At the California Assessment Conference, SCOE offered two sessions on accessibility. “Leveraging UDL and Accessibility Resources to Improve Teaching and Learning” explored Universal Design for Learning (UDL) principles to help remove barriers to student learning and provided data collection tools to participants. The session on “Introduction to Accessibility and the ISAAP Tool” provided participants with the most up-to-date information regarding accessibility resources and offered a live practical approach to identifying and matching accessibility resources to students using the ISAAP Tool. The conference also included some shared practices sessions focused on accessibility.

#### Feedback for Continuous Improvement Survey

The ELPAC program solicits feedback annually from various interest holder groups, including LEA ELPAC coordinators, site ELPAC coordinators, and test examiners, through the CAASPP and ELPAC Feedback for Continuous Improvement Survey. Feedback was collected via a post-test survey sent to more than 275,000 California educators and through focus groups. Educators provided valuable feedback for potential improvements to the future administration of CAASPP and the ELPAC—one or both—by reporting some lessons they learned in 2022–23.

Improvements made in response to survey results are detailed in [chapter 11](#_Continuous_and_Systematic). The CDE and ETS used key recommendations from educators to implement positive changes in the next test administration year.

##### Overview

LEA and site ELPAC coordinators, as well as test examiners, were invited to participate in the survey. The California educators who responded provided specific, actionable insights about their test administration experience. This survey gathered information and data from educators who were part of the administration of CAASPP, the ELPAC, or both programs. Its goal was to highlight successes and identify areas for improvement, both immediate and long term.

Overall, California educators continue to express positive experiences in their preparations for administering CAASPP and the ELPAC.

##### Communication

During the 2022–23 test administration year, the CDE and ETS continued to streamline communications and provide LEAs with relevant information throughout the year. CAASPP and ELPAC monthly communications were sent throughout the administration with timely reminders and training announcements. In addition, proactive communications were sent to help remind LEA ELPAC coordinators of important actions needed for a successful administration, such as reminders to set up a test administration window, order materials, or enter scores into the Data Entry Interface, if needed.

### Accessibility Resources

The Every Student Succeeds Act reaffirms the importance of ensuring that assessments are accessible to special populations, and the Individuals with Disabilities Education Act lays out monitoring requirements for students with disabilities. This section describes the accessibility resources used to support students in the Summative Alternate ELPAC, as well as the procedures to identify and assign students with accommodations and designated supports. Finally, the number of students who were assigned accessibility resources was reported on the basis of available data.

The 2022–23 Summative Alternate ELPAC offered commonly used accessibility resources available through the ELPAC computer-based testing platform, where applicable for the tested construct.

#### Accessibility Resource Categories

The purpose of universal tools, designated supports, and accommodations in testing is to provide *all* students with the opportunity to demonstrate what they know and what they are able to do. Universal tools, designated supports, and accommodations minimize or remove barriers that could otherwise prevent students from demonstrating their knowledge, skills, and achievement in a specific item type (expressive or receptive).

The CDE’s *California Assessment Accessibility Resources Matrix* (Accessibility Matrix) (CDE, 2022) is intended for school-level personnel and individualized education program (IEP) and Section 504 plan teams to select and administer the appropriate universal tools, designated supports, and accommodations as deemed necessary for individual students.

##### Universal Tools

Universal tools were available to all students by default, although they could be disabled if a student found them distracting. Each universal tool fell into one of two categories: embedded and non-embedded. Embedded universal tools were provided through the TDS (through the ELPAC secure browser), although they could be turned off by a test examiner.

The universal tools in the following subsections were available in the 2022–23 Summative Alternate ELPAC administration.

###### Embedded

The following embedded universal tools were available to students testing in the secure browser:

* Breaks
* Digital notepad
* Expandable items
* Expandable passages
* Highlighter
* Keyboard navigation
* Line reader (grades three through twelve)
* Mark for review (grades two through twelve)
* Strikethrough (grades three through twelve)
* Zoom (in or out)

###### Non-Embedded

The following non-embedded universal tools were available to students testing in the secure browser:

* Breaks
* Oral clarification of test directions by the test examiner in English
* Scratch paper
* Test navigation assistant

##### Designated Supports

Designated supports were available to all students when determined for use by an educator or team of educators (with parent/guardian and student input, as appropriate) or specified in the student’s IEP or Section 504 plan. These are assigned through the test settings in TOMS. The designated supports each fell into one of two categories: embedded and non-embedded. Embedded designated supports were provided through the Student Testing Interface (through the ELPAC secure browser).

The designated supports in the following subsections were available in the 2022–23 Summative Alternate ELPAC administration.

###### Embedded

The following embedded designated supports were available to students testing in the secure browser:

* Color contrast
* Masking
* Mouse pointer (size and color)
* Permissive mode
* Print size
* Streamline
* Turn off any universal tool(s)

###### Non-Embedded

The following non-embedded designated supports were available to students testing in the secure browser:

* American Sign Language or Manually Coded English
* Designated interface assistant
* Magnification
* Masking
* Medical supports
* Noise buffers
* Print-on-demand
* Read aloud
* Separate setting
* Simplified test directions
* Translated test directions (including American Sign Language or Manually Coded English)

##### Accommodations

Accommodations are changes in procedures or materials that increased equitable access during ELPAC administration and are permitted to all eligible students if specified in the student’s IEP or Section 504 plan. Assessment accommodations for students who needed them generated valid assessment results; they allowed these students to show what they know and can do. Accommodations did not compromise the learning expectations, construct, grade-level standard, or intended outcome of the assessments.

The accommodations in the following subsections were available in the 2022–23 Summative Alternate ELPAC administration.

###### Embedded

Because the Summative Alternate ELPAC was designed specifically for administration to students with the most significant cognitive disabilities and is administered one-on-one, there were no embedded accommodations available to students.

###### Non-Embedded

The following non-embedded accommodations were available to students testing in the secure browser:

* Additional instructional supports and resources for alternate assessments
* Alternate response options
* American Sign Language or Manually Coded English
* Breaks

##### Unlisted Resources

An unlisted resource is an instructional support a student regularly uses in daily instruction, assessment, or both, and has not been previously identified as a universal tool, designated support, or accommodation. The Accessibility Matrix included an inventory of unlisted resources that were already identified and were preapproved (CDE, 2022). During the 2022–23 ELPAC administration, an LEA ELPAC coordinator or a site ELPAC coordinator would use TOMS to submit a request for use of an unlisted resource. A preidentified, preapproved unlisted resource request was automatically approved. A request for an unlisted resource that was not preidentified was sent to the CDE for review and adjudication.

Unlisted resources are non-embedded resources that are made available if specified in the eligible student’s IEP or Section 504 plan and only upon approval by the CDE. Unlisted resources that changed the construct of an assessment and were approved were flagged as causing a change in construct. The lowest obtainable scale score (LOSS) would be assigned to the Summative Alternate ELPAC with the unlisted resource that changes the construct, the student’s score status would remain valid, and the student’s scale score would be reported but appear on the Student Score Report (SSR) with an asterisk and a footnote that the assessment was administered under conditions that resulted in a score that may not be an accurate representation of the student’s achievement.

Note that there were no preapproved unlisted resources associated with the Summative Alternate ELPAC.

The LEA ELPAC coordinator or site ELPAC coordinator was required to submit a request for the use of an unlisted resource to the CDE a minimum of 10 business days before the student’s first day of testing. The LOSS was reported for the affected domain when administrations included unlisted resources that changed the construct of that assessment.

#### Identification and Selection

All eligible students enrolled in a California public school participate in the ELPAC System. The CDE Accessibility Matrix (CDE, 2022) is intended for school-level personnel and IEP and Section 504 plan teams to select and administer the appropriate universal tools, designated supports, and accommodations as deemed necessary for individual students.[[3]](#footnote-4)

The full list of the universal tools, designated supports, and accommodations used in ELPAC computer-based assessments, including the Summative Alternate ELPAC, is documented in the Accessibility Matrix. Most embedded and non-embedded universal tools, designated supports, and accommodations listed in parts 1, 2, and 3 of the Accessibility Matrix are available for the Summative Alternate ELPAC through the computer-based testing interface or, in the case of non-embedded resources, from the school or LEA. Part 5 of the Accessibility Matrix includes approved unlisted resources. School-level personnel, IEP teams, and Section 504 teams used the Accessibility Matrix when deciding how best to support the student’s test-taking experience.

Test examiners are given the opportunity to administer the Alternate ELPAC practice and training tests so that students have the opportunity to familiarize themselves with a designated support or accommodation prior to testing.

Additional guidance for maximizing accessibility for students taking the Summative Alternate ELPAC was provided in the *Alternate ELPAC Accessibility and Accommodations Guidelines* (CDE, 2021)*.* It was developed by using the California Alternate Assessment accessibility guidelines in conjunction with the considerations for Summative Alternate ELPAC student population and test design.

#### Assignment

Designated supports and accommodations are assigned to individual students on the basis of identified student need. Such assignments are implemented in TOMS by the LEA ELPAC coordinator or site ELPAC coordinator, either through individual assignment through the student’s profile in TOMS or in a batch upload for multiple students. When the batch upload process was used, settings were uploaded into TOMS using a spreadsheet with data that had either been entered into a template downloaded from TOMS; or created by selecting and entering information into the web-based ISAAP Tool. The ISAAP Tool could be used by LEAs in conjunction with the *2022–23* CAASPP and ELPAC Accessibility Guide (CDE, 2023b), as well as with state regulations and policies (such as the Accessibility Matrix) related to assessment accessibility*.*

The embedded designated supports and accommodations were delivered to the student through the TDS at the time of testing; the non-embedded designated supports and accommodations were provided at the time of testing to the student by the LEA. Refer to section [*1.8 Systems Overview and Functionality*](#_Systems_Overview_and_3) in [*Chapter 1: Introduction*](#_Chapter_1:_Introduction) for more details regarding the TDS.

Once a student’s IEP or Section 504 plan team decided which accessibility resource(s) the student should use, LEA ELPAC coordinators and site ELPAC coordinators used TOMS to assign designated supports and accommodations to students prior to the start of a test session.

There were three ways a student’s accessibility resource(s) could be assigned:

1. Using the ISAAP Tool to identify the accessibility resource(s) and then uploading the spreadsheet it creates into TOMS (This process is discussed in more detail in subsection [*5.5.2 Identification and Selection*](#_Identification_and_Selection_1).)
2. Using the Online Student Test Settings template to enter students’ assignments and then uploading the spreadsheet into TOMS
3. Entering assignments for each student individually in TOMS

If a student’s IEP or Section 504 plan team identified and designated a resource not identified in the CDE Accessibility Matrix, the LEA ELPAC coordinator or site ELPAC coordinator needed to submit a request for an unlisted resource to be approved by the CDE. The CDE then determined whether the requested unlisted resource changed the construct being measured before the student started testing.

Table 5.1 and table 5.2 provide information on the number of students who were assigned accommodations and designated supports.

Table 5.1 Assignment of Accommodations and Designated Supports—Kindergarten Through Grade Two

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Accessibility Resource | Kindergarten: N | Kindergarten: % of Total Tested | Grade 1: N | Grade 1: % of Total Tested | Grade 2: N | Grade 2: % of Total Tested |
| Non-Embedded Accommodation—Additional Instructional Supports and Resources for Alternate Assessments | 60 | 3% | 39 | 2% | 35 | 2% |
| Non-Embedded Accommodation—Alternate Response Options | 138 | 8% | 98 | 6% | 67 | 5% |
| Non-Embedded Accommodation—ASL or Manually Coded English | 7 | 0% | 6 | 0% | 8 | 1% |
| Non-Embedded Accommodation—Breaks | 160 | 9% | 152 | 10% | 117 | 8% |
| Non-Embedded Accommodation—Unlisted Resources | 0 | N/A | 0 | N/A | 0 | N/A |
| Embedded Designated Support—Color Contrast | 5 | 0% | 6 | 0% | 6 | 0% |
| Embedded Designated Support—Masking | 45 | 3% | 62 | 4% | 36 | 2% |
| Embedded Designated Support—Mouse Pointer (Size and Color) | 27 | 2% | 16 | 1% | 27 | 2% |
| Embedded Designated Support—Permissive Mode | 0 | N/A | 2 | 0% | 2 | 0% |
| Embedded Designated Support—Print Size | 15 | 1% | 6 | 0% | 4 | 0% |
| Embedded Designated Support—Streamline | 14 | 1% | 19 | 1% | 14 | 1% |
| Embedded Designated Support—Turn Off Any Universal Tool(s) | 1 | 0% | 0 | N/A | 0 | N/A |
| Non-Embedded Designated Support—Color Contrast | 6 | 0% | 7 | 0% | 9 | 1% |
| Non-Embedded Designated Support—Designated Interface Assistant | 11 | 1% | 10 | 1% | 14 | 1% |
| Non-Embedded Designated Support—Magnification | 20 | 1% | 11 | 1% | 19 | 1% |
| Non-Embedded Designated Support—Masking | 31 | 2% | 44 | 3% | 27 | 2% |
| Non-Embedded Designated Support—Medical Supports | 0 | N/A | 1 | 0% | 2 | 0% |
| Non-Embedded Designated Support—Noise Buffers | 50 | 3% | 50 | 3% | 35 | 2% |
| Non-Embedded Designated Support—Print-on-Demand | 3 | 0% | 5 | 0% | 1 | 0% |
| Non-Embedded Designated Support—Read-Aloud Items | 100 | 6% | 94 | 6% | 86 | 6% |
| Non-Embedded Designated Support—Separate Setting | 199 | 11% | 181 | 12% | 136 | 9% |
| Non-Embedded Designated Support—Simplified Test Directions | 220 | 12% | 206 | 13% | 156 | 11% |
| Non-Embedded Designated Support—Translated Test Directions (including ASL) | 34 | 2% | 31 | 2% | 31 | 2% |
| **Total Students Tested:** | **1,789** | **N/A** | **1,573** | **N/A** | **1,457** | **N/A** |

Table 5.2 Assignment of Accommodations and Designated Supports—Grade Three Through Grade Twelve

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Accessibility Resource | Grade Span 3–5: N | Grade Span 3–5: % of Total Tested | Grade Span 6–8: N | Grade Span 6–8: % of Total Tested | Grade Span 9–10: N | Grade Span 9–10: % of Total Tested | Grade Span 11–12: N | Grade Span 11–12: % of Total Tested |
| Non-Embedded Accommodation—Additional Instructional Supports and Resources for Alternate Assessments | 77 | 2% | 61 | 2% | 16 | 1% | 57 | 2% |
| Non-Embedded Accommodation—Alternate Response Options | 185 | 4% | 140 | 4% | 64 | 4% | 140 | 4% |
| Non-Embedded Accommodation—ASL or Manually Coded English | 13 | 0% | 15 | 0% | 0 | N/A | 22 | 1% |
| Non-Embedded Accommodation—Breaks | 316 | 7% | 242 | 7% | 85 | 5% | 138 | 4% |
| Non-Embedded Accommodation—Unlisted Resources | 0 | N/A | 0 | N/A | 0 | N/A | 0 | N/A |
| Embedded Designated Support—Color Contrast | 13 | 0% | 8 | 0% | 2 | 0% | 6 | 0% |
| Embedded Designated Support—Masking | 112 | 3% | 72 | 2% | 29 | 2% | 25 | 1% |
| Embedded Designated Support—Mouse Pointer (Size and Color) | 75 | 2% | 55 | 2% | 17 | 1% | 16 | 1% |
| Embedded Designated Support—Permissive Mode | 13 | 0% | 11 | 0% | 1 | 0% | 2 | 0% |
| Embedded Designated Support—Print Size | 43 | 1% | 25 | 1% | 9 | 1% | 13 | 0% |
| Embedded Designated Support—Streamline | 36 | 1% | 51 | 1% | 15 | 1% | 12 | 0% |
| Embedded Designated Support—Turn Off Any Universal Tool(s) | 0 | N/A | 1 | 0% | 0 | N/A | 0 | N/A |
| Non-Embedded Designated Support—Color Contrast | 21 | 0% | 11 | 0% | 6 | 0% | 3 | 0% |
| Non-Embedded Designated Support—Designated Interface Assistant | 45 | 1% | 23 | 1% | 10 | 1% | 22 | 1% |
| Non-Embedded Designated Support—Magnification | 44 | 1% | 38 | 1% | 11 | 1% | 22 | 1% |
| Non-Embedded Designated Support—Masking | 80 | 2% | 42 | 1% | 16 | 1% | 20 | 1% |
| Non-Embedded Designated Support—Medical Supports | 2 | 0% | 6 | 0% | 2 | 0% | 2 | 0% |
| Non-Embedded Designated Support—Noise Buffers | 190 | 4% | 132 | 4% | 47 | 3% | 81 | 3% |
| Non-Embedded Designated Support—Print-on-Demand | 10 | 0% | 6 | 0% | 7 | 0% | 16 | 1% |
| Non-Embedded Designated Support—Read-Aloud Items | 304 | 7% | 236 | 7% | 81 | 5% | 115 | 4% |
| Non-Embedded Designated Support—Separate Setting | 524 | 12% | 407 | 12% | 168 | 10% | 222 | 7% |
| Non-Embedded Designated Support—Simplified Test Directions | 571 | 13% | 424 | 12% | 169 | 10% | 211 | 7% |
| Non-Embedded Designated Support—Translated Test Directions (including ASL) | 80 | 2% | 50 | 1% | 26 | 2% | 61 | 2% |
| **Total Students Tested:** | **4,378** | **N/A** | **3,409** | **N/A** | **1,668** | **N/A** | **3,134** | **N/A** |

#### Delivery of Embedded and Non-Embedded Resources to Students

Universal tools, designated supports, and accommodations can be delivered as either embedded or non-embedded resources. Embedded resources are digitally delivered features or settings available as part of the technology platform for Summative Alternate ELPAC testing. Examples of embedded resources include the expandable items, color contrast, and masking.

Non-embedded resources are available, when provided by the LEA, for both computer-based assessments and paper–pencil tests. These resources are not part of the technology platform for the computer-administered Summative Alternate ELPAC. Examples of non-embedded resources include magnification, noise buffers, and the use of a scribe.

Refer to subsection [*5.5.1 Accessibility Resource Categories*](#_Accessibility_Resource_Categories_2) for a detailed description of the accessibility resources available to students taking the Summative Alternate ELPAC.

#### Usage of Designated Supports and Accommodations

LEA ELPAC coordinators and site ELPAC coordinators were responsible for assigning their students’ test settings in TOMS before testing occurred and providing the necessary resources during testing. If a test setting was not applied before testing a student, a STAIRS incident could be submitted to reset the assessment so the student could be retested with the correct accommodation or designated support. If a test setting was accidentally assigned to a student, then a STAIRS incident could also be submitted to reset the assessment so the student could be retested without the accommodation or designated support.

After LEAs and schools assigned eligible students to the appropriate accommodations or designated supports, Cambium Assessment, Inc.’s (CAI’s) TDS provided and captured whether a certain designated support (or multiple designated supports) was used by a student as the student progressed through the assessment. However, because there are no embedded accommodations for the Summative Alternate ELPAC, there was no usage of accommodations to capture or report.

Table 5.3 reports the number of students who, based on the availability of data, were assigned and used a designated support at least once during test administration.

Types of designated supports included in table 5.3 are as follows:

* **Masking:** This resource involves blocking off content that is not of immediate need or that may be distracting to the student.
* **Print-on-Demand:** Paper copies of passages and stimuli, items, or all of these are printed for students.

Table 5.3 presents the assignment and usage of embedded designated supports for each grade level or grade span.

Table 5.3 Assignment and Usage of Embedded Designated Supports

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Grade Level or Grade Span | Accessibility Resource | Students Assigned | Students Used | Percentage Used |
| All | Any Tracked Resource | 427 | 18 | 4.22 |
| All | Embedded Masking | 381 | 11 | 2.89 |
| All | Non-Embedded Print-on-Demand | 48 | 7 | 14.58 |
| Kindergarten | Any Tracked Resource | 47 | 5 | 10.64 |
| Kindergarten | Embedded Masking | 45 | 5 | 11.11 |
| Kindergarten | Non-Embedded Print-on-Demand | 3 | 0 | 0.00 |
| 1 | Any Tracked Resource | 66 | 3 | 4.55 |
| 1 | Embedded Masking | 62 | 0 | 0.00 |
| 1 | Non-Embedded Print-on-Demand | 5 | 3 | 60.00 |
| 2 | Any Tracked Resource | 37 | 1 | 2.70 |
| 2 | Embedded Masking | 36 | 1 | 2.78 |
| 2 | Non-Embedded Print-on-Demand | 1 | 0 | 0.00 |
| 3–5 | Any Tracked Resource | 122 | 2 | 1.64 |
| 3–5 | Embedded Masking | 112 | 2 | 1.79 |
| 3–5 | Non-Embedded Print-on-Demand | 10 | 0 | 0.00 |
| 6–8 | Any Tracked Resource | 78 | 4 | 5.13 |
| 6–8 | Embedded Masking | 72 | 1 | 1.39 |
| 6–8 | Non-Embedded Print-on-Demand | 6 | 3 | 50.00 |
| 9–10 | Any Tracked Resource | 36 | 1 | 2.78 |
| 9–10 | Embedded Masking | 29 | 0 | 0.00 |
| 9–10 | Non-Embedded Print-on-Demand | 7 | 1 | 14.29 |
| 11–12 | Any Tracked Resource | 41 | 2 | 4.88 |
| 11–12 | Embedded Masking | 25 | 2 | 8.00 |
| 11–12 | Non-Embedded Print-on-Demand | 16 | 0 | 0.00 |

### Practice and Training Tests

Practice and training tests are available publicly to LEA staff, students, parent/guardians, and any other individual for the Summative Alternate ELPAC. These tests simulate the experience of the computer-based Summative Alternate ELPAC to allow anyone to experience the assessment.

Students can access practice and training tests using a web browser. They allow students and administrators to familiarize themselves with the user interface and components of the TDS and help maintain the standardization of test administration. Practice and training tests are available through the Practice and Training Test website linked on the Online Practice and Training Tests Portal web page on the ELPAC website.

The practice tests, offered at each grade level or grade span, were released to prepare students for the Summative Alternate ELPAC. These tests more closely simulate the Summative Alternate ELPAC’s length and complexity and align with the Alternate ELPAC blueprint.

*DFAs* for the practice and training tests were available on the ELPAC website for LEA staff and parents/guardians to use to help students prepare to take the Summative Alternate ELPAC. Practice test scoring guides were also provided to help LEAs and parents/‌guardians understand how the items are scored.

### Test Security and Confidentiality

For the Summative Alternate ELPAC, every person who worked with the assessments, communicated test results, or received testing information was responsible for maintaining the security and confidentiality of the assessments, including CDE staff, ETS’ staff, ETS’ subcontractors, LEA assessment coordinators, school assessment coordinators, students, parents/guardians, teachers, and cooperative educational service agency staff. ETS’ Code of Ethics required that all test information, including tangible materials (e.g., test items), confidential files (e.g., those containing personally identifiable student information), and processes related to test administration (e.g., the configurations of secure servers), were kept secure. ETS had systems in place that maintained tight security for test items and test results, as well as for student data. To ensure security for all assessments that ETS develops or handles, ETS maintains an Office of Testing Integrity (OTI), which is described in the next subsection.

All assessments within the ELPAC System, as well as the confidentiality of student information, should be protected to ensure the validity, reliability, and fairness of the results. As stated in *Standard 7.9* (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014), “The documentation should explain the steps necessary to protect test materials and to prevent inappropriate exchange of information during the test administration session” (p. 128).

This section of the *Summative Alternate ELPAC Technical Report* describes the measures intended to prevent potential test security incidents prior to testing and the actions that were taken to handle security incidents occurring during or after the testing window using the STAIRS process.

#### ETS’ Office of Testing Integrity

The OTI is a division of ETS that provides quality-assurance services for all testing programs managed by ETS. This division resides in the ETS legal department. The Office of Professional Standards Compliance at ETS publishes and maintains the *ETS Standards for Quality and Fairness* (2014), which supports the OTI’s goals and activities. The *ETS Standards for Quality and Fairness* provides guidelines to help ETS’ staff design, develop, and deliver technically sound, fair, and beneficial products and services and help the public and auditors evaluate those products and services.

The OTI’s mission is to

* prevent test security violations;
* minimize any testing security violations that can impact the fairness of testing;
* minimize and investigate any security breach that threatens the validity of the interpretation of test scores; and
* report on security activities.

The OTI helps prevent misconduct on the part of students and administrators, detects potential misconduct through empirically established indicators, and resolves situations involving misconduct in a fair and equitable way that reflects the laws and professional standards governing the integrity of testing. The OTI also implements policies designed to detect and block technologies used to gain an unfair advantage.

In its pursuit of enforcing secure testing practices, the OTI strives to safeguard the various processes involved in an assessment development and administration cycle. For the Summative Alternate ELPAC, those processes included the following:

* Assessment development
* Item and data review
* Item banking
* Transfer of forms and items to the CDE and CAI
* Security of electronic files using a firewall
* Test administration
* Test delivery
* Processing and scoring
* Data management
* Statistical analysis
* Student confidentiality

#### Procedures to Maintain Standardization of Test Security

Test security requires the accounting of all secure materials—including computer-based summative test items and student data—before, during, and after each test administration. The LEA ELPAC coordinator is responsible for keeping all electronic test materials secure, keeping student information confidential, and making sure the site ELPAC coordinators and test examiners are properly trained regarding security policies and procedures.

The site ELPAC coordinator is responsible for mitigating test security incidents at the test site and for reporting incidents to the LEA ELPAC coordinator.

The test examiner is responsible for reporting testing incidents to the site ELPAC coordinator and securely destroying printed and digital media for items and passages generated by the print-on-demand feature of the TDS (CDE, 2023g).

The following measures ensured the security of the ELPAC:

* LEA ELPAC coordinators and site ELPAC coordinators must have electronically signed and submitted an “ELPAC Test Security Agreement for LEA ELPAC coordinators and site ELPAC coordinators” form in TOMS before ETS can grant the coordinators access to TOMS (5 *CCR* Section 11518.50[d]).
* Anyone having access to the testing materials must have electronically signed and submitted a “Test Security Affidavit for Test Examiners, Test Administrators, Proctors, Translators, Scribes, and Any Other Person Having Access to ELPAC Tests” form in TOMS before receiving access to any testing materials (5 *CCR* Section 11518.50[d]).
* Anyone having access to the testing materials but not having access to TOMS must have signed the *ELPAC* *Test Security Affidavit for Non-TOMS Users*, which was available as a web-based form, before receiving access to any testing materials.

In addition, it was the responsibility of every participant in the ELPAC System to report immediately any violation or suspected violation of test security or confidentiality. The test examiner reported to the site ELPAC coordinator or LEA ELPAC coordinator, who then submitted the incident using the STAIRS/Appeals process. Breach incidents were to be reported by the LEA ELPAC coordinator to the California Technical Assistance Center (CalTAC) and entered into STAIRS within 24 hours of the incident (5 *CCR* Section 11518.40[b][13]).

#### Test Security Monitoring

The LEA and school testing staff were responsible for maintaining the security and confidentiality of testing materials and devices during the testing window and reporting any irregularities or breaches that occurred. ETS performed site visits and testing procedure audits at randomly selected LEAs and test sites throughout California during the test administration of CAASPP and the ELPAC operational assessments. Audits were performed before, during, and after test administrations to observe adherence to published procedures regarding the handling of testing materials and test administration guidelines.

To provide this service, ETS used its OTI and subcontractor staff as auditors. All auditors had a minimum of a high school diploma, a valid driver’s license, and experience in security auditing or a related field. All had passed a background check conducted by the subcontracted vendor as part of the employment process.

ETS provided a final summary report of audit findings to the CDE at the end of the test administration. In addition, the OTI reported findings and recommendations to ETS’ program management on a weekly basis as audits were completed. ETS’ program management reported a summary of these findings to the CDE after a site visit. The OTI also provided individual audit reports directly to the LEA at the completion of the testing year.

#### Security of Electronic Files Using a Firewall

A firewall is software that prevents unauthorized entry to files, email, and other organization-specific information. All ETS data exchanges and internal email remain within the ETS firewall at all ETS locations, ranging from Princeton, New Jersey; to San Antonio, Texas; to Sacramento, California.

All electronic applications that are included in TOMS remain protected by the ETS firewall software at all times. Because of the sensitive nature of the student information processed by TOMS, the firewall plays a significant role in maintaining assurance of confidentiality among the users of this information.

Refer to section [*1.8 Systems Overview and Functionality*](#_Systems_Overview_and_3) in[*Chapter 1: Introduction*](#_Chapter_1:_Introduction) for more information on TOMS.

#### Transfer of Scores via Secure Data Exchange

Because of the confidential nature of test results, ETS uses secure file transfer protocol (SFTP) and encryption for all data file transfers; test data is never sent via email. SFTP is a method for reliable and exclusive routing of files. Files reside on a password-protected server that only authorized users can access. ETS shares an SFTP server with the CDE. On that site, ETS posts Microsoft Word and Excel files, Adobe Acrobat PDFs, or other document files for the CDE to review; the CDE returns reviewed materials in the same manner. Files are deleted upon retrieval.

The SFTP server is used as a conduit for the transfer of files; secure test data is stored only temporarily on the shared SFTP server. Industry-standard secure protocols are used to transfer test content and student data from the ETS internal data center to any external systems.

For the 2022–23 Summative Alternate ELPAC, ETS entered information about the deliverable into a web form on a SharePoint website when a file was posted. A CDE staff member monitored this log throughout the day for updates to the status of deliverables and downloaded and deleted the file from the SFTP server when its status showed that it had been posted.

#### Data Management in the Secure Database

ETS maintains a secure database to house all student demographic data and assessment results. Information associated with each student has a database relationship to the LEA, school, and grade codes as the data is collected during testing. Only individuals with the appropriate credentials can access the data. ETS builds all interfaces with the most stringent security considerations, including interfaces with data encryption for databases that store test items and student data. ETS applies best and up-to-date security practices, including system-to-system authentication and authorization, in all solution designs.

All stored test content and student data is encrypted. Industry-standard secure protocols are used to transfer test content and student data from the ETS internal data center to any external systems. ETS complies with the Family Educational Rights and Privacy Act (20 *United States Code [USC]* § 1232g; 34 *Code of Federal Regulations* Part 99) and the Children’s Online Privacy Protection Act (15 *USC* §§ 6501-6506, P.L. No. 105–277, 112 Stat. 2681–1728).

In TOMS, staff at LEAs and test sites have different levels of access appropriate to the role assigned to them (CDE, 2023e).

#### Statistical Analysis on Secure Servers

During ELPAC testing, ETS’ information technology staff members retrieve data files from CAI and load those files into a database. The ETS Data Quality Services staff extract the data from the database and perform quality-control procedures (e.g., the values of all variables are as expected) before passing files to the ETS statistical analysis group. The statistical analysis staff store the files on secure servers. All staff members involved with the data adhere to the ETS Code of Ethics and the ETS Information Protection Policies to prevent any unauthorized access to data.

#### Student Confidentiality

To meet the requirements of the Every Student Succeeds Act, as well as state requirements, LEAs must collect demographic data about students’ ethnicity, disabilities, parent/guardian education, and so forth during the school year. ETS takes every precaution to prevent any of this information from becoming public or being used for anything other than for testing and score-reporting purposes. These procedures are applied to all documents in which student demographic data appears, such as technical reports.

#### Student Test Results

##### Types of Results

The following deliverables are produced for reporting of the Summative Alternate ELPAC:

* Individual student results for computer-based assessments in the California Educator Reporting System
* Individual SSRs (electronic)
* Internet reports—available on the CDE Test Results for California’s Assessments website—aggregated by state, county, LEA, or test site

##### Security of Results Files

ETS takes measures to protect files and reports that show students’ scores and reporting levels. ETS is committed to safeguarding all secure information in its possession from unauthorized access, disclosure, modification, or destruction. ETS has strict information security policies in place to protect the confidentiality of both student and client data. Staff access to production databases is limited to personnel with a business need to access the data. User IDs for production systems must be person-specific or for systems use only.

ETS has implemented network controls for routers, gateways, switches, firewalls, network tier management, and network connectivity. Routers, gateways, and switches represent points of access between networks. However, these do not contain mass storage or represent points of vulnerability, particularly for unauthorized access or denial of service.

ETS has many facilities, policies, and procedures to protect computer files. Software and procedures such as firewalls, intrusion detection, and virus control are in place to provide for physical security, data security, and disaster recovery. ETS is certified in both the ISO 27001 standard for information security and the ISO 22301 standard for business continuity, and conducts disaster recovery exercises annually.

Access to the ETS Computer Processing Center is controlled by employee and visitor identification badges. The Center is secured by doors that can be unlocked only by the badges of personnel who have functional responsibilities within its secure perimeter. Authorized personnel accompany visitors to the ETS Computer Processing Center at all times. Extensive smoke detection and alarm systems, as well as a preaction fire-control system, are installed in the Center.

##### Security of Individual Results

ETS protects individual students’ results during the following conditions:

* Scoring
* Transfer of scores by means of secure data exchange
* Reporting
* Posting of aggregated data
* Storage

In addition to protecting the confidentiality of testing materials, ETS’ Code of Ethics further prohibits ETS’ employees from financial misuse, conflicts of interest, and unauthorized appropriation of ETS’ property and resources. Specific rules are also given to ETS’ employees and their immediate families who may take an assessment developed by ETS. The ETS OTI verifies that these standards are followed throughout ETS. This verification is conducted, in part, by periodic on-site security audits of departments, with follow-up reports containing recommendations for improvement.

#### Security and Test Administration Incident Reporting System Process

Test security incidents, such as improprieties, irregularities, and breaches, are prohibited behaviors that give a student an unfair advantage or compromise the secure administration of the assessments, which, in turn, compromise the reliability and validity of test results (CDE, 2023c). Whether intentional or unintentional, failure by staff or students to comply with security rules constitutes a test security incident. Test security incidents impact scoring and affect students’ performance on the assessment.

LEA ELPAC coordinators and site ELPAC coordinators ensured that all test security and summative administration incidents were documented by following the prompts in TOMS that guided coordinators in their submittal. An Appeal is a request to reset, restore, reopen, invalidate, or grant a grace period extension to a student’s assessment. If an Appeal to a student’s assessment was warranted, TOMS provided additional prompts to file the Appeal.

After a case was submitted, an email containing a case number and next steps was sent to the submitter (and to the LEA ELPAC coordinator, if the case was submitted by the site ELPAC coordinator). The STAIRScase in TOMS provided the LEA ELPAC coordinator, the CDE, and the LEA Outreach Administrator with the opportunity to interact and communicate regarding the STAIRS process (CDE, 2023c).

Prior to the assessment administration, ETS and the CDE agreed that the following types of STAIRS cases would also be forwarded to the CDE:

* Student cheating or accessing unauthorized devices
* Security breach (where a student exposed secure materials)
* Student unable to review previous answers (i.e., 20-minute pause rule)
* Student disruption (student left the test room without authorization or disrupted the test session)

Appeals requests were reviewed by the CDE or an ETS LEA Outreach Administrator. When a request to submit an Appeal was approved, the coordinator received a system-generated email with the Appeal type that was approved (CDE, 2023c).

Types of Appeals available during the 2022–23 ELPAC administration are described in table 5.4.

Table 5.4 Types of Appeals

|  |  |
| --- | --- |
| Type of Appeal | Description |
| Reset | Resetting a student’s assessment removed that assessment from the system and enabled the student to start a new assessment from the beginning. |
| Re-open | Reopening an assessment allowed a student to access an assessment that had already been submitted or had expired. |
| Restore | Restoring an assessment returned an assessment from the Reset status to its prior status. This action could be performed only on assessments that were reset previously. |
| Grace Period Extension | Permitting a grace period extension allowed the student to review previously answered items upon logging back on to the assessment after expiration of the pause rule.  A grace period extension was granted only in cases where there was a disruption to a test session, such as a technical difficulty, fire drill, schoolwide power outage, earthquake, or other act beyond the control of the test examiner. |

##### Impropriety

A testing impropriety is an unusual circumstance that has a low impact on the individual or group of students who are testing and has a low risk of potentially affecting student performance on the assessment, test security, or test validity. An example of an impropriety could be if students were making distracting gestures or sounds or talking during the test session that creates a disruption in the test session for other students, or a student left the test room without authorization.

An impropriety can be corrected and contained at a local level. An impropriety should be reported to the LEA ELPAC coordinator and site ELPAC coordinator immediately. The coordinator must report the incident within 24 hours, using the STAIRS/Appeals process in TOMS.

##### Irregularity

A testing irregularity is an unusual circumstance that impacts an individual or a group of students who are testing and may potentially affect student performance on the assessment or impact test security or test validity. An example of an irregularity could be that students were assigned an incorrect designated support or accommodation, or students cheated or provided answers to each other.

These circumstances can be corrected and contained at the local level and submitted using the STAIRS/Appeals process in TOMS. An irregularity must be reported to the LEA ELPAC coordinator and site ELPAC coordinator immediately. The coordinator must report the irregularity within 24 hours, using the online STAIRS/Appeals process in TOMS.

##### Breach

A testing breach is an event that poses a threat to the validity of the assessment. Examples may include such situations as a release of secure materials or a security or system risk. These circumstances have external implications for the CDE and may result in a decision to remove the test item(s) from the available secure item bank.

Breaches require immediate attention; a breach that was due to social media exposure on the part of a student or adult or due to media coverage of an administration was to be escalated to CalTAC via a telephone call from the LEA ELPAC coordinator. Following the call, the site ELPAC coordinator or LEA ELPAC coordinator must report the incident using the online STAIRS/Appeals process in TOMS within 24 hours. All other breaches were to be entered into STAIRS directly.

#### Appeals

For test security incidents reported in STAIRS that resulted in a need to reset, reopen, or restore individual computer-based student assessments, the request had to be approved by the CDE. Requests to reset and reopen assessments were processed by an LEA Outreach Administrator.

In most instances, an Appeal was submitted to address a test security breach or irregularity. The LEA ELPAC coordinator or site ELPAC coordinator submitted Appeals in TOMS. All submitted Appeals were available for retrieval and reviewed by LEA and site coordinators within a given organization. However, the view of Appeals was restricted according to the user role as established in TOMS. An Appeal could be requested only by the LEA ELPAC coordinator or site ELPAC coordinator if prompted while filing a STAIRS case in TOMS (CDE, 2023e). Types of Appeals available during the 2022–23 ELPAC administration are described in table 5.4.

The total number of incidents reported in STAIRS for the Summative Alternate ELPAC was 332. The number of STAIRS incidents that required an Appeal was 212. The most common Appeal type was Reset, and the second most common was Re-open. These counts exclude incidents that were in draft form, pending, or partially approved. As noted in table 5.5, some Statewide Student Identifiers (SSIDs) were submitted with multiple Appeal types, and some Appeal types were submitted with multiple SSIDs; therefore, the numbers within table 5.5 will not add up to the numbers reported within this paragraph.

Table 5.5 provides the list of incident or issue types, the Appeal type associated with it, the number of incidents reported for that issue, and number of SSIDs affected. The incidents involving exposing secure materials or security breaches ranged from students and parents/guardians taking pictures of the testing device or test materials; to test examiners accidentally sharing the *DFAs* with parents/guardians; to test materials becoming lost at the school site because they were not kept in a secure, locked room. Counts exclude incidents that were in draft form, pending, or partially approved.

Table 5.5 Number and Types of Incidents Submitted in STAIRS

|  |  |  |  |
| --- | --- | --- | --- |
| Description | Appeal Type | Number of Incidents | Total Number of SSIDs Submitted |
| Accessibility Issue | Reset | 5 | 7 |
| Accidentally Submitted Test | Re-open | 38 | 44 |
| Administered Incorrect Assessment | Reset or No Appeal | 94 | 114 |
| Administration Error | Reset or No Appeal | 22 | 32 |
| Data Entry Issue | Reset, No Appeal, or Re-open | 48 | 99 |
| Exposing Secure Material | No Appeal | 0 | 0 |
| Incorrect SSID Used | Reset or No Appeal | 1 | 1 |
| Irregularity Flag Submitted in Error | No Appeal | 0 | 0 |
| Other Issues | No Appeal | 0 | 0 |
| Restore from Reset | Restore | 2 | 4 |
| Student Cheating or Accessing Unauthorized Devices | No Appeal | 2 | 2 |
| Student Disruption | No Appeal | 2 | 2 |

Table 5.6 provides the counts of approved Appeals.

Table 5.6 Number of Appeals Approved in STAIRS in the 2022–23 Administration—All Grade Levels and Grade Spans

|  |  |  |
| --- | --- | --- |
| Appeal Type | Number of Incidents | Total Number of Appeals |
| Reset | 168 | 154 |
| Re-open | 49 | 47 |
| Restore | 4 | 4 |
| No Appeal | 86 | 77 |

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## Standard Setting

### Description

Standard setting, which also is referred to as performance level setting, refers to a class of methodologies by which one or more thresholds are used to determine performance levels. The California Department of Education (CDE) set three performance levels—*Level 1—Novice English Learner, Level 2—Intermediate English Learner,* and *Level 3—Fluent English Proficient*—with two threshold cuts for each grade level.

The CDE and ETS implemented an extensive performance level–setting process involving software development, item mapping, review panels, committees, workshops, and extensive validity research to set the final thresholds and performance level descriptors. For detailed information regarding this process, refer to the *Standard Setting Technical Report for the Alternate English Language Proficiency Assessments for California* (CDE, 2022).

### Reference

California Department of Education. (2022). *Standard setting technical report for the Alternate English Language Proficiency Assessments for California.* Sacramento, CA: California Department of Education.

## Scoring and Reporting

To determine individual students’ scores for the Summative Alternate English Language Proficiency Assessments for California (ELPAC), student item responses were scored, and individual student scores were calculated on the basis of the item responses. In addition, student test scores were aggregated to produce information for schools and local educational agencies (LEAs).

This chapter describes how various types of student responses were scored, as well as the various types of scores and score reports that were produced at the end of administration of the Summative Alternate ELPAC.

### Student Test Scores

Overall scale scores were reported for the Summative Alternate ELPAC at the individual student level. To obtain scale scores, the ability (theta) scores first need to be estimated.

Prior to the test administration, ETS’ Assessment & Learning Technology Development staff reviewed each item and verified the answer keys. The keys were provided to Cambium Assessment, Inc. (CAI) for implementation in the test delivery system (TDS). After CAI finished machine-scoring item responses, scores and responses were delivered to ETS. The ETS Enterprise Score Key Management (eSKM) system calculated and collected individual students’ overall raw scores (i.e., total raw scores). ETS’ Psychometric Analysis & Research (PAR) team conducted a series of psychometric analyses such as calibration, equating, and scaling using raw item scores and produced the raw-to-scale-score conversion tables based on all psychometric analyses. When the conversion tables were implemented, eSKM produced the scale scores and performance levels using the score reporting ranges for students who completed the assessment.

ETS used two parallel scoring systems to produce and verify students’ scores. The eSKM scoring system received individual students’ item scores and item responses from CAI and computed individual student scores for the ETS reporting system. The ETS PAR team also computed individual student scores based on the same data files. The two sets of scores were then compared for the purpose of internal quality control. Any inconsistencies found in the total raw scores were investigated and resolved. The parallel scoring process ensured the quality and accuracy of scoring and supported the transfer of scores into the database of the student records scoring system, the Test Operations Management System (TOMS).

#### Raw Scores

Raw scores were obtained by summing the number of multiple-choice, single-select items answered correctly and the number of rubric-based item score points obtained. The number and percentage of students at each raw score point are reported in table 7.A.1 through table 7.A.7 in [appendix 7.A](#_Appendix_6.A:_Raw).

##### Second Scoring of Rubric-Scored Items

For each grade level and grade span, between 9 and 11 items required rubric-based scoring. For rubric-scored items, item-specific rubrics were included in the *Directions for Administration* to be used by the test examiner for rating a student’s response. The student’s test examiner conducted the rubric-based scoring and entered the student’s score into the TDS during the test administration.

In addition, a random selection of schools assigned to Form 2, amounting to approximately 20 percent of the student population per grade level at the statewide level, were required to have a second test examiner score each student’s response for each rubric-scored item prompt and enter the student’s second score into the Data Entry Interface during the test administration. Double scoring provides a measure of interrater reliability for quality control of the rubric-scored item scoring. The second scores were used only to assess the reliability of the rubric-scored item scoring; they were not used in the calculation of the test scores.

Table 7.1 shows that 15.70 percent to 20.25 percent of responses to the rubric-scored items received a second score, which is more than the 10 percent that was determined would be needed for adequate second scoring. For more information on test reliability, refer to section [*8.7 Reliability Analyses*](#_Reliability_Analyses).

Table 7.1 Second Scoring Rates for Rubric-Scored Items

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item ID | Grade Level or Grade Span | Number of Responses | Number of Responses Second Scored | Percent of Responses Second Scored |
| VR131711 | Kindergarten | 1,452 | 286 | 19.70 |
| VR139022 | Kindergarten | 1,527 | 286 | 18.73 |
| VR139973 | Kindergarten | 1,573 | 290 | 18.44 |
| VR154458 | Kindergarten | 1,441 | 286 | 19.85 |
| VR154465 | Kindergarten | 1,497 | 286 | 19.10 |
| VR215978 | Kindergarten | 1,450 | 286 | 19.72 |
| VR216450 | Kindergarten | 1,612 | 290 | 17.99 |
| VR223164 | Kindergarten | 1,412 | 286 | 20.25 |
| VR053970 | 1 | 1,468 | 264 | 17.98 |
| VR130428 | 1 | 1,377 | 259 | 18.81 |
| VR133983 | 1 | 1,332 | 259 | 19.44 |
| VR137618 | 1 | 1,438 | 264 | 18.36 |
| VR150707 | 1 | 1,340 | 259 | 19.33 |
| VR154753 | 1 | 1,348 | 259 | 19.21 |
| VR154755 | 1 | 1,364 | 259 | 18.99 |
| VR134677 | 2 | 1,290 | 214 | 16.59 |
| VR140209 | 2 | 1,358 | 215 | 15.83 |
| VR151624 | 2 | 1,262 | 214 | 16.96 |
| VR155670 | 2 | 1,291 | 215 | 16.65 |
| VR193828 | 2 | 1,369 | 215 | 15.70 |
| VR223063 | 2 | 1,300 | 215 | 16.54 |
| VR053990 | 3–5 | 4,144 | 726 | 17.52 |
| VR140236 | 3–5 | 3,940 | 706 | 17.92 |
| VR144428 | 3–5 | 4,096 | 726 | 17.72 |
| VR151097 | 3–5 | 3,903 | 705 | 18.06 |
| VR155154 | 3–5 | 4,004 | 712 | 17.78 |
| VR155163 | 3–5 | 3,979 | 712 | 17.89 |
| VR133811 | 6–8 | 3,124 | 602 | 19.27 |
| VR146758 | 6–8 | 3,213 | 609 | 18.95 |
| VR148864 | 6–8 | 3,130 | 601 | 19.20 |
| VR167959 | 6–8 | 3,114 | 602 | 19.33 |
| VR167974 | 6–8 | 3,141 | 602 | 19.17 |
| VR213047 | 6–8 | 3,246 | 609 | 18.76 |
| VR132823 | 9–10 | 1,504 | 262 | 17.42 |
| VR145310 | 9–10 | 1,554 | 267 | 17.18 |
| VR150525 | 9–10 | 1,490 | 262 | 17.58 |
| VR154860 | 9–10 | 1,522 | 265 | 17.41 |
| VR154926 | 9–10 | 1,509 | 265 | 17.56 |
| VR191268 | 9–10 | 1,563 | 267 | 17.08 |
| VR132823 | 11–12 | 2,825 | 518 | 18.34 |
| VR144875 | 11–12 | 2,921 | 530 | 18.14 |
| VR155083 | 11–12 | 2,845 | 520 | 18.28 |
| VR155088 | 11–12 | 2,831 | 520 | 18.37 |
| VR191381 | 11–12 | 2,941 | 530 | 18.02 |
| VR218864 | 11–12 | 2,827 | 518 | 18.32 |

#### Theta Scores

All items presented to students were calibrated onto the theta scale so that students’ raw scores could be transformed into ability (theta) estimates using the item response theory (IRT) inverse test characteristic curve (TCC) method (Stocking, 1996). With this method, each student’s estimated ability is the ability value at which the student’s expected raw score is equal to the student’s obtained raw score. Refer to subsection [*8.4.3 Equating*](#_Equating_3) for equating procedures and the IRT inverse TCC method. Each grade level and grade span has its own theta scale.

Once a conversion table from the raw score to theta score is created for each form, the estimated ability (theta) score of each individual student can be obtained from the conversion table. The theta score can later be transformed into a scale score through a linear transformation. Refer to subsection [*8.5.2 Transformation from Theta Scores to Scale Scores*](#_Transformation_from_Theta_3) for more information. Refer to [appendix 8.F](#_Appendix_7.G_=) for the raw-to-scale-score conversion tables.

#### Scale Scores for the Total Assessment

Raw scores are not directly comparable from administration to administration and from form to form because each raw score is based on a set of items that may differ in difficulty, and estimated ability (theta) scores can be difficult to interpret because of their arbitrary scale. Therefore, student performance on the Summative Alternate ELPAC is reported in terms of scale scores that express student proficiency in terms of a constant metric. Thus, a scale score of 350 for grade one in one administration represents the same level of proficiency as 350 for grade one in another administration even though each scale score may represent a different raw score.

The following requirements were used to develop and define the Summative Alternate ELPAC reporting scale ranges, as described in section [*8.5 Scaling the Scores*](#_Toc120784038)*:*

1. Each scale score has three digits, where the first digit is indicative of the grade level or grade span being reported. The latter two digits represent the scale score as derived from the transformation from the raw scores to the scale scores as described in the previous subsection.
2. Score ranges are grade level– and grade span–specific. For example, the possible scale scores would be 201 to 299 for kindergarten with the lowest obtainable scale score (LOSS) at 201 and the highest obtainable scale score (HOSS) at 299. For grade span three through five, this range is 501 to 599 with a LOSS of 501 and a HOSS of 599. Grade levels and grade spans do not have overlapping scale score ranges.
3. Each threshold score on the scale is the same from year to year. Also, across the grade levels and grade spans, the last two digits corresponding to the Level 2—Intermediate English Learner (EL) and Level 3—Fluent English Proficient threshold scores are the same (refer to subsection [*7.1.4 Performance Levels*](#_Performance_Levels)for a brief description of performance levels).

Scale score frequency distributions by grade levels and grade spans are presented in [appendix 7.A](#_Appendix_6.A:_Raw), table 7.A.8 through table 7.A.14.

#### Performance Levels

Summative Alternate ELPAC reporting scales classify each student’s performance into one of three performance levels, with Level 1—Novice EL indicating the lowest level of performance and Level 3—Fluent English Proficient indicating the highest level of performance. Student test results are reported in the following overall performance levels:

* **Level 1—Novice EL:** The student is beginning to develop the English skills needed to communicate and learn in school.
* **Level 2—Intermediate EL:** The student can sometimes use English to communicate and learn in school.
* **Level 3—Fluent English Proficient:** The student has sufficient English skills to communicate and learn in school.

Detailed information regarding the determination of the performance levels can be found in the *Standard Setting Technical Report for the Alternate ELPAC* (California Department of Education [CDE], 2022).

Scale score ranges for each performance level are presented in table 7.2.

Table 7.2 Reporting Scale Score Ranges for Each Performance Level by Grade Level

|  |  |  |  |
| --- | --- | --- | --- |
| Grade Level | Level 1 | Level 2 | Level 3 |
| Kindergarten | 201–243 | 244–259 | 260–299 |
| 1 | 301–343 | 344–359 | 360–399 |
| 2 | 401–443 | 444–459 | 460–499 |
| 3 | 501–543 | 544–559 | 560–599 |
| 4 | 501–543 | 544–559 | 560–599 |
| 5 | 501–543 | 544–559 | 560–599 |
| 6 | 601–643 | 644–659 | 660–699 |
| 7 | 601–643 | 644–659 | 660–699 |
| 8 | 601–643 | 644–659 | 660–699 |
| 9 | 701–743 | 744–759 | 760–799 |
| 10 | 701–743 | 744–759 | 760–799 |
| 11 | 801–843 | 844–859 | 860–899 |
| 12 | 801–843 | 844–859 | 860–899 |

### Overview of Score Aggregation Procedures

To provide meaningful results to the interest holders, test scores for a given grade level are aggregated at the school, LEA or direct funded charter school, county, and state levels. The aggregated scores are generated both for selected groups and for the population. The next subsection contains a description of the types of aggregation performed on ELPAC computer-based assessment scores. Score aggregation includes only students with valid scores; refer to subsection [*7.3.2 Special Cases*](#_Special_Cases_1) for more information.

#### Student Score Distributions and Summary Statistics

Table 7.3 presents the means and standard deviations (SDs) of overall scale scores by grade level.

Table 7.3 Mean and SD of Scale Scores by Grade Level

|  |  |  |  |
| --- | --- | --- | --- |
| Grade Level | Number of Students Tested | Overall Scale Score Mean | Overall Scale Score SD |
| Kindergarten | 1,789 | 242 | 19 |
| 1 | 1,573 | 346 | 19 |
| 2 | 1,457 | 444 | 20 |
| 3 | 1,505 | 547 | 17 |
| 4 | 1,475 | 550 | 18 |
| 5 | 1,398 | 551 | 19 |
| 6 | 1,210 | 652 | 19 |
| 7 | 1,116 | 655 | 22 |
| 8 | 1,083 | 655 | 21 |
| 9 | 819 | 750 | 22 |
| 10 | 849 | 752 | 22 |
| 11 | 869 | 853 | 23 |
| 12 | 2,265 | 852 | 24 |

The percentage of students in each performance level for the overall assessment is presented in table 7.4. Note that numbers might not add to 100 because of rounding.

Table 7.4 Percentage of Students in Each Performance Level by Grade Level

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Grade Level | Level 1 N | Level 1 % | Level 2 N | Level 2 % | Level 3 N | Level 3 % |
| Kindergarten | 757 | 42 | 817 | 46 | 215 | 12 |
| 1 | 581 | 37 | 657 | 42 | 335 | 21 |
| 2 | 644 | 44 | 539 | 37 | 274 | 19 |
| 3 | 546 | 36 | 700 | 47 | 259 | 17 |
| 4 | 440 | 30 | 668 | 45 | 367 | 25 |
| 5 | 401 | 29 | 605 | 43 | 392 | 28 |
| 6 | 325 | 27 | 478 | 40 | 407 | 34 |
| 7 | 250 | 22 | 404 | 36 | 462 | 41 |
| 8 | 255 | 24 | 421 | 39 | 407 | 38 |
| 9 | 265 | 32 | 355 | 43 | 199 | 24 |
| 10 | 257 | 30 | 341 | 40 | 251 | 30 |
| 11 | 283 | 33 | 310 | 36 | 276 | 32 |
| 12 | 754 | 33 | 807 | 36 | 704 | 31 |

Figure 7.1, which is derived from the data in table 7.4, presents the percentage of students at each performance level by grade level. The percentage of students in Level 3 fluctuates between 12 percent and 21 percent from kindergarten to grade two. From grade three to grade five, the percentage steadily increases from 17 percent to 28 percent. In grade six to grade eight, the percentage rises from 34 percent to 41 percent and then drops to 38 percent. In high school, the percentage fluctuates between 24 percent and 32 percent, with the percentage of students in Level 3 remaining approximately even over the final three grade levels. Compared to the prior administration, fewer students in kindergarten and grades three, five, six, eight, nine, and eleven achieved Level 3; more students in grades one, two, and seven achieved Level 3; and approximately the same percentages of students in grades four, ten, and twelve achieved Level 3.

Figure 7.1 Percentage of students at each performance level

#### Demographic Student Group Summaries

Table 7.B.1 through table 7.B.7 in [appendix 7.B](#_Appendix_7.B:_Means_1) provide, for all grade levels and grade spans, the number and the percentage of students for selected student groups with completed test scores for the 2022–23 administration of the Summative Alternate ELPAC.

The tables in [appendix 7.B](#_Appendix_7.B:_Means_1) group students by demographic characteristics, including economic status, length of enrollment in US schools, ethnicity, gender, migrant status, primary disability type, military status, homeless status, and foster youth status. The list of student groups is presented in table 7.5.

Table 7.5 Demographic Student Groups to Be Reported

|  |  |
| --- | --- |
| Category | Student Groups |
| **Economic Status** | * Not economically disadvantaged * Economically disadvantaged |
| **Enrollment in US Schools** | * Less than 12 months * 12 months or more * Duration unknown |
| **Ethnicity** | * American Indian or Alaska Native * Asian * Native Hawaiian or Other Pacific Islander * Filipino * Hispanic or Latino * Black or African American * White * Two or more races |
| **Gender** | * Male * Female * Nonbinary |
| **Migrant Status** | * Migrant education * Not migrant education |
| **Primary Disability Type** | * Intellectual disability * Hearing impairment * Speech or language impairment * Visual impairment * Emotional impairment * Orthopedic impairment * Other health impairment * Specific learning disability * Deaf-blindness * Multiple disabilities * Autism * Traumatic brain injury * Not classified |
| **Military Status** | * Armed forces family member * Not armed forces family member |
| **Homeless Status** | * Homeless * Not homeless |
| **Foster Youth Status** | * Foster youth * Not foster youth |

For all grade levels and grade spans, male students accounted for 65 to 73 percent of the test takers, and 74 to 78 percent of the students taking the assessment were Hispanic or Latino. Students with autism accounted for 28 to 66 percent of the students tested, while students with intellectual disabilities accounted for a range between 18 to 53 percent of the students tested. Autism was the most common primary disability type for students testing in kindergarten through grade span three through five, and intellectual disability was the most common primary disability type in the higher grade spans.

#### Student Group Distributions

Table 7.C.1 through table 7.C.7 in [appendix 7.C](#_Appendix_7.C:_Means) show means and SDs of scale scores for the overall assessment by student group. Male and female students scored, on average, no more than two scale score points from each other and, in most cases, had the same average scale score. In kindergarten, the difference favored the female students; but in the other grade levels or grade spans, the difference favored the male students. In terms of the percentage of students achieving Level 3, there was no more than a four-point difference between males and females; in some cases, the percentages were the same.

The large majority of students taking the Summative Alternative ELPAC are Hispanic or Latino, so the mean scale scores for this group are nearly the same as the mean scale scores for all students in the same grade level or grade span. In terms of percentage of students achieving Level 3, there was no more than a two-point difference between Hispanic or Latino students compared to the total student population (favoring Hispanic or Latino students); in many cases, the percentages were the same. The only other racial or ethnic student group with substantial size is the Asian student group. These students scored on average about two scale score points lower than the total student sample in most grade levels or grade spans. In terms of percentage of students achieving Level 3, Asian students underperformed relative to the total student population by up to seven percentage points.

Across grade levels or grade spans, students with intellectual disabilities scored, on average, zero to one scale score point lower than the total student group, and students with autism scored on average one to two scale score points higher than the total student group. In terms of percentage of students achieving Level 3, students with intellectual disabilities underperformed relative to the total student population by up to five percentage points, but there was no clear pattern for students with autism relative to the total student population.

For the rest of the student group categories, there was not a sufficient number of students in more than one group to make meaningful comparisons.

### Reports Produced and Scores for Each Report

The assessments that make up the ELPAC computer-based assessments provide results or score summaries that are reported for different purposes. The four major purposes are to

1. help facilitate conversations between parents/guardians and teachers about student performance,
2. serve as a tool to help parents/guardians and teachers work together to improve student learning,
3. help schools and LEAs identify strengths and areas that need improvement in their educational programs, and
4. provide the public and policymakers with information about student performance.

This section provides detailed descriptions of the uses and applications of ELPAC reporting for students.

#### Online Reporting

TOMS is a secure website hosted by ETS that permits LEA users to manage the ELPAC computer-based assessments and to inform the TDS. This system uses a role-specific design to restrict access to certain tools and applications based on the user’s designated role. Specific functions of TOMS include the following:

* Manage user access privileges
* Manage test administration calendars and testing windows
* Manage student test assignments
* Manage and confirm the accuracy of students’ test settings (i.e., designated supports and accommodations) prior to testing
* Generate and download various reports

In addition to TOMS, another California online reporting system was used during the 2022–‍23 administration: the California Educator Reporting System (CERS).

TOMS communicated with CERS, which provided authorized users with interactive and cumulative online reports for the Summative Alternate ELPAC at the student, school, group, and LEA levels. CERS provided preliminary score data for each administered assessment available in the reporting system.

Based on the ELPAC reporting requirements, CERS provided the preliminary summative reports containing information outlining student knowledge and skills. CERS also permitted access to individual score reports, which provided preliminary score data for each administered assessment available in the reporting system. The online aggregated reports were available to be downloaded in PDF, Excel, and comma-separated value formats.

CERS was the primary source for LEA staff to analyze ELPAC results at the LEA, school, grade, classroom, or customized group level. CERS provided these reports, which can be downloaded and used to inform instruction. LEA staff with TOMS logon credentials could enter CERS through the ELPAC website to access student assessment results.

#### Special Cases

Student scores were not reported for the following cases:

* The student did not log on to test systems.
* The student partially tested and did not meet participation requirements.

These students were excluded from aggregated results as well.

#### Types of Score Reports

There are two categories of ELPAC reports. The specific reports within each category are presented in this subsection.

1. **Student Score Report (SSR)—**The SSR was the official score report for parents/‌guardians. An SSR described the student’s results and was made available only to students who met the program’s participation requirement.
2. **LEA student data files and aggregations—**LEA student data files were available for download on demand by the LEA in TOMS to coincide with availability of the SSRs. Aggregated data was available to view in CERS and the Test Results for California’s Assessments website.

##### Student Score Report

The Summative Alternate ELPAC SSR is the official score report for parents/guardians and includes the following information:

* Overall scale score
* Overall performance level

As mentioned previously, overall scale scores placed students into one of the three Summative Alternate ELPAC performance levels: Fluent English Proficient, Intermediate EL, and Novice EL.

LEAs had four options for accessing and distributing SSRs to parents/guardians:

1. Accessing electronic SSR PDFs using a locally provided parent/guardian or student portal
2. Downloading SSR PDFs from TOMS and making them available electronically using a secure local method
3. Downloading SSR PDFs from TOMS, printing them, and making them available locally
4. Purchasing paper SSRs from ETS

The LEA ELPAC coordinator could forward the appropriate reports to test sites. In the case of a locally printed Summative Alternate ELPAC SSR, the LEA sent the printed report(s) to the child’s parent/guardian. Summative Alternate ELPAC SSRs that included individual student results were not distributed beyond the student’s school.

Scores for students who were assigned accommodations or designated supports are reported in the same way as for students who were not assigned accommodations or designated supports. Detailed information about accessibility resources is described in subsection [*5.5.1 Accessibility Resource Categories*](#_Accessibility_Resource_Categories_2).

For the 2022–23 test administration, SSRs were made available to the LEAs in English, Spanish, Filipino, Chinese (Traditional), Vietnamese, and Korean. An SSR in a supported language was created if the student’s primary language as reported in the California Longitudinal Pupil Achievement Data System was one of these supported languages. The LEAs that received SSRs in supported languages received one SSR in English and another in the supported language. SSRs were made available only to students who met the participation requirement by responding to at least one expressive and one receptive item. These reports were available as PDFs for the LEA to download from TOMS.

Further information about the SSR and its interpretation is provided on the ELPAC Starting Smarter website for California assessments.

###### Access via Student or Parent Portal

LEAs had the option to provide SSRs electronically using a locally provided parent or student portal.

Amazon Web Services—with the Amazon Simple Storage Service and the Amazon Key Management Service—ensured encrypted access for parents/guardians to view a child’s electronic SSR, which was available as a PDF.

###### Access via the Test Operations Management System

The LEA ELPAC coordinator downloaded the electronic PDFs directly from TOMS and could forward the appropriate reports to test sites. Optionally, the LEA could download and then print the SSR PDF and then send the printed report(s) to the child’s parent/‌guardian.

##### Local Educational Agency Student Data Files and Aggregations

The ELPAC student data files for the LEA were available for the LEA ELPAC coordinator and site ELPAC coordinator to download from TOMS.

Preliminary student scores and aggregations were also available to LEAs prior to the release of final reports via electronic reporting, using CERS. This website permitted LEAs to view preliminary results data for all assessments taken.

Current and historical aggregated results are accessible to the public on the CDE Test Results for California’s Assessments website.

#### Score Report Applications

Summative Alternate ELPAC results, presented in SSRs, provided parents/guardians with information about their child’s progress toward English proficiency. The results were a tool for increasing communication and collaboration between parents/guardians and teachers.

Summative Alternate ELPAC results were one of the components that schools could use to help make decisions about how best to support student progress. The Summative Alternate ELPAC overall performance level of 3 was one criterion of four used for reclassification as fluent English proficient. Summative Alternate ELPAC results should never be used as the only source of information to make important decisions about a child’s education.

#### Criteria for Interpreting Test Scores

An LEA may use ELPAC computer-based summative assessment results to help make decisions about student placement, promotion, retention, or other considerations related to student achievement. However, it is important to remember that a single assessment can provide only limited information. Other relevant information should be considered as well. It is advisable for parents/guardians to evaluate their child’s strengths and weaknesses in the relevant topics by reviewing classroom work and progress reports in addition to the child’s ELPAC computer-based summative assessment results. It is also important to note that a student’s score in an item type (expressive or receptive) could vary somewhat if the student were retested.

#### Criteria for Interpreting Score Reports

The information presented in various reports must be interpreted with caution when making performance comparisons. When comparing scale score and performance-level results, the user is limited to comparisons within a grade level or grade span. The user may compare scale scores for the same grade level or grade span, within a school, between schools, or between a school and its LEA, its county, or the state. The ELPAC user can also make comparisons within the same grade level or grade span across years.

However, comparing scale scores from different grade levels for the ELPAC is not appropriate, because the curricula are different across grade levels and the scale scores are not vertically linked between grade levels or grade spans.

For more details on the criteria for interpreting information provided on the score reports, refer to the ELPAC Starting Smarter website for California assessments or the *2022–23 ELPAC Scoring and Reporting Guide* (CDE, 2023), which was applicable for the 2022–23 ELPAC administration.

### References

California Department of Education. (2022). *Standard setting technical report for the Alternate English Language Proficiency Assessments for California.* Sacramento, CA: California Department of Education.

California Department of Education. (2023). *ELPAC scoring and reporting guide.* Sacramento, CA: California Department of Education.

Stocking, M.L. (1996). An alternative method for scoring adaptive tests. *Journal of Educational and Behavioral Statistics, 21,* 365–89.

### Appendix 7.A: Raw and Scale Score Frequency Distributions

Table 7.A.1 Raw Score Frequency Distribution for Kindergarten

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Frequency | Percent | Cumulative Percent |
| 0 | 181 | 10.12 | 10.12 |
| 1 | 65 | 3.63 | 13.75 |
| 2 | 57 | 3.19 | 16.94 |
| 3 | 47 | 2.63 | 19.56 |
| 4 | 50 | 2.79 | 22.36 |
| 5 | 54 | 3.02 | 25.38 |
| 6 | 59 | 3.30 | 28.68 |
| 7 | 59 | 3.30 | 31.97 |
| 8 | 58 | 3.24 | 35.22 |
| 9 | 66 | 3.69 | 38.90 |
| 10 | 61 | 3.41 | 42.31 |
| 11 | 57 | 3.19 | 45.50 |
| 12 | 57 | 3.19 | 48.69 |
| 13 | 62 | 3.47 | 52.15 |
| 14 | 73 | 4.08 | 56.23 |
| 15 | 69 | 3.86 | 60.09 |
| 16 | 76 | 4.25 | 64.34 |
| 17 | 68 | 3.80 | 68.14 |
| 18 | 69 | 3.86 | 72.00 |
| 19 | 78 | 4.36 | 76.36 |
| 20 | 61 | 3.41 | 79.77 |
| 21 | 51 | 2.85 | 82.62 |
| 22 | 49 | 2.74 | 85.35 |
| 23 | 47 | 2.63 | 87.98 |
| 24 | 43 | 2.40 | 90.39 |
| 25 | 39 | 2.18 | 92.57 |
| 26 | 25 | 1.40 | 93.96 |
| 27 | 26 | 1.45 | 95.42 |
| 28 | 15 | 0.84 | 96.25 |
| 29 | 27 | 1.51 | 97.76 |
| 30 | 22 | 1.23 | 98.99 |
| 31 | 10 | 0.56 | 99.55 |
| 32 | 8 | 0.45 | 100.00 |

Table 7.A.2 Raw Score Frequency Distribution for Grade One

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Frequency | Percent | Cumulative Percent |
| 0 | 86 | 5.47 | 5.47 |
| 1 | 59 | 3.75 | 9.22 |
| 2 | 40 | 2.54 | 11.76 |
| 3 | 54 | 3.43 | 15.19 |
| 4 | 28 | 1.78 | 16.97 |
| 5 | 31 | 1.97 | 18.94 |
| 6 | 40 | 2.54 | 21.49 |
| 7 | 37 | 2.35 | 23.84 |
| 8 | 39 | 2.48 | 26.32 |
| 9 | 49 | 3.12 | 29.43 |
| 10 | 52 | 3.31 | 32.74 |
| 11 | 66 | 4.20 | 36.94 |
| 12 | 60 | 3.81 | 40.75 |
| 13 | 61 | 3.88 | 44.63 |
| 14 | 62 | 3.94 | 48.57 |
| 15 | 66 | 4.20 | 52.77 |
| 16 | 69 | 4.39 | 57.15 |
| 17 | 73 | 4.64 | 61.79 |
| 18 | 63 | 4.01 | 65.80 |
| 19 | 36 | 2.29 | 68.09 |
| 20 | 57 | 3.62 | 71.71 |
| 21 | 56 | 3.56 | 75.27 |
| 22 | 54 | 3.43 | 78.70 |
| 23 | 51 | 3.24 | 81.95 |
| 24 | 52 | 3.31 | 85.25 |
| 25 | 41 | 2.61 | 87.86 |
| 26 | 38 | 2.42 | 90.27 |
| 27 | 32 | 2.03 | 92.31 |
| 28 | 42 | 2.67 | 94.98 |
| 29 | 29 | 1.84 | 96.82 |
| 30 | 23 | 1.46 | 98.28 |
| 31 | 27 | 1.72 | 100.00 |

Table 7.A.3 Raw Score Frequency Distribution for Grade Two

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Frequency | Percent | Cumulative Percent |
| 0 | 98 | 6.73 | 6.73 |
| 1 | 51 | 3.50 | 10.23 |
| 2 | 30 | 2.06 | 12.29 |
| 3 | 26 | 1.78 | 14.07 |
| 4 | 31 | 2.13 | 16.20 |
| 5 | 30 | 2.06 | 18.26 |
| 6 | 39 | 2.68 | 20.93 |
| 7 | 24 | 1.65 | 22.58 |
| 8 | 43 | 2.95 | 25.53 |
| 9 | 49 | 3.36 | 28.89 |
| 10 | 52 | 3.57 | 32.46 |
| 11 | 61 | 4.19 | 36.65 |
| 12 | 46 | 3.16 | 39.81 |
| 13 | 64 | 4.39 | 44.20 |
| 14 | 77 | 5.28 | 49.49 |
| 15 | 59 | 4.05 | 53.53 |
| 16 | 67 | 4.60 | 58.13 |
| 17 | 62 | 4.26 | 62.39 |
| 18 | 71 | 4.87 | 67.26 |
| 19 | 55 | 3.77 | 71.04 |
| 20 | 49 | 3.36 | 74.40 |
| 21 | 46 | 3.16 | 77.56 |
| 22 | 53 | 3.64 | 81.19 |
| 23 | 35 | 2.40 | 83.60 |
| 24 | 49 | 3.36 | 86.96 |
| 25 | 39 | 2.68 | 89.64 |
| 26 | 36 | 2.47 | 92.11 |
| 27 | 31 | 2.13 | 94.23 |
| 28 | 37 | 2.54 | 96.77 |
| 29 | 29 | 1.99 | 98.76 |
| 30 | 18 | 1.24 | 100.00 |

Table 7.A.4 Raw Score Frequency Distribution for Grade Span Three Through Five

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Frequency | Percent | Cumulative Percent |
| 0 | 235 | 5.37 | 5.37 |
| 1 | 51 | 1.16 | 6.53 |
| 2 | 49 | 1.12 | 7.65 |
| 3 | 54 | 1.23 | 8.89 |
| 4 | 69 | 1.58 | 10.46 |
| 5 | 51 | 1.16 | 11.63 |
| 6 | 60 | 1.37 | 13.00 |
| 7 | 86 | 1.96 | 14.96 |
| 8 | 104 | 2.38 | 17.34 |
| 9 | 113 | 2.58 | 19.92 |
| 10 | 83 | 1.90 | 21.81 |
| 11 | 128 | 2.92 | 24.74 |
| 12 | 149 | 3.40 | 28.14 |
| 13 | 155 | 3.54 | 31.68 |
| 14 | 155 | 3.54 | 35.22 |
| 15 | 187 | 4.27 | 39.49 |
| 16 | 212 | 4.84 | 44.34 |
| 17 | 184 | 4.20 | 48.54 |
| 18 | 199 | 4.55 | 53.08 |
| 19 | 187 | 4.27 | 57.35 |
| 20 | 177 | 4.04 | 61.40 |
| 21 | 169 | 3.86 | 65.26 |
| 22 | 153 | 3.49 | 68.75 |
| 23 | 170 | 3.88 | 72.64 |
| 24 | 180 | 4.11 | 76.75 |
| 25 | 175 | 4.00 | 80.74 |
| 26 | 188 | 4.29 | 85.04 |
| 27 | 206 | 4.71 | 89.74 |
| 28 | 200 | 4.57 | 94.31 |
| 29 | 157 | 3.59 | 97.90 |
| 30 | 92 | 2.10 | 100.00 |

Table 7.A.5 Raw Score Frequency Distribution for Grade Span Six Through Eight

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Frequency | Percent | Cumulative Percent |
| 0 | 150 | 4.40 | 4.40 |
| 1 | 37 | 1.09 | 5.49 |
| 2 | 33 | 0.97 | 6.45 |
| 3 | 33 | 0.97 | 7.42 |
| 4 | 29 | 0.85 | 8.27 |
| 5 | 43 | 1.26 | 9.53 |
| 6 | 39 | 1.14 | 10.68 |
| 7 | 42 | 1.23 | 11.91 |
| 8 | 62 | 1.82 | 13.73 |
| 9 | 48 | 1.41 | 15.14 |
| 10 | 57 | 1.67 | 16.81 |
| 11 | 88 | 2.58 | 19.39 |
| 12 | 89 | 2.61 | 22.00 |
| 13 | 80 | 2.35 | 24.35 |
| 14 | 89 | 2.61 | 26.96 |
| 15 | 102 | 2.99 | 29.95 |
| 16 | 134 | 3.93 | 33.88 |
| 17 | 117 | 3.43 | 37.31 |
| 18 | 95 | 2.79 | 40.10 |
| 19 | 114 | 3.34 | 43.44 |
| 20 | 114 | 3.34 | 46.79 |
| 21 | 109 | 3.20 | 49.99 |
| 22 | 121 | 3.55 | 53.53 |
| 23 | 147 | 4.31 | 57.85 |
| 24 | 161 | 4.72 | 62.57 |
| 25 | 180 | 5.28 | 67.85 |
| 26 | 194 | 5.69 | 73.54 |
| 27 | 228 | 6.69 | 80.23 |
| 28 | 226 | 6.63 | 86.86 |
| 29 | 222 | 6.51 | 93.37 |
| 30 | 226 | 6.63 | 100.00 |

Table 7.A.6 Raw Score Frequency Distribution for Grade Span Nine and Ten

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Frequency | Percent | Cumulative Percent |
| 0 | 109 | 6.53 | 6.53 |
| 1 | 17 | 1.02 | 7.55 |
| 2 | 13 | 0.78 | 8.33 |
| 3 | 12 | 0.72 | 9.05 |
| 4 | 18 | 1.08 | 10.13 |
| 5 | 14 | 0.84 | 10.97 |
| 6 | 25 | 1.50 | 12.47 |
| 7 | 25 | 1.50 | 13.97 |
| 8 | 37 | 2.22 | 16.19 |
| 9 | 45 | 2.70 | 18.88 |
| 10 | 42 | 2.52 | 21.40 |
| 11 | 38 | 2.28 | 23.68 |
| 12 | 29 | 1.74 | 25.42 |
| 13 | 40 | 2.40 | 27.82 |
| 14 | 58 | 3.48 | 31.29 |
| 15 | 42 | 2.52 | 33.81 |
| 16 | 43 | 2.58 | 36.39 |
| 17 | 55 | 3.30 | 39.69 |
| 18 | 48 | 2.88 | 42.57 |
| 19 | 47 | 2.82 | 45.38 |
| 20 | 52 | 3.12 | 48.50 |
| 21 | 48 | 2.88 | 51.38 |
| 22 | 54 | 3.24 | 54.62 |
| 23 | 90 | 5.40 | 60.01 |
| 24 | 62 | 3.72 | 63.73 |
| 25 | 61 | 3.66 | 67.39 |
| 26 | 94 | 5.64 | 73.02 |
| 27 | 97 | 5.82 | 78.84 |
| 28 | 111 | 6.65 | 85.49 |
| 29 | 114 | 6.83 | 92.33 |
| 30 | 128 | 7.67 | 100.00 |

Table 7.A.7 Raw Score Frequency Distribution for Grade Span Eleven and Twelve

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Frequency | Percent | Cumulative Percent |
| 0 | 199 | 6.35 | 6.35 |
| 1 | 43 | 1.37 | 7.72 |
| 2 | 29 | 0.93 | 8.65 |
| 3 | 27 | 0.86 | 9.51 |
| 4 | 23 | 0.73 | 10.24 |
| 5 | 32 | 1.02 | 11.26 |
| 6 | 26 | 0.83 | 12.09 |
| 7 | 48 | 1.53 | 13.62 |
| 8 | 41 | 1.31 | 14.93 |
| 9 | 50 | 1.60 | 16.53 |
| 10 | 52 | 1.66 | 18.19 |
| 11 | 56 | 1.79 | 19.97 |
| 12 | 63 | 2.01 | 21.98 |
| 13 | 85 | 2.71 | 24.70 |
| 14 | 84 | 2.68 | 27.38 |
| 15 | 86 | 2.74 | 30.12 |
| 16 | 93 | 2.97 | 33.09 |
| 17 | 100 | 3.19 | 36.28 |
| 18 | 101 | 3.22 | 39.50 |
| 19 | 106 | 3.38 | 42.88 |
| 20 | 90 | 2.87 | 45.76 |
| 21 | 96 | 3.06 | 48.82 |
| 22 | 100 | 3.19 | 52.01 |
| 23 | 119 | 3.80 | 55.81 |
| 24 | 136 | 4.34 | 60.15 |
| 25 | 125 | 3.99 | 64.14 |
| 26 | 144 | 4.59 | 68.73 |
| 27 | 152 | 4.85 | 73.58 |
| 28 | 187 | 5.97 | 79.55 |
| 29 | 260 | 8.30 | 87.84 |
| 30 | 381 | 12.16 | 100.00 |

Table 7.A.8 Scale Score Frequency Distribution for Kindergarten

|  |  |  |  |
| --- | --- | --- | --- |
| Scale Score | Frequency | Percent | Cumulative Percent |
| 201 | 181 | 10.12 | 10.12 |
| 214 | 65 | 3.63 | 13.75 |
| 222 | 57 | 3.19 | 16.94 |
| 227 | 47 | 2.63 | 19.56 |
| 231 | 50 | 2.79 | 22.36 |
| 233 | 54 | 3.02 | 25.38 |
| 236 | 59 | 3.30 | 28.68 |
| 238 | 59 | 3.30 | 31.97 |
| 239 | 58 | 3.24 | 35.22 |
| 241 | 66 | 3.69 | 38.90 |
| 242 | 61 | 3.41 | 42.31 |
| 244 | 57 | 3.19 | 45.50 |
| 245 | 57 | 3.19 | 48.69 |
| 247 | 62 | 3.47 | 52.15 |
| 248 | 73 | 4.08 | 56.23 |
| 249 | 69 | 3.86 | 60.09 |
| 250 | 76 | 4.25 | 64.34 |
| 252 | 68 | 3.80 | 68.14 |
| 253 | 69 | 3.86 | 72.00 |
| 254 | 78 | 4.36 | 76.36 |
| 255 | 61 | 3.41 | 79.77 |
| 257 | 51 | 2.85 | 82.62 |
| 258 | 49 | 2.74 | 85.35 |
| 259 | 47 | 2.63 | 87.98 |
| 261 | 43 | 2.40 | 90.39 |
| 263 | 39 | 2.18 | 92.57 |
| 265 | 25 | 1.40 | 93.96 |
| 267 | 26 | 1.45 | 95.42 |
| 269 | 15 | 0.84 | 96.25 |
| 273 | 27 | 1.51 | 97.76 |
| 277 | 22 | 1.23 | 98.99 |
| 285 | 10 | 0.56 | 99.55 |
| 299 | 8 | 0.45 | 100.00 |

Table 7.A.9 Scale Score Frequency Distribution for Grade One

|  |  |  |  |
| --- | --- | --- | --- |
| Scale Score | Frequency | Percent | Cumulative Percent |
| 301 | 86 | 5.47 | 5.47 |
| 311 | 59 | 3.75 | 9.22 |
| 320 | 40 | 2.54 | 11.76 |
| 325 | 54 | 3.43 | 15.19 |
| 329 | 28 | 1.78 | 16.97 |
| 332 | 31 | 1.97 | 18.94 |
| 334 | 40 | 2.54 | 21.49 |
| 336 | 37 | 2.35 | 23.84 |
| 338 | 39 | 2.48 | 26.32 |
| 340 | 49 | 3.12 | 29.43 |
| 342 | 52 | 3.31 | 32.74 |
| 343 | 66 | 4.20 | 36.94 |
| 345 | 60 | 3.81 | 40.75 |
| 346 | 61 | 3.88 | 44.63 |
| 348 | 62 | 3.94 | 48.57 |
| 349 | 66 | 4.20 | 52.77 |
| 350 | 69 | 4.39 | 57.15 |
| 352 | 73 | 4.64 | 61.79 |
| 353 | 63 | 4.01 | 65.80 |
| 354 | 36 | 2.29 | 68.09 |
| 356 | 57 | 3.62 | 71.71 |
| 357 | 56 | 3.56 | 75.27 |
| 358 | 54 | 3.43 | 78.70 |
| 360 | 51 | 3.24 | 81.95 |
| 362 | 52 | 3.31 | 85.25 |
| 364 | 41 | 2.61 | 87.86 |
| 366 | 38 | 2.42 | 90.27 |
| 368 | 32 | 2.03 | 92.31 |
| 372 | 42 | 2.67 | 94.98 |
| 376 | 29 | 1.84 | 96.82 |
| 384 | 23 | 1.46 | 98.28 |
| 399 | 27 | 1.72 | 100.00 |

Table 7.A.10 Scale Score Frequency Distribution for Grade Two

|  |  |  |  |
| --- | --- | --- | --- |
| Scale Score | Frequency | Percent | Cumulative Percent |
| 401 | 98 | 6.73 | 6.73 |
| 408 | 51 | 3.50 | 10.23 |
| 416 | 30 | 2.06 | 12.29 |
| 421 | 26 | 1.78 | 14.07 |
| 425 | 31 | 2.13 | 16.20 |
| 428 | 30 | 2.06 | 18.26 |
| 431 | 39 | 2.68 | 20.93 |
| 433 | 24 | 1.65 | 22.58 |
| 435 | 43 | 2.95 | 25.53 |
| 437 | 49 | 3.36 | 28.89 |
| 439 | 52 | 3.57 | 32.46 |
| 440 | 61 | 4.19 | 36.65 |
| 442 | 46 | 3.16 | 39.81 |
| 443 | 64 | 4.39 | 44.20 |
| 445 | 77 | 5.28 | 49.49 |
| 446 | 59 | 4.05 | 53.53 |
| 448 | 67 | 4.60 | 58.13 |
| 449 | 62 | 4.26 | 62.39 |
| 451 | 71 | 4.87 | 67.26 |
| 452 | 55 | 3.77 | 71.04 |
| 454 | 49 | 3.36 | 74.40 |
| 456 | 46 | 3.16 | 77.56 |
| 458 | 53 | 3.64 | 81.19 |
| 460 | 35 | 2.40 | 83.60 |
| 462 | 49 | 3.36 | 86.96 |
| 464 | 39 | 2.68 | 89.64 |
| 467 | 36 | 2.47 | 92.11 |
| 471 | 31 | 2.13 | 94.23 |
| 476 | 37 | 2.54 | 96.77 |
| 484 | 29 | 1.99 | 98.76 |
| 499 | 18 | 1.24 | 100.00 |

Table 7.A.11 Scale Score Frequency Distribution for Grade Span Three Through Five

|  |  |  |  |
| --- | --- | --- | --- |
| Scale Score | Frequency | Percent | Cumulative Percent |
| 501 | 235 | 5.37 | 5.37 |
| 514 | 51 | 1.16 | 6.53 |
| 521 | 49 | 1.12 | 7.65 |
| 525 | 54 | 1.23 | 8.89 |
| 528 | 69 | 1.58 | 10.46 |
| 531 | 51 | 1.16 | 11.63 |
| 533 | 60 | 1.37 | 13.00 |
| 535 | 86 | 1.96 | 14.96 |
| 536 | 104 | 2.38 | 17.34 |
| 538 | 113 | 2.58 | 19.92 |
| 539 | 83 | 1.90 | 21.81 |
| 541 | 128 | 2.92 | 24.74 |
| 542 | 149 | 3.40 | 28.14 |
| 543 | 155 | 3.54 | 31.68 |
| 545 | 155 | 3.54 | 35.22 |
| 546 | 187 | 4.27 | 39.49 |
| 547 | 212 | 4.84 | 44.34 |
| 549 | 184 | 4.20 | 48.54 |
| 550 | 199 | 4.55 | 53.08 |
| 551 | 187 | 4.27 | 57.35 |
| 553 | 177 | 4.04 | 61.40 |
| 554 | 169 | 3.86 | 65.26 |
| 556 | 153 | 3.49 | 68.75 |
| 557 | 170 | 3.88 | 72.64 |
| 559 | 180 | 4.11 | 76.75 |
| 561 | 175 | 4.00 | 80.74 |
| 564 | 188 | 4.29 | 85.04 |
| 567 | 206 | 4.71 | 89.74 |
| 571 | 200 | 4.57 | 94.31 |
| 578 | 157 | 3.59 | 97.90 |
| 599 | 92 | 2.10 | 100.00 |

Table 7.A.12 Scale Score Frequency Distribution for Grade Span Six Through Eight

|  |  |  |  |
| --- | --- | --- | --- |
| Scale Score | Frequency | Percent | Cumulative Percent |
| 601 | 150 | 4.40 | 4.40 |
| 613 | 37 | 1.09 | 5.49 |
| 620 | 33 | 0.97 | 6.45 |
| 624 | 33 | 0.97 | 7.42 |
| 627 | 29 | 0.85 | 8.27 |
| 630 | 43 | 1.26 | 9.53 |
| 632 | 39 | 1.14 | 10.68 |
| 634 | 42 | 1.23 | 11.91 |
| 636 | 62 | 1.82 | 13.73 |
| 637 | 48 | 1.41 | 15.14 |
| 639 | 57 | 1.67 | 16.81 |
| 640 | 88 | 2.58 | 19.39 |
| 641 | 89 | 2.61 | 22.00 |
| 643 | 80 | 2.35 | 24.35 |
| 644 | 89 | 2.61 | 26.96 |
| 645 | 102 | 2.99 | 29.95 |
| 647 | 134 | 3.93 | 33.88 |
| 648 | 117 | 3.43 | 37.31 |
| 649 | 95 | 2.79 | 40.10 |
| 651 | 114 | 3.34 | 43.44 |
| 652 | 114 | 3.34 | 46.79 |
| 654 | 109 | 3.20 | 49.99 |
| 655 | 121 | 3.55 | 53.53 |
| 657 | 147 | 4.31 | 57.85 |
| 659 | 161 | 4.72 | 62.57 |
| 661 | 180 | 5.28 | 67.85 |
| 663 | 194 | 5.69 | 73.54 |
| 666 | 228 | 6.69 | 80.23 |
| 670 | 226 | 6.63 | 86.86 |
| 676 | 222 | 6.51 | 93.37 |
| 699 | 226 | 6.63 | 100.00 |

Table 7.A.13 Scale Score Frequency Distribution for Grade Span Nine and Ten

|  |  |  |  |
| --- | --- | --- | --- |
| Scale Score | Frequency | Percent | Cumulative Percent |
| 701 | 109 | 6.53 | 6.53 |
| 715 | 17 | 1.02 | 7.55 |
| 721 | 13 | 0.78 | 8.33 |
| 725 | 12 | 0.72 | 9.05 |
| 728 | 18 | 1.08 | 10.13 |
| 730 | 14 | 0.84 | 10.97 |
| 732 | 25 | 1.50 | 12.47 |
| 734 | 25 | 1.50 | 13.97 |
| 735 | 37 | 2.22 | 16.19 |
| 737 | 45 | 2.70 | 18.88 |
| 738 | 42 | 2.52 | 21.40 |
| 739 | 38 | 2.28 | 23.68 |
| 740 | 29 | 1.74 | 25.42 |
| 741 | 40 | 2.40 | 27.82 |
| 743 | 58 | 3.48 | 31.29 |
| 744 | 42 | 2.52 | 33.81 |
| 745 | 43 | 2.58 | 36.39 |
| 746 | 55 | 3.30 | 39.69 |
| 747 | 48 | 2.88 | 42.57 |
| 748 | 47 | 2.82 | 45.38 |
| 750 | 52 | 3.12 | 48.50 |
| 751 | 48 | 2.88 | 51.38 |
| 752 | 54 | 3.24 | 54.62 |
| 754 | 90 | 5.40 | 60.01 |
| 755 | 62 | 3.72 | 63.73 |
| 757 | 61 | 3.66 | 67.39 |
| 759 | 94 | 5.64 | 73.02 |
| 762 | 97 | 5.82 | 78.84 |
| 765 | 111 | 6.65 | 85.49 |
| 771 | 114 | 6.83 | 92.33 |
| 799 | 128 | 7.67 | 100.00 |

Table 7.A.14 Scale Score Frequency Distribution for Grade Span Eleven and Twelve

|  |  |  |  |
| --- | --- | --- | --- |
| Scale Score | Frequency | Percent | Cumulative Percent |
| 801 | 199 | 6.35 | 6.35 |
| 813 | 43 | 1.37 | 7.72 |
| 819 | 29 | 0.93 | 8.65 |
| 823 | 27 | 0.86 | 9.51 |
| 826 | 23 | 0.73 | 10.24 |
| 828 | 32 | 1.02 | 11.26 |
| 830 | 26 | 0.83 | 12.09 |
| 832 | 48 | 1.53 | 13.62 |
| 833 | 41 | 1.31 | 14.93 |
| 835 | 50 | 1.60 | 16.53 |
| 836 | 52 | 1.66 | 18.19 |
| 837 | 56 | 1.79 | 19.97 |
| 838 | 63 | 2.01 | 21.98 |
| 840 | 85 | 2.71 | 24.70 |
| 841 | 84 | 2.68 | 27.38 |
| 842 | 86 | 2.74 | 30.12 |
| 843 | 93 | 2.97 | 33.09 |
| 844 | 100 | 3.19 | 36.28 |
| 846 | 101 | 3.22 | 39.50 |
| 847 | 106 | 3.38 | 42.88 |
| 848 | 90 | 2.87 | 45.76 |
| 849 | 96 | 3.06 | 48.82 |
| 851 | 100 | 3.19 | 52.01 |
| 852 | 119 | 3.80 | 55.81 |
| 854 | 136 | 4.34 | 60.15 |
| 856 | 125 | 3.99 | 64.14 |
| 858 | 144 | 4.59 | 68.73 |
| 860 | 152 | 4.85 | 73.58 |
| 864 | 187 | 5.97 | 79.55 |
| 869 | 260 | 8.30 | 87.84 |
| 899 | 381 | 12.16 | 100.00 |

### Appendix 7.B: Demographic Student Group Summaries

**Notes for table 7.B.1 through table 7.B.7:**

* The student group “All” represents all students who took an assessment.
* The *Number Tested* column contains the number of students in each demographic student group who took the assessment.
* The *Number Analyzed* column contains the number of students included in item analyses after data cleaning rules were applied:
* *Number Analyzed*—Students who met the attemptedness criteria, which are defined as having responded to at least one item in the expressive and one item in the receptive communication modes.
* The *Percent Tested* and *Percent Analyzed* columns are both relative to the *Number Registered* count.

Table 7.B.1 **Demographic Summary for Students: Kindergarten**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Student Group | Number Registered | Number Tested | Percent Tested | Number Analyzed | Percent Analyzed |
| All | 1,914 | 1,840 | 96.13 | 1,789 | 93.47 |
| Male | 1,387 | 1,335 | 96.25 | 1,296 | 93.44 |
| Female | 527 | 505 | 95.83 | 493 | 93.55 |
| Nonbinary | 0 | 0 | N/A | 0 | N/A |
| American Indian or Alaska Native | 1 | 1 | 100.00 | 1 | 100.00 |
| Asian | 311 | 297 | 95.50 | 288 | 92.60 |
| Native Hawaiian or Other Pacific Islander | 4 | 4 | 100.00 | 4 | 100.00 |
| Filipino | 24 | 23 | 95.83 | 23 | 95.83 |
| Hispanic or Latino | 1,435 | 1,384 | 96.45 | 1,347 | 93.87 |
| Black or African American | 22 | 22 | 100.00 | 22 | 100.00 |
| White | 73 | 67 | 91.78 | 66 | 90.41 |
| Two or more races | 44 | 42 | 95.45 | 38 | 86.36 |
| Intellectual disability | 345 | 335 | 97.10 | 324 | 93.91 |
| Hearing impairment | 4 | 4 | 100.00 | 4 | 100.00 |
| Speech or language impairment | 72 | 69 | 95.83 | 68 | 94.44 |
| Visual impairment | 5 | 5 | 100.00 | 5 | 100.00 |
| Emotional impairment | 0 | 0 | N/A | 0 | N/A |
| Orthopedic impairment | 20 | 19 | 95.00 | 18 | 90.00 |
| Other health impairment | 96 | 90 | 93.75 | 86 | 89.58 |
| Specific learning disability | 3 | 3 | 100.00 | 3 | 100.00 |
| Deaf-blindness | 1 | 1 | 100.00 | 1 | 100.00 |
| Multiple disabilities | 104 | 97 | 93.27 | 88 | 84.62 |
| Autism | 1,260 | 1,213 | 96.27 | 1,189 | 94.37 |
| Traumatic brain injury | 2 | 2 | 100.00 | 2 | 100.00 |
| Not classified | 2 | 2 | 100.00 | 1 | 50.00 |
| Not economically disadvantaged | 429 | 417 | 97.20 | 407 | 94.87 |
| Economically disadvantaged | 1,485 | 1,423 | 95.82 | 1,382 | 93.06 |
| In US schools less than 12 months | 1,508 | 1,453 | 96.35 | 1,406 | 93.24 |
| In US schools 12 months or more | 329 | 312 | 94.83 | 309 | 93.92 |
| Duration unknown | 77 | 75 | 97.40 | 74 | 96.10 |
| Migrant education | 22 | 21 | 95.45 | 21 | 95.45 |
| Not migrant education | 1,892 | 1,819 | 96.14 | 1,768 | 93.45 |
| Armed forces family member | 22 | 22 | 100.00 | 22 | 100.00 |
| Not armed forces family member | 1,892 | 1,818 | 96.09 | 1,767 | 93.39 |
| Homeless | 89 | 85 | 95.51 | 83 | 93.26 |
| Not homeless | 1,825 | 1,755 | 96.16 | 1,706 | 93.48 |
| Foster youth | 6 | 6 | 100.00 | 4 | 66.67 |
| Not foster youth | 1,908 | 1,834 | 96.12 | 1,785 | 93.55 |

Table 7.B.2 **Demographic Summary for Students: Grade One**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Student Group | Number Registered | Number Tested | Percent Tested | Number Analyzed | Percent Analyzed |
| All | 1,683 | 1,607 | 95.48 | 1,573 | 93.46 |
| Male | 1,233 | 1,176 | 95.38 | 1,149 | 93.19 |
| Female | 450 | 431 | 95.78 | 424 | 94.22 |
| Nonbinary | 0 | 0 | N/A | 0 | N/A |
| American Indian or Alaska Native | 3 | 2 | 66.67 | 2 | 66.67 |
| Asian | 290 | 273 | 94.14 | 272 | 93.79 |
| Native Hawaiian or Other Pacific Islander | 4 | 4 | 100.00 | 4 | 100.00 |
| Filipino | 21 | 20 | 95.24 | 19 | 90.48 |
| Hispanic or Latino | 1,244 | 1,195 | 96.06 | 1,165 | 93.65 |
| Black or African American | 23 | 20 | 86.96 | 19 | 82.61 |
| White | 73 | 70 | 95.89 | 69 | 94.52 |
| Two or more races | 25 | 23 | 92.00 | 23 | 92.00 |
| Intellectual disability | 408 | 392 | 96.08 | 382 | 93.63 |
| Hearing impairment | 3 | 3 | 100.00 | 3 | 100.00 |
| Speech or language impairment | 56 | 54 | 96.43 | 54 | 96.43 |
| Visual impairment | 4 | 3 | 75.00 | 3 | 75.00 |
| Emotional impairment | 0 | 0 | N/A | 0 | N/A |
| Orthopedic impairment | 23 | 21 | 91.30 | 20 | 86.96 |
| Other health impairment | 72 | 68 | 94.44 | 67 | 93.06 |
| Specific learning disability | 6 | 6 | 100.00 | 6 | 100.00 |
| Deaf-blindness | 0 | 0 | N/A | 0 | N/A |
| Multiple disabilities | 120 | 109 | 90.83 | 101 | 84.17 |
| Autism | 988 | 948 | 95.95 | 935 | 94.64 |
| Traumatic brain injury | 2 | 2 | 100.00 | 1 | 50.00 |
| Not classified | 1 | 1 | 100.00 | 1 | 100.00 |
| Not economically disadvantaged | 385 | 365 | 94.81 | 359 | 93.25 |
| Economically disadvantaged | 1,298 | 1,242 | 95.69 | 1,214 | 93.53 |
| In US schools less than 12 months | 105 | 96 | 91.43 | 93 | 88.57 |
| In US schools 12 months or more | 1,558 | 1,495 | 95.96 | 1,465 | 94.03 |
| Duration unknown | 20 | 16 | 80.00 | 15 | 75.00 |
| Migrant education | 8 | 8 | 100.00 | 8 | 100.00 |
| Not migrant education | 1,675 | 1,599 | 95.46 | 1,565 | 93.43 |
| Armed forces family member | 17 | 15 | 88.24 | 15 | 88.24 |
| Not armed forces family member | 1,666 | 1,592 | 95.56 | 1,558 | 93.52 |
| Homeless | 66 | 65 | 98.48 | 60 | 90.91 |
| Not homeless | 1,617 | 1,542 | 95.36 | 1,513 | 93.57 |
| Foster youth | 5 | 4 | 80.00 | 4 | 80.00 |
| Not foster youth | 1,678 | 1,603 | 95.53 | 1,569 | 93.50 |

Table 7.B.3 **Demographic Summary for Students: Grade Two**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Student Group | Number Registered | Number Tested | Percent Tested | Number Analyzed | Percent Analyzed |
| All | 1,553 | 1,483 | 95.49 | 1,457 | 93.82 |
| Male | 1,091 | 1,047 | 95.97 | 1,029 | 94.32 |
| Female | 461 | 435 | 94.36 | 427 | 92.62 |
| Nonbinary | 1 | 1 | 100.00 | 1 | 100.00 |
| American Indian or Alaska Native | 1 | 1 | 100.00 | 1 | 100.00 |
| Asian | 232 | 220 | 94.83 | 217 | 93.53 |
| Native Hawaiian or Other Pacific Islander | 7 | 6 | 85.71 | 6 | 85.71 |
| Filipino | 17 | 17 | 100.00 | 17 | 100.00 |
| Hispanic or Latino | 1,149 | 1,099 | 95.65 | 1,080 | 93.99 |
| Black or African American | 19 | 18 | 94.74 | 18 | 94.74 |
| White | 98 | 95 | 96.94 | 92 | 93.88 |
| Two or more races | 30 | 27 | 90.00 | 26 | 86.67 |
| Intellectual disability | 474 | 457 | 96.41 | 449 | 94.73 |
| Hearing impairment | 5 | 5 | 100.00 | 5 | 100.00 |
| Speech or language impairment | 21 | 21 | 100.00 | 20 | 95.24 |
| Visual impairment | 3 | 1 | 33.33 | 1 | 33.33 |
| Emotional impairment | 0 | 0 | N/A | 0 | N/A |
| Orthopedic impairment | 24 | 22 | 91.67 | 21 | 87.50 |
| Other health impairment | 71 | 67 | 94.37 | 65 | 91.55 |
| Specific learning disability | 14 | 14 | 100.00 | 14 | 100.00 |
| Deaf-blindness | 0 | 0 | N/A | 0 | N/A |
| Multiple disabilities | 111 | 96 | 86.49 | 92 | 82.88 |
| Autism | 826 | 797 | 96.49 | 787 | 95.28 |
| Traumatic brain injury | 2 | 2 | 100.00 | 2 | 100.00 |
| Not classified | 2 | 1 | 50.00 | 1 | 50.00 |
| Not economically disadvantaged | 320 | 301 | 94.06 | 296 | 92.50 |
| Economically disadvantaged | 1,233 | 1,182 | 95.86 | 1,161 | 94.16 |
| In US schools less than 12 months | 56 | 48 | 85.71 | 48 | 85.71 |
| In US schools 12 months or more | 1,490 | 1,428 | 95.84 | 1,402 | 94.09 |
| Duration unknown | 7 | 7 | 100.00 | 7 | 100.00 |
| Migrant education | 22 | 21 | 95.45 | 21 | 95.45 |
| Not migrant education | 1,531 | 1,462 | 95.49 | 1,436 | 93.79 |
| Armed forces family member | 15 | 14 | 93.33 | 14 | 93.33 |
| Not armed forces family member | 1,538 | 1,469 | 95.51 | 1,443 | 93.82 |
| Homeless | 56 | 52 | 92.86 | 52 | 92.86 |
| Not homeless | 1,497 | 1,431 | 95.59 | 1,405 | 93.85 |
| Foster youth | 5 | 5 | 100.00 | 4 | 80.00 |
| Not foster youth | 1,548 | 1,478 | 95.48 | 1,453 | 93.86 |

Table 7.B.4 **Demographic Summary for Students: Grade Span Three Through Five**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Student Group | Number Registered | Number Tested | Percent Tested | Number Analyzed | Percent Analyzed |
| All | 4,729 | 4,466 | 94.44 | 4,378 | 92.58 |
| Male | 3,192 | 3,024 | 94.74 | 2,967 | 92.95 |
| Female | 1,536 | 1,441 | 93.82 | 1,410 | 91.80 |
| Nonbinary | 1 | 1 | 100.00 | 1 | 100.00 |
| American Indian or Alaska Native | 9 | 9 | 100.00 | 9 | 100.00 |
| Asian | 723 | 666 | 92.12 | 647 | 89.49 |
| Native Hawaiian or Other Pacific Islander | 18 | 18 | 100.00 | 18 | 100.00 |
| Filipino | 99 | 92 | 92.93 | 89 | 89.90 |
| Hispanic or Latino | 3,549 | 3,378 | 95.18 | 3,317 | 93.46 |
| Black or African American | 49 | 47 | 95.92 | 46 | 93.88 |
| White | 207 | 192 | 92.75 | 188 | 90.82 |
| Two or more races | 75 | 64 | 85.33 | 64 | 85.33 |
| Intellectual disability | 1,836 | 1,760 | 95.86 | 1,737 | 94.61 |
| Hearing impairment | 26 | 26 | 100.00 | 26 | 100.00 |
| Speech or language impairment | 78 | 74 | 94.87 | 73 | 93.59 |
| Visual impairment | 7 | 6 | 85.71 | 5 | 71.43 |
| Emotional impairment | 6 | 5 | 83.33 | 5 | 83.33 |
| Orthopedic impairment | 91 | 84 | 92.31 | 81 | 89.01 |
| Other health impairment | 202 | 189 | 93.56 | 185 | 91.58 |
| Specific learning disability | 128 | 126 | 98.44 | 126 | 98.44 |
| Deaf-blindness | 1 | 1 | 100.00 | 1 | 100.00 |
| Multiple disabilities | 345 | 297 | 86.09 | 272 | 78.84 |
| Autism | 2,000 | 1,889 | 94.45 | 1,858 | 92.90 |
| Traumatic brain injury | 9 | 9 | 100.00 | 9 | 100.00 |
| Not classified | 0 | 0 | N/A | 0 | N/A |
| Not economically disadvantaged | 1,075 | 990 | 92.09 | 965 | 89.77 |
| Economically disadvantaged | 3,654 | 3,476 | 95.13 | 3,413 | 93.40 |
| In US schools less than 12 months | 96 | 89 | 92.71 | 80 | 83.33 |
| In US schools 12 months or more | 4,588 | 4,335 | 94.49 | 4,256 | 92.76 |
| Duration unknown | 45 | 42 | 93.33 | 42 | 93.33 |
| Migrant education | 57 | 55 | 96.49 | 55 | 96.49 |
| Not migrant education | 4,672 | 4,411 | 94.41 | 4,323 | 92.53 |
| Armed forces family member | 46 | 44 | 95.65 | 44 | 95.65 |
| Not armed forces family member | 4,683 | 4,422 | 94.43 | 4,334 | 92.55 |
| Homeless | 194 | 184 | 94.85 | 180 | 92.78 |
| Not homeless | 4,535 | 4,282 | 94.42 | 4,198 | 92.57 |
| Foster youth | 18 | 17 | 94.44 | 17 | 94.44 |
| Not foster youth | 4,711 | 4,449 | 94.44 | 4,361 | 92.57 |

Table 7.B.5 **Demographic Summary for Students: Grade Span Six Through Eight**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Student Group | Number Registered | Number Tested | Percent Tested | Number Analyzed | Percent Analyzed |
| All | 3,882 | 3,475 | 89.52 | 3,409 | 87.82 |
| Male | 2,563 | 2,285 | 89.15 | 2,243 | 87.51 |
| Female | 1,319 | 1,190 | 90.22 | 1,166 | 88.40 |
| Nonbinary | 0 | 0 | N/A | 0 | N/A |
| American Indian or Alaska Native | 8 | 7 | 87.50 | 7 | 87.50 |
| Asian | 561 | 494 | 88.06 | 481 | 85.74 |
| Native Hawaiian or Other Pacific Islander | 13 | 11 | 84.62 | 10 | 76.92 |
| Filipino | 67 | 62 | 92.54 | 59 | 88.06 |
| Hispanic or Latino | 3,002 | 2,701 | 89.97 | 2,658 | 88.54 |
| Black or African American | 24 | 20 | 83.33 | 19 | 79.17 |
| White | 166 | 149 | 89.76 | 144 | 86.75 |
| Two or more races | 41 | 31 | 75.61 | 31 | 75.61 |
| Intellectual disability | 1,697 | 1,558 | 91.81 | 1,540 | 90.75 |
| Hearing impairment | 28 | 26 | 92.86 | 26 | 92.86 |
| Speech or language impairment | 37 | 36 | 97.30 | 36 | 97.30 |
| Visual impairment | 5 | 5 | 100.00 | 4 | 80.00 |
| Emotional impairment | 17 | 10 | 58.82 | 10 | 58.82 |
| Orthopedic impairment | 67 | 57 | 85.07 | 56 | 83.58 |
| Other health impairment | 155 | 135 | 87.10 | 133 | 85.81 |
| Specific learning disability | 173 | 163 | 94.22 | 163 | 94.22 |
| Deaf-blindness | 4 | 3 | 75.00 | 3 | 75.00 |
| Multiple disabilities | 311 | 251 | 80.71 | 231 | 74.28 |
| Autism | 1,379 | 1,224 | 88.76 | 1,201 | 87.09 |
| Traumatic brain injury | 8 | 6 | 75.00 | 5 | 62.50 |
| Not classified | 1 | 1 | 100.00 | 1 | 100.00 |
| Not economically disadvantaged | 862 | 754 | 87.47 | 734 | 85.15 |
| Economically disadvantaged | 3,020 | 2,721 | 90.10 | 2,675 | 88.58 |
| In US schools less than 12 months | 64 | 54 | 84.38 | 50 | 78.13 |
| In US schools 12 months or more | 3,795 | 3,402 | 89.64 | 3,341 | 88.04 |
| Duration unknown | 23 | 19 | 82.61 | 18 | 78.26 |
| Migrant education | 46 | 46 | 100.00 | 45 | 97.83 |
| Not migrant education | 3,836 | 3,429 | 89.39 | 3,364 | 87.70 |
| Armed forces family member | 19 | 19 | 100.00 | 19 | 100.00 |
| Not armed forces family member | 3,863 | 3,456 | 89.46 | 3,390 | 87.76 |
| Homeless | 152 | 133 | 87.50 | 132 | 86.84 |
| Not homeless | 3,730 | 3,342 | 89.60 | 3,277 | 87.86 |
| Foster youth | 18 | 13 | 72.22 | 13 | 72.22 |
| Not foster youth | 3,864 | 3,462 | 89.60 | 3,396 | 87.89 |

Table 7.B.6 **Demographic Summary for Students: Grade Span Nine and Ten**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Student Group | Number Registered | Number Tested | Percent Tested | Number Analyzed | Percent Analyzed |
| All | 1,978 | 1,711 | 86.50 | 1,668 | 84.33 |
| Male | 1,302 | 1,130 | 86.79 | 1,101 | 84.56 |
| Female | 676 | 581 | 85.95 | 567 | 83.88 |
| Nonbinary | 0 | 0 | N/A | 0 | N/A |
| American Indian or Alaska Native | 2 | 2 | 100.00 | 2 | 100.00 |
| Asian | 294 | 236 | 80.27 | 232 | 78.91 |
| Native Hawaiian or Other Pacific Islander | 11 | 8 | 72.73 | 8 | 72.73 |
| Filipino | 36 | 29 | 80.56 | 27 | 75.00 |
| Hispanic or Latino | 1,508 | 1,325 | 87.86 | 1,292 | 85.68 |
| Black or African American | 16 | 16 | 100.00 | 16 | 100.00 |
| White | 95 | 81 | 85.26 | 80 | 84.21 |
| Two or more races | 16 | 14 | 87.50 | 11 | 68.75 |
| Intellectual disability | 995 | 885 | 88.94 | 876 | 88.04 |
| Hearing impairment | 8 | 5 | 62.50 | 5 | 62.50 |
| Speech or language impairment | 12 | 12 | 100.00 | 12 | 100.00 |
| Visual impairment | 6 | 6 | 100.00 | 5 | 83.33 |
| Emotional impairment | 11 | 7 | 63.64 | 6 | 54.55 |
| Orthopedic impairment | 39 | 31 | 79.49 | 28 | 71.79 |
| Other health impairment | 79 | 69 | 87.34 | 67 | 84.81 |
| Specific learning disability | 88 | 72 | 81.82 | 72 | 81.82 |
| Deaf-blindness | 0 | 0 | N/A | 0 | N/A |
| Multiple disabilities | 176 | 148 | 84.09 | 130 | 73.86 |
| Autism | 554 | 469 | 84.66 | 460 | 83.03 |
| Traumatic brain injury | 9 | 6 | 66.67 | 6 | 66.67 |
| Not classified | 1 | 1 | 100.00 | 1 | 100.00 |
| Not economically disadvantaged | 422 | 336 | 79.62 | 325 | 77.01 |
| Economically disadvantaged | 1,556 | 1,375 | 88.37 | 1,343 | 86.31 |
| In US schools less than 12 months | 33 | 31 | 93.94 | 30 | 90.91 |
| In US schools 12 months or more | 1,930 | 1,671 | 86.58 | 1,629 | 84.40 |
| Duration unknown | 15 | 9 | 60.00 | 9 | 60.00 |
| Migrant education | 28 | 26 | 92.86 | 25 | 89.29 |
| Not migrant education | 1,950 | 1,685 | 86.41 | 1,643 | 84.26 |
| Armed forces family member | 9 | 8 | 88.89 | 8 | 88.89 |
| Not armed forces family member | 1,969 | 1,703 | 86.49 | 1,660 | 84.31 |
| Homeless | 63 | 53 | 84.13 | 52 | 82.54 |
| Not homeless | 1,915 | 1,658 | 86.58 | 1,616 | 84.39 |
| Foster youth | 15 | 11 | 73.33 | 11 | 73.33 |
| Not foster youth | 1,963 | 1,700 | 86.60 | 1,657 | 84.41 |

Table 7.B.7 **Demographic Summary for Students: Grade Span Eleven and Twelve**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Student Group | Number Registered | Number Tested | Percent Tested | Number Analyzed | Percent Analyzed |
| All | 3,823 | 3,191 | 83.47 | 3,134 | 81.98 |
| Male | 2,480 | 2,058 | 82.98 | 2,025 | 81.65 |
| Female | 1,341 | 1,132 | 84.41 | 1,108 | 82.62 |
| Nonbinary | 2 | 1 | 50.00 | 1 | 50.00 |
| American Indian or Alaska Native | 5 | 3 | 60.00 | 3 | 60.00 |
| Asian | 557 | 458 | 82.23 | 453 | 81.33 |
| Native Hawaiian or Other Pacific Islander | 22 | 15 | 68.18 | 15 | 68.18 |
| Filipino | 83 | 60 | 72.29 | 60 | 72.29 |
| Hispanic or Latino | 2,964 | 2,503 | 84.45 | 2,454 | 82.79 |
| Black or African American | 25 | 19 | 76.00 | 18 | 72.00 |
| White | 135 | 105 | 77.78 | 103 | 76.30 |
| Two or more races | 32 | 28 | 87.50 | 28 | 87.50 |
| Intellectual disability | 1,862 | 1,606 | 86.25 | 1,590 | 85.39 |
| Hearing impairment | 28 | 23 | 82.14 | 23 | 82.14 |
| Speech or language impairment | 13 | 11 | 84.62 | 11 | 84.62 |
| Visual impairment | 14 | 12 | 85.71 | 11 | 78.57 |
| Emotional impairment | 28 | 19 | 67.86 | 19 | 67.86 |
| Orthopedic impairment | 97 | 77 | 79.38 | 73 | 75.26 |
| Other health impairment | 126 | 97 | 76.98 | 94 | 74.60 |
| Specific learning disability | 119 | 87 | 73.11 | 87 | 73.11 |
| Deaf-blindness | 3 | 2 | 66.67 | 2 | 66.67 |
| Multiple disabilities | 386 | 302 | 78.24 | 280 | 72.54 |
| Autism | 1,111 | 926 | 83.35 | 917 | 82.54 |
| Traumatic brain injury | 31 | 28 | 90.32 | 26 | 83.87 |
| Not classified | 5 | 1 | 20.00 | 1 | 20.00 |
| Not economically disadvantaged | 1,038 | 830 | 79.96 | 817 | 78.71 |
| Economically disadvantaged | 2,785 | 2,361 | 84.78 | 2,317 | 83.20 |
| In US schools less than 12 months | 28 | 22 | 78.57 | 22 | 78.57 |
| In US schools 12 months or more | 3,772 | 3,147 | 83.43 | 3,092 | 81.97 |
| Duration unknown | 23 | 22 | 95.65 | 20 | 86.96 |
| Migrant education | 32 | 29 | 90.63 | 29 | 90.63 |
| Not migrant education | 3,791 | 3,162 | 83.41 | 3,105 | 81.90 |
| Armed forces family member | 25 | 19 | 76.00 | 19 | 76.00 |
| Not armed forces family member | 3,798 | 3,172 | 83.52 | 3,115 | 82.02 |
| Homeless | 115 | 103 | 89.57 | 102 | 88.70 |
| Not homeless | 3,708 | 3,088 | 83.28 | 3,032 | 81.77 |
| Foster youth | 18 | 14 | 77.78 | 14 | 77.78 |
| Not foster youth | 3,805 | 3,177 | 83.50 | 3,120 | 82.00 |

### Appendix 7.C: Means and Standard Deviations of Scale Scores and Percentage of Students in Each Performance Level by Demographic Student Group

**Note:** In table 7.C.1 through table 7.C.7, to protect student privacy, when the number of students in a student group is 10 or fewer, the summary statistics of scale scores and percentage of students in each performance level are not reported, and are replaced by “N/A.”

Table 7.C.1 Mean and SD of Scale Scores and Percentage of Students in Each Performance Level by Student Group, Kindergarten

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Student Group | Number of Students Tested | Scale Score Mean | Scale Score SD | Performance Level 1 | Performance Level 2 | Performance Level 3 |
| All | 1,789 | 242.25 | 19 | 42 | 46 | 12 |
| Male | 1,296 | 242.15 | 19 | 43 | 45 | 12 |
| Female | 493 | 242.52 | 19 | 42 | 47 | 11 |
| Nonbinary | 0 | N/A | N/A | N/A | N/A | N/A |
| American Indian or Alaska Native | 1 | N/A | N/A | N/A | N/A | N/A |
| Asian | 288 | 240.96 | 19 | 50 | 41 | 10 |
| Native Hawaiian or Other Pacific Islander | 4 | N/A | N/A | N/A | N/A | N/A |
| Filipino | 23 | 245.48 | 20 | 26 | 52 | 22 |
| Hispanic or Latino | 1,347 | 242.52 | 19 | 41 | 47 | 12 |
| Black or African American | 22 | 240.14 | 17 | 55 | 32 | 14 |
| White | 66 | 241.15 | 21 | 47 | 42 | 11 |
| Two or more races | 38 | 244.76 | 18 | 32 | 55 | 13 |
| Intellectual disability | 324 | 241.26 | 19 | 45 | 47 | 8 |
| Hearing impairment | 4 | N/A | N/A | N/A | N/A | N/A |
| Speech or language impairment | 68 | 251.15 | 16 | 22 | 59 | 19 |
| Visual impairment | 5 | N/A | N/A | N/A | N/A | N/A |
| Emotional impairment | 0 | N/A | N/A | N/A | N/A | N/A |
| Orthopedic impairment | 18 | 232.89 | 22 | 56 | 39 | 6 |
| Other health impairment | 86 | 247.84 | 19 | 30 | 47 | 23 |
| Specific learning disability | 3 | N/A | N/A | N/A | N/A | N/A |
| Deaf-blindness | 1 | N/A | N/A | N/A | N/A | N/A |
| Multiple disabilities | 88 | 228.69 | 22 | 64 | 33 | 3 |
| Autism | 1,189 | 242.79 | 19 | 42 | 45 | 13 |
| Traumatic brain injury | 2 | N/A | N/A | N/A | N/A | N/A |
| Not classified | 1 | N/A | N/A | N/A | N/A | N/A |
| Not economically disadvantaged | 407 | 241.20 | 19 | 45 | 45 | 9 |
| Economically disadvantaged | 1,382 | 242.56 | 19 | 41 | 46 | 13 |
| In US schools less than 12 months | 1,406 | 241.70 | 19 | 43 | 47 | 11 |
| In US schools 12 months or more | 309 | 245.00 | 21 | 39 | 41 | 20 |
| Duration unknown | 74 | 241.30 | 16 | 47 | 47 | 5 |
| Migrant education | 21 | 241.86 | 25 | 48 | 33 | 19 |
| Not migrant education | 1,768 | 242.25 | 19 | 42 | 46 | 12 |
| Armed forces family member | 22 | 236.14 | 19 | 50 | 50 | 0 |
| Not armed forces family member | 1,767 | 242.33 | 19 | 42 | 46 | 12 |
| Homeless | 83 | 240.07 | 21 | 46 | 43 | 11 |
| Not homeless | 1,706 | 242.36 | 19 | 42 | 46 | 12 |
| Foster youth | 4 | N/A | N/A | N/A | N/A | N/A |
| Not foster youth | 1,785 | 242.23 | 19 | 42 | 46 | 12 |

Table 7.C.2 Mean and SD of Scale Scores and Percentage of Students in Each Performance Level by Student Group, Grade One

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Student Group | Number of Students Tested | Scale Score Mean | Scale Score SD | Performance Level 1 | Performance Level 2 | Performance Level 3 |
| All | 1,573 | 346.43 | 19 | 37 | 42 | 21 |
| Male | 1,149 | 346.54 | 20 | 37 | 41 | 22 |
| Female | 424 | 346.11 | 18 | 38 | 43 | 19 |
| Nonbinary | 0 | N/A | N/A | N/A | N/A | N/A |
| American Indian or Alaska Native | 2 | N/A | N/A | N/A | N/A | N/A |
| Asian | 272 | 347.10 | 19 | 38 | 44 | 18 |
| Native Hawaiian or Other Pacific Islander | 4 | N/A | N/A | N/A | N/A | N/A |
| Filipino | 19 | 349.26 | 18 | 32 | 42 | 26 |
| Hispanic or Latino | 1,165 | 346.23 | 20 | 37 | 41 | 22 |
| Black or African American | 19 | 340.11 | 25 | 42 | 37 | 21 |
| White | 69 | 346.45 | 16 | 36 | 48 | 16 |
| Two or more races | 23 | 351.30 | 19 | 35 | 26 | 39 |
| Intellectual disability | 382 | 345.15 | 18 | 40 | 44 | 16 |
| Hearing impairment | 3 | N/A | N/A | N/A | N/A | N/A |
| Speech or language impairment | 54 | 360.96 | 14 | 7 | 44 | 48 |
| Visual impairment | 3 | N/A | N/A | N/A | N/A | N/A |
| Emotional impairment | 0 | N/A | N/A | N/A | N/A | N/A |
| Orthopedic impairment | 20 | 354.50 | 16 | 20 | 55 | 25 |
| Other health impairment | 67 | 348.61 | 21 | 33 | 36 | 31 |
| Specific learning disability | 6 | N/A | N/A | N/A | N/A | N/A |
| Deaf-blindness | 0 | N/A | N/A | N/A | N/A | N/A |
| Multiple disabilities | 101 | 326.65 | 20 | 75 | 24 | 1 |
| Autism | 935 | 347.86 | 18 | 34 | 43 | 23 |
| Traumatic brain injury | 1 | N/A | N/A | N/A | N/A | N/A |
| Not classified | 1 | N/A | N/A | N/A | N/A | N/A |
| Not economically disadvantaged | 359 | 343.94 | 20 | 41 | 41 | 18 |
| Economically disadvantaged | 1,214 | 347.16 | 19 | 36 | 42 | 22 |
| In US schools less than 12 months | 93 | 342.10 | 17 | 46 | 40 | 14 |
| In US schools 12 months or more | 1,465 | 346.79 | 19 | 36 | 42 | 22 |
| Duration unknown | 15 | 337.87 | 21 | 47 | 47 | 7 |
| Migrant education | 8 | N/A | N/A | N/A | N/A | N/A |
| Not migrant education | 1,565 | 346.44 | 19 | 37 | 42 | 21 |
| Armed forces family member | 15 | 345.07 | 21 | 40 | 33 | 27 |
| Not armed forces family member | 1,558 | 346.44 | 19 | 37 | 42 | 21 |
| Homeless | 60 | 346.95 | 18 | 33 | 42 | 25 |
| Not homeless | 1,513 | 346.41 | 19 | 37 | 42 | 21 |
| Foster youth | 4 | N/A | N/A | N/A | N/A | N/A |
| Not foster youth | 1,569 | 346.41 | 19 | 37 | 42 | 21 |

Table 7.C.3 Mean and SD of Scale Scores and Percentage of Students in Each Performance Level by Student Group, Grade Two

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Student Group | Number of Students Tested | Scale Score Mean | Scale Score SD | Performance Level 1 | Performance Level 2 | Performance Level 3 |
| All | 1,457 | 444.00 | 20 | 44 | 37 | 19 |
| Male | 1,029 | 444.36 | 20 | 43 | 37 | 20 |
| Female | 427 | 443.13 | 20 | 47 | 36 | 17 |
| Nonbinary | 1 | N/A | N/A | N/A | N/A | N/A |
| American Indian or Alaska Native | 1 | N/A | N/A | N/A | N/A | N/A |
| Asian | 217 | 445.37 | 21 | 41 | 39 | 19 |
| Native Hawaiian or Other Pacific Islander | 6 | N/A | N/A | N/A | N/A | N/A |
| Filipino | 17 | 444.94 | 21 | 53 | 29 | 18 |
| Hispanic or Latino | 1,080 | 443.88 | 20 | 44 | 37 | 19 |
| Black or African American | 18 | 442.83 | 19 | 50 | 39 | 11 |
| White | 92 | 441.03 | 17 | 52 | 37 | 11 |
| Two or more races | 26 | 447.65 | 17 | 50 | 35 | 15 |
| Intellectual disability | 449 | 443.49 | 18 | 48 | 37 | 15 |
| Hearing impairment | 5 | N/A | N/A | N/A | N/A | N/A |
| Speech or language impairment | 20 | 461.55 | 17 | 20 | 25 | 55 |
| Visual impairment | 1 | N/A | N/A | N/A | N/A | N/A |
| Emotional impairment | 0 | N/A | N/A | N/A | N/A | N/A |
| Orthopedic impairment | 21 | 439.57 | 22 | 43 | 43 | 14 |
| Other health impairment | 65 | 449.23 | 19 | 35 | 38 | 26 |
| Specific learning disability | 14 | 469.36 | 16 | 0 | 36 | 64 |
| Deaf-blindness | 0 | N/A | N/A | N/A | N/A | N/A |
| Multiple disabilities | 92 | 423.32 | 19 | 79 | 20 | 1 |
| Autism | 787 | 445.45 | 19 | 40 | 39 | 21 |
| Traumatic brain injury | 2 | N/A | N/A | N/A | N/A | N/A |
| Not classified | 1 | N/A | N/A | N/A | N/A | N/A |
| Not economically disadvantaged | 296 | 443.34 | 22 | 45 | 35 | 20 |
| Economically disadvantaged | 1,161 | 444.16 | 19 | 44 | 37 | 19 |
| In US schools less than 12 months | 48 | 436.44 | 14 | 67 | 33 | 0 |
| In US schools 12 months or more | 1,402 | 444.25 | 20 | 43 | 37 | 19 |
| Duration unknown | 7 | N/A | N/A | N/A | N/A | N/A |
| Migrant education | 21 | 447.43 | 21 | 38 | 33 | 29 |
| Not migrant education | 1,436 | 443.95 | 20 | 44 | 37 | 19 |
| Armed forces family member | 14 | 434.43 | 24 | 57 | 29 | 14 |
| Not armed forces family member | 1,443 | 444.09 | 20 | 44 | 37 | 19 |
| Homeless | 52 | 446.67 | 19 | 48 | 31 | 21 |
| Not homeless | 1,405 | 443.90 | 20 | 44 | 37 | 19 |
| Foster youth | 4 | N/A | N/A | N/A | N/A | N/A |
| Not foster youth | 1,453 | 443.97 | 20 | 44 | 37 | 19 |

Table 7.C.4 Mean and SD of Scale Scores and Percentage of Students in Each Performance Level by Student Group, Grade Span Three Through Five

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Student Group | Number of Students Tested | Scale Score Mean | Scale Score SD | Performance Level 1 | Performance Level 2 | Performance Level 3 |
| All | 4,378 | 549.06 | 18 | 32 | 45 | 23 |
| Male | 2,967 | 549.29 | 18 | 32 | 45 | 23 |
| Female | 1,410 | 548.55 | 19 | 32 | 45 | 23 |
| Nonbinary | 1 | N/A | N/A | N/A | N/A | N/A |
| American Indian or Alaska Native | 9 | N/A | N/A | N/A | N/A | N/A |
| Asian | 647 | 547.06 | 17 | 35 | 49 | 16 |
| Native Hawaiian or Other Pacific Islander | 18 | 542.94 | 19 | 44 | 44 | 11 |
| Filipino | 89 | 544.43 | 17 | 35 | 56 | 9 |
| Hispanic or Latino | 3,317 | 549.79 | 18 | 30 | 44 | 25 |
| Black or African American | 46 | 549.54 | 22 | 33 | 41 | 26 |
| White | 188 | 545.21 | 18 | 45 | 37 | 18 |
| Two or more races | 64 | 551.17 | 17 | 23 | 55 | 22 |
| Intellectual disability | 1,737 | 549.44 | 17 | 30 | 49 | 21 |
| Hearing impairment | 26 | 548.04 | 15 | 46 | 31 | 23 |
| Speech or language impairment | 73 | 559.40 | 10 | 5 | 51 | 44 |
| Visual impairment | 5 | N/A | N/A | N/A | N/A | N/A |
| Emotional impairment | 5 | N/A | N/A | N/A | N/A | N/A |
| Orthopedic impairment | 81 | 541.72 | 25 | 37 | 43 | 20 |
| Other health impairment | 185 | 553.90 | 18 | 21 | 41 | 38 |
| Specific learning disability | 126 | 570.43 | 15 | 1 | 23 | 76 |
| Deaf-blindness | 1 | N/A | N/A | N/A | N/A | N/A |
| Multiple disabilities | 272 | 531.25 | 23 | 67 | 25 | 8 |
| Autism | 1,858 | 549.32 | 17 | 32 | 47 | 22 |
| Traumatic brain injury | 9 | N/A | N/A | N/A | N/A | N/A |
| Not classified | 0 | N/A | N/A | N/A | N/A | N/A |
| Not economically disadvantaged | 965 | 546.92 | 18 | 36 | 47 | 18 |
| Economically disadvantaged | 3,413 | 549.66 | 18 | 31 | 45 | 25 |
| In US schools less than 12 months | 80 | 542.31 | 21 | 51 | 33 | 16 |
| In US schools 12 months or more | 4,256 | 549.21 | 18 | 31 | 45 | 23 |
| Duration unknown | 42 | 546.69 | 22 | 33 | 45 | 21 |
| Migrant education | 55 | 552.67 | 14 | 22 | 49 | 29 |
| Not migrant education | 4,323 | 549.01 | 18 | 32 | 45 | 23 |
| Armed forces family member | 44 | 553.20 | 17 | 25 | 43 | 32 |
| Not armed forces family member | 4,334 | 549.01 | 18 | 32 | 45 | 23 |
| Homeless | 180 | 550.08 | 19 | 31 | 42 | 27 |
| Not homeless | 4,198 | 549.01 | 18 | 32 | 45 | 23 |
| Foster youth | 17 | 552.76 | 20 | 29 | 35 | 35 |
| Not foster youth | 4,361 | 549.04 | 18 | 32 | 45 | 23 |

Table 7.C.5 Mean and SD of Scale Scores and Percentage of Students in Each Performance Level by Student Group, Grade Span Six Through Eight

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Student Group | Number of Students Tested | Scale Score Mean | Scale Score SD | Performance Level 1 | Performance Level 2 | Performance Level 3 |
| All | 3,409 | 654.04 | 21 | 24 | 38 | 37 |
| Male | 2,243 | 654.74 | 20 | 23 | 38 | 39 |
| Female | 1,166 | 652.70 | 21 | 26 | 39 | 35 |
| Nonbinary | 0 | N/A | N/A | N/A | N/A | N/A |
| American Indian or Alaska Native | 7 | N/A | N/A | N/A | N/A | N/A |
| Asian | 481 | 652.76 | 19 | 27 | 41 | 32 |
| Native Hawaiian or Other Pacific Islander | 10 | N/A | N/A | N/A | N/A | N/A |
| Filipino | 59 | 652.12 | 17 | 27 | 37 | 36 |
| Hispanic or Latino | 2,658 | 654.47 | 21 | 24 | 37 | 39 |
| Black or African American | 19 | 648.05 | 24 | 37 | 26 | 37 |
| White | 144 | 652.22 | 19 | 23 | 47 | 31 |
| Two or more races | 31 | 654.65 | 27 | 29 | 32 | 39 |
| Intellectual disability | 1,540 | 653.57 | 18 | 24 | 41 | 35 |
| Hearing impairment | 26 | 658.73 | 20 | 15 | 38 | 46 |
| Speech or language impairment | 36 | 671.75 | 15 | 0 | 14 | 86 |
| Visual impairment | 4 | N/A | N/A | N/A | N/A | N/A |
| Emotional impairment | 10 | N/A | N/A | N/A | N/A | N/A |
| Orthopedic impairment | 56 | 651.25 | 28 | 30 | 25 | 45 |
| Other health impairment | 133 | 663.08 | 18 | 7 | 42 | 51 |
| Specific learning disability | 163 | 675.27 | 16 | 1 | 10 | 90 |
| Deaf-blindness | 3 | N/A | N/A | N/A | N/A | N/A |
| Multiple disabilities | 231 | 629.56 | 24 | 69 | 21 | 10 |
| Autism | 1,201 | 654.77 | 18 | 23 | 42 | 35 |
| Traumatic brain injury | 5 | N/A | N/A | N/A | N/A | N/A |
| Not classified | 1 | N/A | N/A | N/A | N/A | N/A |
| Not economically disadvantaged | 734 | 651.39 | 20 | 28 | 42 | 30 |
| Economically disadvantaged | 2,675 | 654.77 | 21 | 23 | 37 | 39 |
| In US schools less than 12 months | 50 | 643.80 | 21 | 40 | 46 | 14 |
| In US schools 12 months or more | 3,341 | 654.21 | 20 | 24 | 38 | 38 |
| Duration unknown | 18 | 651.39 | 26 | 28 | 33 | 39 |
| Migrant education | 45 | 657.60 | 20 | 11 | 42 | 47 |
| Not migrant education | 3,364 | 653.99 | 21 | 25 | 38 | 37 |
| Armed forces family member | 19 | 653.89 | 24 | 32 | 26 | 42 |
| Not armed forces family member | 3,390 | 654.04 | 21 | 24 | 38 | 37 |
| Homeless | 132 | 657.21 | 16 | 21 | 35 | 44 |
| Not homeless | 3,277 | 653.91 | 21 | 24 | 38 | 37 |
| Foster youth | 13 | 651.77 | 28 | 23 | 46 | 31 |
| Not foster youth | 3,396 | 654.05 | 21 | 24 | 38 | 37 |

Table 7.C.6 Mean and SD of Scale Scores and Percentage of Students in Each Performance Level by Student Group, Grade Span Nine and Ten

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Student Group | Number of Students Tested | Scale Score Mean | Scale Score SD | Performance Level 1 | Performance Level 2 | Performance Level 3 |
| All | 1,668 | 750.85 | 22 | 31 | 42 | 27 |
| Male | 1,101 | 751.19 | 22 | 31 | 41 | 28 |
| Female | 567 | 750.18 | 22 | 31 | 43 | 25 |
| Nonbinary | 0 | N/A | N/A | N/A | N/A | N/A |
| American Indian or Alaska Native | 2 | N/A | N/A | N/A | N/A | N/A |
| Asian | 232 | 749.88 | 23 | 34 | 42 | 24 |
| Native Hawaiian or Other Pacific Islander | 8 | N/A | N/A | N/A | N/A | N/A |
| Filipino | 27 | 747.59 | 24 | 41 | 33 | 26 |
| Hispanic or Latino | 1,292 | 751.33 | 21 | 30 | 41 | 28 |
| Black or African American | 16 | 751.94 | 17 | 19 | 56 | 25 |
| White | 80 | 747.74 | 21 | 35 | 48 | 18 |
| Two or more races | 11 | 740.45 | 18 | 55 | 36 | 9 |
| Intellectual disability | 876 | 750.57 | 19 | 31 | 45 | 24 |
| Hearing impairment | 5 | N/A | N/A | N/A | N/A | N/A |
| Speech or language impairment | 12 | 778.08 | 19 | 0 | 17 | 83 |
| Visual impairment | 5 | N/A | N/A | N/A | N/A | N/A |
| Emotional impairment | 6 | N/A | N/A | N/A | N/A | N/A |
| Orthopedic impairment | 28 | 738.21 | 20 | 54 | 43 | 4 |
| Other health impairment | 67 | 762.48 | 27 | 18 | 27 | 55 |
| Specific learning disability | 72 | 771.96 | 20 | 4 | 29 | 67 |
| Deaf-blindness | 0 | N/A | N/A | N/A | N/A | N/A |
| Multiple disabilities | 130 | 728.71 | 23 | 74 | 21 | 5 |
| Autism | 460 | 752.65 | 20 | 26 | 46 | 28 |
| Traumatic brain injury | 6 | N/A | N/A | N/A | N/A | N/A |
| Not classified | 1 | N/A | N/A | N/A | N/A | N/A |
| Not economically disadvantaged | 325 | 748.73 | 22 | 34 | 43 | 23 |
| Economically disadvantaged | 1,343 | 751.36 | 21 | 31 | 41 | 28 |
| In US schools less than 12 months | 30 | 739.20 | 18 | 67 | 23 | 10 |
| In US schools 12 months or more | 1,629 | 751.02 | 22 | 31 | 42 | 27 |
| Duration unknown | 9 | N/A | N/A | N/A | N/A | N/A |
| Migrant education | 25 | 747.56 | 20 | 48 | 24 | 28 |
| Not migrant education | 1,643 | 750.90 | 22 | 31 | 42 | 27 |
| Armed forces family member | 8 | N/A | N/A | N/A | N/A | N/A |
| Not armed forces family member | 1,660 | 750.86 | 22 | 31 | 42 | 27 |
| Homeless | 52 | 750.19 | 17 | 29 | 42 | 29 |
| Not homeless | 1,616 | 750.87 | 22 | 31 | 42 | 27 |
| Foster youth | 11 | 749.64 | 24 | 27 | 55 | 18 |
| Not foster youth | 1,657 | 750.85 | 22 | 31 | 42 | 27 |

Table 7.C.7 Mean and SD of Scale Scores and Percentage of Students in Each Performance Level by Student Group, Grade Span Eleven and Twelve

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Student Group | Number of Students Tested | Scale Score Mean | Scale Score SD | Performance Level 1 | Performance Level 2 | Performance Level 3 |
| All | 3,134 | 852.14 | 24 | 33 | 36 | 31 |
| Male | 2,025 | 852.53 | 24 | 33 | 36 | 32 |
| Female | 1,108 | 851.47 | 24 | 34 | 36 | 31 |
| Nonbinary | 1 | N/A | N/A | N/A | N/A | N/A |
| American Indian or Alaska Native | 3 | N/A | N/A | N/A | N/A | N/A |
| Asian | 453 | 849.52 | 24 | 38 | 36 | 26 |
| Native Hawaiian or Other Pacific Islander | 15 | 859.27 | 18 | 13 | 53 | 33 |
| Filipino | 60 | 849.53 | 23 | 35 | 33 | 32 |
| Hispanic or Latino | 2,454 | 852.88 | 24 | 32 | 35 | 33 |
| Black or African American | 18 | 845.83 | 18 | 33 | 50 | 17 |
| White | 103 | 850.94 | 20 | 34 | 40 | 26 |
| Two or more races | 28 | 840.46 | 26 | 43 | 32 | 25 |
| Intellectual disability | 1,590 | 852.38 | 21 | 31 | 40 | 29 |
| Hearing impairment | 23 | 851.43 | 9 | 22 | 61 | 17 |
| Speech or language impairment | 11 | 869.82 | 16 | 0 | 18 | 82 |
| Visual impairment | 11 | 867.36 | 23 | 18 | 9 | 73 |
| Emotional impairment | 19 | 872.95 | 23 | 16 | 11 | 74 |
| Orthopedic impairment | 73 | 850.67 | 30 | 49 | 19 | 32 |
| Other health impairment | 94 | 867.14 | 21 | 10 | 33 | 57 |
| Specific learning disability | 87 | 874.93 | 20 | 3 | 22 | 75 |
| Deaf-blindness | 2 | N/A | N/A | N/A | N/A | N/A |
| Multiple disabilities | 280 | 830.32 | 25 | 73 | 16 | 11 |
| Autism | 917 | 854.24 | 23 | 29 | 38 | 33 |
| Traumatic brain injury | 26 | 847.54 | 30 | 35 | 27 | 38 |
| Not classified | 1 | N/A | N/A | N/A | N/A | N/A |
| Not economically disadvantaged | 817 | 848.94 | 24 | 38 | 36 | 26 |
| Economically disadvantaged | 2,317 | 853.27 | 24 | 31 | 36 | 33 |
| In US schools less than 12 months | 22 | 843.36 | 15 | 50 | 45 | 5 |
| In US schools 12 months or more | 3,092 | 852.30 | 24 | 33 | 36 | 32 |
| Duration unknown | 20 | 837.80 | 23 | 60 | 30 | 10 |
| Migrant education | 29 | 857.41 | 20 | 24 | 38 | 38 |
| Not migrant education | 3,105 | 852.09 | 24 | 33 | 36 | 31 |
| Armed forces family member | 19 | 854.95 | 25 | 32 | 26 | 42 |
| Not armed forces family member | 3,115 | 852.13 | 24 | 33 | 36 | 31 |
| Homeless | 102 | 857.04 | 22 | 22 | 36 | 42 |
| Not homeless | 3,032 | 851.98 | 24 | 33 | 36 | 31 |
| Foster youth | 14 | 855.21 | 25 | 29 | 29 | 43 |
| Not foster youth | 3,120 | 852.13 | 24 | 33 | 36 | 31 |

## Psychometric Analyses

This chapter summarizes the item- and test-level statistics from the analyses conducted for the 2022–23 administration of the Summative Alternate English Language Proficiency Assessments for California (ELPAC).

### Overview

This chapter describes the psychometric analyses conducted by ETS for the Summative Alternate ELPAC, including classical item analyses, differential item functioning (DIF) analyses, item response theory (IRT) analyses, and response time analyses, as well as analyses to support reliability and validity evidence.

#### Summary of the Analyses

Each of these analyses of the Summative Alternate ELPAC data is presented in the body of the text and in the listed appendices.

1. **Classical Item Analyses—**Classical item analysis for the Summative Alternate ELPAC is described in section [*8.2 Classical Item Analyses*](#_Demographic_Student_Group). The results of the item-level classical item analyses, by grade level and grade span, including item difficulty indices (*p*-values), and item-total correlation coefficients for dichotomous and polytomous items are provided in Table 8.A.1 through table 8.A.7 in [appendix 8.A](#_Appendix_8.A_(formerly). Summary statistics, including the mean, minimum, and maximum values are presented in table 8.3.
2. **DIF Analyses—**DIF analysis is described in section [*8.3 Differential Item Functioning Analyses*](#_Differential_Item_Functioning). Table 8.4 provides the student groups included in the analyses. Table 8.5 and table 8.6 provide the DIF categories for dichotomous and polytomous items, respectively. Table 8.B.1 through table 8.B.3, in [appendix 8.B](#_Appendix_8.B:_Differential), present the results of the DIF analysis for operational items.
3. **IRT Analyses—**IRT models, and analyses, including calibrations and linking, are presented in section [*8.4 Item Response Theory Analyses*](#_Item_Response_Theory). Table 8.8 presents the slopes and intercepts that convert theta scores to reported scale scores for the operational items. Table 8.C.1 through table 8.C.7 in [appendix 8.C](#_Appendix_7.C:_Item) provide IRT results for individual items by grade level or grade span.
4. **Response Time Analyses—**Summative Alternate ELPAC assessments are untimed, but test examiners need guidance on anticipated test duration as they schedule administrations. Response time analysis is described in section [*8.6 Response Time Analyses*](#_Response_Time_Analyses). Table 8.D.1 in [appendix 8.D](#_Appendix_8.D:_Response) provides summary statistics of response times for the Summative Alternate ELPAC at the first, tenth, twenty-fifth, fiftieth, seventy-fifth, ninetieth, and ninety-ninth percentiles.
5. **Reliability Analyses—**Reliability estimation for the Summative Alternate ELPAC is illustrated in section [*8.7 Reliability Analyses*](#_Reliability__Analyses_1).
6. **Validity Evidence—**Validity evidence related to the Summative Alternate ELPAC is discussed in section [*8.8 Validity Evidence*](#_Validity_Evidence).

#### Samples Used for the Analyses

In general, analyses included in the technical report are based on all students in the tested population with valid scores available at the time of analysis. The actual data sample used depends on the time that data source becomes available as well as when the sample size is adequate to meet the analysis timeline.

The classical item analyses and item-level DIF analyses were conducted twice: the preliminary item analysis was conducted using the data file available in mid-May 2023 (i.e., the preliminary data), and the final item analysis was conducted using the final data from June 2023. The classical item analyses and item level DIF analyses provided in this technical report ([appendix 8.A](#_Appendix_8.A:_Classical) and [appendix 8.B](#_Appendix_8.B:_Differential), respectively) are based on the final item analysis with the June data (i.e., final data). The IRT analyses ([appendix 8.C](#_Appendix_7.C:_Item)) were based on the data file available in mid-May 2023 (i.e., analysis sample). All other analyses, such as the response time analyses, used the final version of the production data file for student reports, which became available in August 2023. Students who did not respond to at least one receptive item and one expressive item were removed from the analysis sample.

There are two types of missing data: (1) “marked as no response” and omitted responses and (2) not-reached responses. These two types are treated differently in the analyses. The first occurs when a question has been received in the test delivery system (TDS) but was not answered (i.e., the question was left blank or skipped) even though the student received and responded to subsequent items. The second is generated when a student ends the assessment early. A student may not reach the end of an assessment, or the item or items were not presented to the student. “Marked as no response” and omitted responses were treated as incorrect, and not-reached responses were treated as not presented in all statistical analyses.

Table 8.1 presents the differences in student counts between the two data sources (i.e., the analysis sample and the final production data file). Final production data files were received later and contained a larger number of test completers than the analysis sample.

Table 8.1 Summative Alternate ELPAC Analyses Data Sources

|  |  |  |
| --- | --- | --- |
| Grade Level or Grade Span | Analysis Sample | Final Data Total |
| Kindergarten | 1,225 | 1,722 |
| 1 | 1,165 | 1,544 |
| 2 | 1,096 | 1,425 |
| 3–5 | 3,399 | 4,283 |
| 6–8 | 2,644 | 3,340 |
| 9–10 | 1,221 | 1,620 |
| 11–12 | 2,353 | 3,062 |

#### Test-Taking Rates

The decision to assign a student to take the Summative Alternate ELPAC is determined by the student’s individualized education program (IEP) team using the information in the California Department of Education (CDE) Alternate Assessment Decision-Making Tool for California web document. This web document describes the criteria for taking alternate assessments and the students who should be identified to take alternate assessments (CDE, 2023a).

All students who are identified by an IEP team to take the Summative Alternate ELPAC are required to take alternate assessments for all state standardized assessments. All students who are logged on and respond to at least one receptive item and one expressive item are counted as having taken the assessment and, therefore, have a valid score (CDE, 2020).

Table 8.2 shows the test-taking rates by grade level.

Table 8.2 The Test-Taking Rates by Grade Level

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Grade Level | Number of Registered Students | Number of Test Takers | Number of Students with Valid Score | Test Takers as a Percent of Registered Students |
| Kindergarten | 1,914 | 1,840 | 1,789 | 96.1 |
| 1 | 1,683 | 1,607 | 1,573 | 95.5 |
| 2 | 1,553 | 1,483 | 1,457 | 95.5 |
| 3 | 1,631 | 1,542 | 1,505 | 94.5 |
| 4 | 1,593 | 1,497 | 1,475 | 94.0 |
| 5 | 1,505 | 1,427 | 1,398 | 94.8 |
| 6 | 1,365 | 1,232 | 1,210 | 90.3 |
| 7 | 1,288 | 1,140 | 1,116 | 88.5 |
| 8 | 1,229 | 1,103 | 1,083 | 89.7 |
| 9 | 969 | 843 | 819 | 87.0 |
| 10 | 1,009 | 868 | 849 | 86.0 |
| 11 | 1,062 | 889 | 869 | 83.7 |
| 12 | 2,761 | 2,302 | 2,265 | 83.4 |

### Classical Item Analyses

Classical item analyses are conducted to evaluate the performance of all test items with respect to item difficulty, item-total correlation, and distractor analysis. The associated flagging rules of these statistics are used to identify items that are not performing as expected.

#### Classical Item Difficulty Indices (*p*-value and Average Item Score)

Items scored as one (correct) or zero (incorrect) are referred to as dichotomous items. Items scored from zero to some number of points greater than one are called polytomous items.

For dichotomous items, item difficulty is indicated by its *p*-value, which is the proportion of students who answer the item correctly. The range of *p*-values is from 0.00 to 1.00. Items with high *p*-values are easier items; those with low *p*-values are more difficult. Dichotomous items are flagged for review if their *p*-values are above 0.95 (i.e., too easy). Two-choice dichotomous single-select items, three-choice dichotomous single-select items, and all other dichotomous items are flagged as too difficult if their *p*-values are below 0.50, 0.30, and 0.20, respectively.

The formula for the *p*-value for a dichotomous item is presented in equation 8.1. *Refer to the* [*Alternative Text for Equation 8.1*](#_Alternative_Text_for_2) *for a description of this equation.*

 (8.1)

where,

*Xij* is the score (0 or 1) received for a given dichotomous item *i* for student *j*, and

*Ji* is the total number of students who were presented with item *i*.

For polytomous items, the difficulty is indicated by either the average item score (AIS) or *p*-‍value. The AIS can range from 0.00 to the maximum total possible points for an item. Desired AIS values for polytomous items generally fall within the range of 20 percent to 80 percent of the maximum obtainable item score; items with values outside this range are flagged for review. To facilitate the interpretation, the AIS values for polytomous items are often expressed as the proportion of the maximum possible score, which are equivalent to the *p-*values for dichotomous items.

For polytomous items, the *p-*value is defined as presented in equation 8.2. *Refer to the* [*Alternative Text for Equation 8.2*](#_Alternative_Text_for_38) *for a description of this equation.*

 (8.2)

where,

*Xij* is the score assigned for a given polytomous item *i* and student *j*,

*Ji* is the total number of students who were presented with item *i*, and

*Mi* is the maximum possible score for item *i*.

#### Item-Total Correlation

An important indicator of item discrimination is the item-total correlation, defined as the correlation between student scores on an individual item and student “total” scores on the assessment.

The item-total correlation statistic describes the relationship between students’ performance on a specific item and students’ performance on the total assessment. It is calculated as the correlation coefficient between the item score and total score—specifically, the polyserial correlation is used as the index of item-total correlation for both polytomous and dichotomous items. Statistically, it is calculated as the correlation between an observed continuous variable and an unobserved continuous variable hypothesized to underlie the variable with ordered categories (Olsson, Drasgow, & Dorans, 1982). The total scale score or the raw score is used as the criterion score for this analysis.

Theoretically, the polyserial correlation ranges from −1.0 (for a perfect negative relationship) to 1.0 (for a perfect positive relationship) and is estimated as presented in equation 8.3. *Refer to the* [*Alternative Text for Equation 8.3*](#_Alternative_Text_for_39) *for a description of this equation.*

 (8.3)

where,

*β* is the item parameter to be estimated from the data, with the estimate denoted as , using maximum likelihood estimation; it is a regression coefficient (slope) for predicting the continuous version of an item score onto the continuous version of the total score;

*s2tot* is the variance of the criterion (for example, the students’ total score); and

*stot* is the standard deviation (SD) of the criterion.

For a polytomous item, there is a regression for each boundary between item scores, with all regressions for the same item sharing a common slope, *β*. For a polytomous item with *m* possible score values, there are *m*−1 regressions.

Acceptable values for this correlation coefficient are positive and greater than 0.20. A relatively high item-total correlation coefficient value is preferred, as it indicates that higher-performing students tend to perform better on the item than lower-performing students. An item with a negative item-total correlation typically signifies a problem with the item, as that indicates that

* the higher-performing students on the overall assessment tend to respond incorrectly to the item if dichotomous, or are assigned a low score for the item if polytomous; or
* the lower-performing students on the overall assessment are responding correctly to the item if dichotomous, or are assigned a high score for that item if polytomous.

#### Distribution of Item Scores

For polytomous items, examination of the distribution of scores assists in showing how well items performed. If no students were given the highest possible score, the item may not be functioning as expected because the item may be confusing, poorly worded, or just unexpectedly difficult; the scoring rubric may be flawed; or students may not have had an opportunity to learn the content. If the rubric for an item allowed for partial credit but nearly all students received either full credit or partial credit, the rubric should be reviewed for whether the rubric for the partial credit score category should be revised.

Items with a low percentage (i.e., less than 3 percent) of students obtaining any score point were flagged for review. Such items may pose problems during IRT calibration. They need to be carefully reviewed and may need to be excluded from the item calibration analyses.

#### Omit Rates

If a student views an item, leaves it unanswered, and then goes on to view and answer another item, the missing response is classified as an “omit.” If the student omits an item—that is, leaves the item unanswered—and does not view additional items, the responses for the successive items are classified as “not seen.”

##### Rates for Dichotomous and Polytomous Items

For both dichotomous and polytomous items, examining the omit rate is useful for identifying potential problems with test features such as testing time and item or test layout. Items with high omit rates are flagged for further investigation by content specialists to ensure that no issues are found with these items. Omit rates for polytomous items tend to be higher than for dichotomous items.

##### No-Response Rate

The *Mark as No Response* contextual menu option is a specific case of an omitted item. The *Mark as No Response* option should be used when the item was presented to the student and the student did not provide a response despite the test examiner’s best efforts to elicit a response. Similar to the omit rate, the Mark as No Response information is useful for identifying potential problems with an item.

#### Distractor Analyses

Distractor analyses were conducted on selected-response (SR) items (i.e., items that were not constructed response). The statistics for each item included the proportion of students selecting each distractor (incorrect response), computed for the group of all students in the analysis sample, and were also computed separately for the highest-performing 20 percent of students. Items were flagged for review if more high-performing students chose any distractor rather than the key. Such a result indicated that the item may have multiple correct answers or have the wrong key (i.e., the item was miskeyed).

For SR items, the distractor-total correlation describes the relationship between selecting a distractor for a specific item and performance on the total assessment. The polyserial correlation was calculated for the distractors, like the item-total correlation previously described, except that the regressions were implemented on the distractors rather than the keys. Items with distractor-total correlations not significantly below zero were flagged for review, as these items may have multiple correct answers, be miskeyed, or have other content issues.

#### Summary of Classical Item Analysis Flagging Criteria

An item was flagged for review if the item analysis yielded any of the following results. One item could have multiple flags if the statistics met the flagging criteria:

* **Difficulty flags** indicated extreme values of the proportion-correct (for dichotomous items) or the proportion of the possible maximum points earned (for polytomous items):
* A-flag: A *p-*value below 0.50 for two-choice dichotomous single-select items, below 0.30 for three-choice dichotomous single-select items, or below 0.20 for all other items
* H-flag: A *p*-value above 0.95 for dichotomous items or above 0.80 for polytomous items
* A **discrimination flag** (R-flag) indicated that the item did not discriminate effectively between high- and low-ability students. Items with a polyserial correlation less than 0.20 were flagged.
* An **omit flag** (O-flag) indicated an omission rate above 10 percent for dichotomous multiple-choice, single-select items or above 15 percent for all other items.
* A **distractor flag** (P-flag) was used for an item with any distractors having a correlation with the criterion score that is either positive, zero, or negative but not significantly below zero.
* A **miskey flag** (D-flag) was used for multiple-choice items when more of the high-ability examinee group—the top 20 percent of examinees on the total assessment—choose any distractor rather than the response keyed as correct.
* An **underrepresented score point flag** (L-flag) was used for any item that had less than 3 percent of the students at any score level.

ETS’ Psychometric Analysis & Research staff and Assessment and Learning Technology Research & Development staff carefully reviewed each of the flagged items during and at the end of the item analyses. All flagged items were also reviewed by California educators at the data review meeting and then summarized for the CDE with recommendations for subsequent analyses.

#### Classical Item Analyses Results

Table 8.3 presents the summary statistics of item difficulty and item discrimination for all operational items. The *p*-value columns contain *p*-values for dichotomous items and AIS for polytomous items. For both item types, these values can be interpreted as the proportion of students obtaining full credit on the item.

Table 8.3 Summary Statistics for Classical Item Analysis

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grade Level or Grade Span | Number of Items | Number of Students | Mean *p*-value | Minimum *p*-value | Maximum *p*-value | Mean Item-Total Correlation | Minimum Item-Total Correlation | Maximum Item-Total Correlation |
| Kindergarten | 24 | 1,722 | 0.42 | 0.19 | 0.78 | 0.67 | 0.50 | 0.82 |
| 1 | 24 | 1,544 | 0.49 | 0.34 | 0.83 | 0.69 | 0.59 | 0.78 |
| 2 | 24 | 1,425 | 0.49 | 0.20 | 0.79 | 0.69 | 0.47 | 0.78 |
| 3–5 | 24 | 4,283 | 0.58 | 0.25 | 0.81 | 0.69 | 0.42 | 0.80 |
| 6–8 | 24 | 3,340 | 0.67 | 0.45 | 0.91 | 0.72 | 0.41 | 0.81 |
| 9–10 | 24 | 1,620 | 0.66 | 0.35 | 0.88 | 0.75 | 0.54 | 0.82 |
| 11–12 | 24 | 3,062 | 0.68 | 0.45 | 0.90 | 0.77 | 0.69 | 0.84 |

The item difficulty and item discrimination statistics and the associated flag using the criteria described in subsection [*8.2.6 Summary of Classical Item Analysis Flagging Criteria*](#_Summary_of_Classical_3) for each item by grade level or grade span are presented in table 8.A.1 through table 8.A.7 in [appendix 8.A](#_Appendix_8.A:_Classical). Most of the items were flagged for high omit rate, especially for lower grade levels.

### Differential Item Functioning Analyses

DIF is used to evaluate the consistency of individual item performance for students in different demographic student groups who have the same level of domain performance. For example, DIF evaluates whether female and male students matched to have the same test score perform similarly on each item in the assessment.

In examining the DIF between groups, the reference group is often designated as the group that is assumed to have an advantage, while the focal group refers to the group anticipated to possibly be disadvantaged by the assessment.

DIF analyses were conducted for field test items that met the sample size requirements. The sample size requirements for the DIF analyses were 100 in the smaller of either the focal group or the reference group and 400 in the combined focal and reference groups. These sample size requirements are based on standard operating procedures with respect to DIF analyses at ETS.

If an item performs differentially across identifiable student groups—for example, gender or ethnicity—when students are matched on ability, the item may be measuring something else other than the intended construct (i.e., possible evidence of bias). It is important, however, to recognize that item performance differences flagged for DIF might be related to actual differences in relevant knowledge or skills between student groups (i.e., impact) or statistical Type I error, which might falsely find DIF in an item. As a result, DIF analysis is used mainly as a statistical tool to identify *potential* item bias. Subsequent reviews by content experts and bias and sensitivity experts are required to determine the source and meaning of performance differences.

There are many possible reasons for DIF. The wording of an item, for example, may be such that one group interprets the question differently than the other, or the reading demands of an item are such that, although reading is not being measured (e.g., in a mathematics assessment), reading differences between the groups lead to differential outcomes on the item.

DIF analyses were conducted on each assessment for designated comparison groups. Groups are defined on the basis of demographic variables, such as gender, race or ethnicity, and primary disabilities, if the number of students in the group meets the sample size requirements. These comparison groups are specified in table 8.4.

Table 8.4 Student Groups for DIF Comparison

|  |  |  |
| --- | --- | --- |
| DIF Type | Reference Group | Focal Group |
| **Primary Disability** | Intellectual Disability | * Autism * Deaf-blindness * Emotional disturbance * Hearing impairment * Multiple disabilities * Orthopedic impairment * Other health impairment * Specific learning disability * Speech or language impairment * Traumatic brain injury * Visual impairment * Deafness |
| **Gender** | Male | * Female |
| **Race or Ethnicity** | Hispanic or Latino | * Non-Hispanic or non-Latino |

**Note:** DIF comparisons are not performed using the nonbinary gender group because sample sizes are insufficient to make meaningful comparisons.

#### Differential Item Functioning Procedure for Dichotomous Items

The Mantel-Haenszel (MH) DIF (MH-DIF) statistic was calculated for dichotomous items (Mantel & Haenszel, 1959; Holland & Thayer, 1985). For this method, students are classified into relevant student groups of interest (e.g., gender or ethnicity). Students at each total score level in the focal group (e.g., females) are compared with students at each total score level in the reference group (e.g., males). The common odds ratio—that is, the proportion of correct response over the proportion of incorrect response—is estimated across all levels of matched student ability using the formula in equation 8.4 (Dorans & Holland, 1993). The resulting estimate is interpreted as the relative probability of success on a particular item for members of two groups when matched on ability. *Refer to the* [*Alternative Text for Equation 8.4*](#_Alternative_Text_for_40) *for a description of this equation.*

 (8.4)

where,

*M* is the highest score category of the criterion score (total raw score),

*m* indexes the score categories,

*Rrm* is the number of students in the reference group at score level *m* who answer the item correctly,

*Wfm* is the number of students in the focal group at score level *m* who answer the item incorrectly,

*Ntm* is the total number of students at score level *m*,

*Rfm* is the number of students in the focal group at score level *m* who answer the item correctly, and

*Wrm* is the number of students in the reference group at score level *m* who answer the item incorrectly.

To facilitate the interpretation of MH results, the common odds ratio is frequently transformed onto the delta scale using equation 8.5 (Holland & Thayer, 1985). *Refer to the [Alternative Text for Equation 8.5](#_Alternative_Text_for_41) for a description of this equation.*

 (8.5)

Positive values indicate DIF in favor of the focal group (i.e., positive DIF items are differentially easier for the focal group), whereas negative values indicate DIF in favor of the reference group (i.e., negative DIF items are differentially easier for the reference group).

#### Differential Item Functioning Procedure for Polytomous Items

The standardization DIF (Dorans & Schmitt, 1993; Zwick, Thayer, & Mazzeo, 1997; Dorans, 2013) in conjunction with the Mantel chi-square statistic (Mantel, 1963; Mantel & Haenszel, 1959) is calculated for polytomous items. The standardized mean difference (SMD) compares the item means of the two groups after adjusting for differences in the distribution of students across all items and is calculated using equation 8.6. *Refer to the* [*Alternative Text for Equation 8.6*](#_Alternative_Text_for_42) *for a description of this equation.*

 (8.6)

where,

*M* is the highest score category of the criterion score (total raw score),

*Nfm* is the number of students in the focal group at score level *m*,

*Erm* is the expected item score for the reference group at score level *m*,

*Efm* is the expected item score for the focal group at score level *m*, and

*Dm* is the difference in the distribution of students at score level *m*.

These statistics are indicators of the degree to which members of one group perform better or worse than expected on each polytomous item.

A positive SMDvalue means that, conditional on the criterion score, the focal group has a higher mean item score than the reference group (i.e., the item is differentially easier for the focal group). In contrast, a negative SMD value means that, conditional upon the criterion score, the focal group has a lower mean item score than the reference group (i.e., the item is differentially harder for the focal group).

#### Classification

Based on the DIF statistic values and significance tests, items are classified into three categories and assigned values of A, B, or C (Holland & Wainer, 1993). Category A items contain negligible DIF, Category B items exhibit slight to moderate DIF, and Category C items possess moderate to large DIF values.

The flagging criteria for dichotomous items are presented in table 8.5; the flagging criteria for polytomous items are provided in table 8.6. The determination of all significant differences is based on *p*-value < 0.05.

Table 8.5 DIF Categories for Dichotomous Items

|  |  |
| --- | --- |
| DIF Category | Criteria |
| A (negligible) | * Absolute value of MH D-DIF is less than one or is not significantly different from zero. * Positive values are classified as “A+” and negative values as “A−.” |
| B (moderate) | * Absolute value of MH D-DIF is significantly different from zero but not from one and is at least one; *or* absolute value of MH D-DIF is significantly different from one but is less than 1.5. * Positive values are classified as “B+” and negative values as “B−.” |
| C (large) | * Absolute value of MH D-DIF is at least 1.5 and is significantly different from one. * Positive values are classified as “C+” and negative values as “C−.” |

Table 8.6 DIF Categories for Polytomous Items

|  |  |
| --- | --- |
| DIF Category | Criteria |
| A (negligible) | Mantel chi-square *p-*value≥ 0.05 or |SMD/SD| ≤ 0.17 |
| B (moderate) | Mantel chi-square *p-*value *<* 0.05 and 0.17 < |SMD/SD| ≤ 0.25 |
| C (large) | Mantel chi-square *p-*value *<* 0.05 and |SMD*/*SD| > 0.25 |

**Note:** SMD = standardized mean difference; SD = total group standard deviation of item score

#### Differential Item Functioning Analysis Results Summary

Summarized DIF results for the operational items are given in [appendix 8.B](#_Appendix_8.B:_Differential), table 8.B.1 through table 8.B.3, for each grade level and grade span. If the sample size requirement for conducting DIF analyses was not met, that item was categorized in “insufficient counts.”

No items, across grade level or grade span, were flagged for gender or ethnicity DIF. Six items were flagged for primary disability DIF: one in grade one, two in grade two, one in grade span three through five, and two in grade span six through eight. Items that show C-‍level DIF and are considered biased by the DIF review panel will be deactivated for future use. For the six items flagged for primary disability DIF, none of them were considered biased after DIF panel review.

Assessment developers are instructed to avoid selecting C-level items considered unbiased by the DIF review panel for future test forms unless their inclusion is deemed essential to meeting test-content specifications.

### Item Response Theory Analyses

IRT is a family of mathematical models that characterizes the probability of a given response as a function of a test taker’s true ability and one or more features of the items, such as its difficulty or discrimination. IRT can be used to calibrate items, link item parameter estimates, scale or equate test scores across different forms or test administrations, evaluate item performance, build an item bank, and assemble test forms.

This section describes how IRT models were used to calibrate all the operational field test items to establish the base IRT scale. All operational field test items that were not rejected by both the data review committees and the CDE were included in the calibration process.

#### Item Response Theory Model

The one-parameter logistic item response theory (1PL-IRT) model was used for the item calibration and was selected after consultation with the CDE. In particular, the generalized partial credit model (GPCM) (Muraki, 1992) restricted for 1PL-IRT, which is essentially the partial credit model (Masters, 1982), was applied to both dichotomous and polytomous items.

The mathematical form of the GPCM is presented in equation 8.7. *Refer to the* [*Alternative Text for Equation 8.7*](#_Alternative_Text_for_43) *for a description of this equation.*

 (8.7)

where,

 is the probability of student with proficiency  obtaining score *h* on item *i*,

*Mi* is the maximum number of score points for item *i*,

*ai* is the discrimination parameter, which is fixed to 0.588 for every item,

*bi* is the location parameter for item *i*,

*div* is the category parameter for item *i* on item score *v*,

*D* is a scaling constant of 1.7,

*c* indexes the item score, and

*v* indexes the non-zero item score.

When *Mi* = 1, equation 8.7 becomes an expression of the one-parameter logistic model for dichotomous items.

#### Data Preparation

Prior to IRT calibration analyses, ETS’ psychometricians reviewed the results of the classical item analyses to decide whether any items were of poor quality and needed to be removed from calibration. The results also were reviewed by ETS’ content experts and the CDE. The decision whether to remove items from calibration was made in consultation with the CDE.

For IRT calibration, scored item response data was used to create the IRT analysis input data files for each grade level. The IRT analysis input data file was a full matrix containing item-level scores for students who answered at least one expressive item and one receptive item.

Similar to the classical item analyses, “omit” items were treated as incorrect and “not presented” items were treated as blank.

#### Equating

Equating is a procedure where test scores, from different test forms assembled on the basis of the same specifications, are placed onto a reference scale so that scores from different test administrations are comparable. There are two approaches to equate the test forms: preequating and postequating.

A preequating design allows for conversion tables that describe the relationship between raw scores and scale scores, or theta scores and scale scores, to be established prior to the current test administration using data from prior administrations. Preequating relies on having a well-calibrated item bank, robust embedded field-testing processes, and stability in item performance over time.

A postequating design uses the data from the current administration to establish the raw-to-scale-score relationship for the current administration’s form.

Both preequating and postequating involve a common‑item nonequivalent groups design (Kolen & Brennan, 2004).

For all assessments, regardless of whether they are preequated or postequated, IRT calibration and linking were conducted to put the field test item parameters onto the base IRT scale.

The Summative Alternate ELPAC was postequated to the baseline scale established in the 2021–22 administration using the data from the 2022–23 administration.

##### Calibration

After the 2022–23 Summative Alternate ELPAC administration, all operational items within each assessment (grade level and item type [expressive or receptive]) were calibrated using all available data.

FlexMIRT (Cai, 2017), a multilevel and multiple-group IRT software package for item analysis and test scoring, was used for item calibration analysis. This software can fit a variety of IRT models to both single-level and multilevel data that are dichotomous, polytomous, or both, and was chosen for its superior flexibility among IRT software programs.

The evaluation of the calibration results includes the following steps:

1. Reviewing the item parameter estimates to examine whether these estimates were reasonable
   1. At the form level, the summary statistics for the *b*-parameter estimates (location difficulty) and *d*-parameter estimates (step parameter) were examined, including the mean, SD, median, minimum, maximum, and goodness-of-fit.
   2. At the item level, statistics of individual items were examined, including item difficulty estimates, model-fit statistics, and the IRT-based item parameters.
2. Flagging items that did not perform as expected (All flagged items were discussed thoroughly with the CDE to decide whether those items should be removed from calibration or whether the scoring categories need to be collapsed.)

The calibration process was paralleled by two ETS psychometricians to ensure quality and accuracy of results. Specifically, two psychometricians independently created flexMIRT control files and ran the same input data files and then compared the calibration results. Any differences in the output were investigated. Refer to section [*9.6 Quality Control of Psychometric Processes*](#_Quality_Control_of_2) for more details of this procedure.

##### Equating of the Operational Form

The new items in the assessments for each grade level and grade span were linked to a calibrated item pool using a common-item nonequivalent groups design (Kolen & Brennan, 2004). The base scales for the Summative Alternate ELPAC were established on the basis of data from the 2021–22 administration. The linking of the new operational form onto the 2021–22 base scale is done through a set of linking items (i.e., anchor set) selected from the calibrated item pool and readministered in the current test administration for each grade level or grade span.

After IRT calibration was performed with the 2022–23 test administration’s items, the complete set of anchor items was used to calculate the linking constants to place the item parameters onto the 2021–22 scale by using the mean-to-mean method described in the next subsection. The linking process was carried out iteratively by inspecting differences between the transformed 2022–23 item estimates and base estimates for the anchor items and by removing items for which the item difficulty estimates changed significantly; this is called the robust-z procedure. Robust-z is also described in more detail in subsection [*8.4.3.2.2 Robust-Z Procedure*](#_Robust-Z_Procedure).

###### Mean-to-Mean Transformation

The item difficulty estimates from a new form of calibration may not be comparable to those from the 2021–22 calibration. The difficulty estimates based on a typical year’s data need to be transformed onto the base scale to make them comparable to the item bank parameters.

The mean-to-mean transformation assumes that the item bank and the new form difficulty values differ by a constant; that is, the item bank and the new form difficulty values can be made comparable by adding the same constant for all items. If this assumption is correct, then that constant is the difference between the means of the anchor items from the item bank and the new form difficulty values for the anchor items.

An iterative procedure was implemented to calculate the linking constants using common items in the item bank and the typical year’s administration. For each iteration of linking constants computation, the procedure described in subsection [*8.4.3.2.2 Robust-Z Procedure*](#_Robust-Z_Procedure)is intended to inspect the differences between the transformed new (current administration) and base (2021–22) estimates for the anchor items and remove anchor items for which the item difficulty estimates changed significantly.

There were eight steps involved in making mean-to-mean transformation:

1. Identify the anchor items in both the item bank (2021–22 administration) and the current administration.
2. Obtain the item difficulty parameters (*b*-values) of these anchor items that are on the base scale from the item bank.
3. Obtain the item difficulty parameters (*b*-values) of these anchor items from the calibration of the new form.
4. Calculate the average item difficulty for the anchor set on the base scale.
5. Calculate the average item difficulty for the anchor set from the calibration of the new form.
6. Obtain the transformation constant by taking the difference between the two average item difficulties (*b*-values)—using the average item difficulty for the anchor set on the base scale and subtracting the average item difficulty for the anchor set from the calibration of the new form.
7. Obtain a set of adjusted item difficulty parameters (*b*-values) by applying the linking constant to the item difficulty parameters of the anchor items from the new form.
8. Remove anchor items by following the procedure as described in subsection [*8.4.3.2.2 Robust-Z Procedure*](#_Robust-Z_Procedure). The iteration process continues by removing one unstable anchor in each round until no additional items are identified with significant differences between the item difficulty estimates for adjusted new and base items.

###### Robust-Z Procedure

To identify any unstable anchor items, ETS used an outlier detection procedure based on the robust-z statistic (Huynh, 2000; Huynh & Rawls, 2009). In this application, robust-z, as described in equation 8.8, was calculated on the basis of on the distribution of the difficulty difference for the anchor items between the item bank and the new form in a typical-year administration. *Refer to the* [*Alternative Text for Equation 8.8*](#_Alternative_Text_for_44) *for a description of this equation.*

 (8.8)

where,

*D* is the difference between the base and transformed new item difficulty of an anchor item;

*MdD* is the median of a distribution of *D* for all anchor items; and

*IQR* is the interquartile range of a distribution of *D* for all anchor items, which is defined as the difference between the third quartile (Q3) and the first quartile (Q1) when all the *D* values are rank ordered.

A large value of this statistic for any anchor item indicates that the reference item difficulty parameter and the new form item difficulty parameter for that item differed substantially.

The criterion for removing anchor items is that the robust-z value is greater than 1.645. One anchor item was removed at each iteration. The following criteria were evaluated at each iteration:

* The correlation between the reference item difficulty estimates and new form item difficulty estimates for the anchor sets should be no less than 0.95.
* The ratio of standard deviations of the reference item difficulty estimates and the new form item difficulty estimates for the anchor items should be between 0.90 and 1.1.

After each iteration, the mean difference of the anchor sets between the base item-difficulty estimates and the new form item difficulty estimates was recomputed on the basis of the remaining anchor items. Once the final anchor item set was obtained and the linking constant was calculated, ETS will evaluate the percentage of the final anchor items in the form. It is desired that the final anchor set is at least 40 percent of all items in the form. When the equating work was completed, ETS discussed the equating results with the CDE and received approval from the CDE. Removed anchor items were not used in the computation of the linking constants but were still included in calibration and for deriving raw-to-theta conversions.

After equating, the item parameters were linked to the base IRT scale. The raw-to-scale-score conversion table can be established using these parameter estimates. For detailed information on the method to establish the raw-to-scale-score conversion table, refer to section [*8.5 Scaling the Scores*](#_Toc120784038)*.*

#### Calibration and Linking for the Field Test Items

After each administration, the field test items will be calibrated and linked to the base scale.

##### Calibration

The calibration will be conducted using a sparse matrix combining all operational items and field test items from all versions within a grade level. Refer to subsection [*8.4.1 Item Response Theory Model*](#_Item_Response_Theory_1) for the IRT models and the software used in the calibration, subsection [*8.4.2 Data Preparation*](#_Data_Preparation_2) for the creation of the sparse matrix.

##### Linking

The item parameters obtained through the calibration are on a different scale and will be linked to the baseline scale using all operational items as anchors. The mean-to-mean linking procedures were used to link the item parameters to the baseline scale, and the robust-z method was used to check the stability of the anchors. Refer to subsection [*8.4.3.2.1 Mean-to-Mean Transformation*](#_Mean-to-Mean_Transformation) and subsection [*8.4.3.2.2 Robust-Z Procedure*](#_Robust-Z_Procedure) for more details on these methods.

#### Parameter Estimates

The overall summary of the IRT *b*-parameter estimates for all items is shown in table 8.7. The summary statistics, such as the minimum, maximum, mean, and SD values are also presented.

The number of items in each of the *b*-parameter intervals is shown for each grade level or grade span. The means of *b*-parameter estimates ranged from −1.46 to 0.53. The mean item difficulty level decreased for higher grade levels or grade spans. Overall, there were not many items with large *b-*parameters (i.e., very difficult items), and all *b*-parameters were within acceptable ranges.

Table 8.7 Distribution of *b*-values

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| IRT *b*-value | Kindergarten | Grade 1 | Grade 2 | Grade Span 3–5 | Grade Span 6–8 | Grade Span 9–10 | Grade Span 11–12 |
| −4.0 ≤ b < −3.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| −3.8 ≤ b < −3.6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| −3.6 ≤ b < −3.4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| −3.4 ≤ b < −3.2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| −3.2 ≤ b < −3.0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| −3.0 ≤ b < −2.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| −2.8 ≤ b < −2.6 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| −2.6 ≤ b < −2.4 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| −2.4 ≤ b < −2.2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| −2.2 ≤ b < −2.0 | 0 | 1 | 0 | 2 | 1 | 0 | 1 |
| −2.0 ≤ b < −1.8 | 0 | 0 | 0 | 1 | 1 | 1 | 2 |
| −1.8 ≤ b < −1.6 | 0 | 0 | 1 | 0 | 1 | 2 | 2 |
| −1.6 ≤ b < −1.4 | 1 | 0 | 0 | 0 | 4 | 6 | 4 |
| −1.4 ≤ b < −1.2 | 0 | 0 | 1 | 0 | 2 | 2 | 4 |
| −1.2 ≤ b < −1.0 | 1 | 0 | 1 | 3 | 2 | 3 | 0 |
| −1.0 ≤ b < −0.8 | 0 | 0 | 0 | 3 | 2 | 2 | 2 |
| −0.8 ≤ b < −0.6 | 0 | 3 | 0 | 2 | 0 | 0 | 0 |
| −0.6 ≤ b < −0.4 | 0 | 2 | 1 | 3 | 3 | 1 | 1 |
| −0.4 ≤ b < −0.2 | 2 | 1 | 2 | 4 | 1 | 1 | 0 |
| −0.2 ≤ b < 0.0 | 1 | 1 | 4 | 0 | 1 | 0 | 2 |
| 0.0 ≤ b < 0.2 | 3 | 3 | 4 | 0 | 2 | 1 | 2 |
| 0.2 ≤ b < 0.4 | 1 | 2 | 2 | 4 | 1 | 1 | 0 |
| 0.4 ≤ b < 0.6 | 2 | 5 | 3 | 0 | 0 | 0 | 0 |
| 0.6 ≤ b < 0.8 | 1 | 3 | 2 | 1 | 0 | 0 | 0 |
| 0.8 ≤ b < 1.0 | 5 | 3 | 2 | 0 | 0 | 1 | 0 |
| 1.0 ≤ b < 1.2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1.2 ≤ b < 1.4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1.4 ≤ b < 1.6 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 1.6 ≤ b < 1.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1.8 ≤ b < 2.0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2.0 ≤ b < 2.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2.2 ≤ b < 2.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2.4 ≤ b < 2.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2.6 ≤ b < 2.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2.8 ≤ b < 3.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.0 ≤ b < 3.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.2 ≤ b < 3.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.4 ≤ b < 3.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.6 ≤ b < 3.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.8 ≤ b ≤ 4.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minimum | −1.59 | −2.06 | −1.76 | −2.06 | −3.54 | −3.31 | −3.77 |
| Maximum | 1.98 | 0.99 | 1.85 | 1.43 | 0.23 | 0.85 | 0.15 |
| Mean | 0.53 | 0.10 | 0.07 | −0.54 | −1.19 | −1.26 | −1.46 |
| SD | 0.83 | 0.72 | 0.76 | 0.85 | 0.93 | 0.92 | 0.94 |
| **Number of Items** | **24** | **24** | **24** | **24** | **24** | **24** | **24** |

The detailed information on item difficulty parameter *b,* the standard error of *b*-parameters, as well as the step parameters *d* for the polytomous items for all operational items are presented in table 8.C.1 through table 8.C.7 in [appendix 8.C](#_Appendix_8.C:_Item).

The item–person maps by grade level or grade span are provided in table 8.C.8 through table 8.C.14 in [appendix 8.C](#_Appendix_7.C:_Item). The item–person maps plot the item difficulty distribution side by side with the ability distribution of students and provide information on the alignment of item difficulty with students’ abilities. All of the item–person maps indicate the assessment can benefit from more difficult items to provide a better measure for the Level 3 threshold at all grade levels and grade spans.

### Scaling the Scores

The raw scores on each new form were transformed to scale scores on the reference scale using a two-step procedure. First, the number-correct scores (raw scores) were transformed to ability (theta) scores on the reference scale by the inverse test characteristic curve (TCC) procedure described in the next subsection. Then, these ability (theta) scores were transformed to scale scores through the linear transformation described in subsection [*8.5.2 Transformation from Theta Scores to Scale Scores*](#_Transformation_from_Theta_3).

The raw-to-scale-score conversion tables for each grade level or grade span are included in table 8.F.1 through table 8.F.7 in [appendix 8.F](#_Appendix_8.G:_Raw-to-Scale-Score).

#### Inverse Test Characteristic Curve Procedure

After all the item difficulty estimates are transformed to the reference scale, students’ overall ability estimates can be derived from the input data file that was described in subsection [*8.4.2 Data Preparation*](#_Data_Preparation_2)*,* through the IRT inverse TCC method (Stocking, 1996). This method transforms the sum of the student’s item scores into an ability estimate. That estimate is the ability value that makes the sum of the expected scores on the items administered to the student equal to the sum of the scores that the student actually received on those items.

The TCC expresses the expected total score on a set of items as a function of the student’s ability, which is shown in equation 8.9. *Refer to the* [*Alternative Text for Equation 8.9*](#_Alternative_Text_for_45) *for a description of this equation.*

 (8.9)

where,

*i* indexes dichotomous items,

*j* indexes polytomous items,

*ndich* is the number of dichotomous items in the assessment,

*pi(θ)* is the probability of a correct response to item *i* at ability *θ* on the dichotomous item in equation 8.7,

*npoly* is the number of polytomous items in the assessment,

*m* is the number of score categories for each polytomous item,

*sxj* is the value for score category x for the polytomous item *j*,

*pxj(θ)* is the probability that an examinee with ability *θ* obtains score sx on the polytomous item *j* in equation 8.7, and

*ξ(θ)* is the corresponding expected total score.

#### Transformation from Theta Scores to Scale Scores

Students’ ability estimates (theta scores) were transformed to the scale score metric by applying a linear transformation based on threshold theta values. Those threshold values were determined after standard setting and approved by the California State Board of Education (SBE). There were two threshold theta values (for Level 2 and Level 3) for each grade level or grade span. The scaling transformation was the linear transformation that transformed the Level 2 threshold to scale score 44 and the Level 3 threshold to scale score 60 (refer to equations 8.10, 8.11, and 8.12). *Refer to the* [*Alternative Text for Equation 8.10*](#_Alternative_Text_for_46) *for a description of this equation.*

 (8.10)

where,

 denotes the scale score for student *j*,

 represents student ability estimate for student *j*,

*A* is the slope parameter (scaling factor) needed to transform theta to the scale score metric, and

*B* is the intercept parameter needed to transform theta to the scale score metric.

The slope and intercept parameters are derived by mapping the equated Level 2 and Level 3 threshold scores from the standard setting to the prespecified scale score threshold scores.

Specifically, if the IRT calibration is used, the slope and intercept in equation 8.10 are derived using the threshold scores from standard setting approved by the SBE ( and  in equations 8.11 and 8.12) and the desired threshold scale scores (two-digit scale score) ( and  in equations 8.11 and 8.12) using the following two formulas:

*Refer to the* [*Alternative Text for Equation 8.11*](#_Alternative_Text_for_47) *for a description of this equation.*

 (8.11)

*Refer to the* [*Alternative Text for Equation 8.12*](#_Alternative_Text_for_48) *for a description of this equation.*

 (8.12)

where,

 represents the threshold score for Level 3—Alternate on the reporting scale, which is set to be 60;

 represents the threshold score for Level 2—Alternate on the reporting scale, which is set to be 44;

 represents the threshold score for Level 3—Alternate on the theta scale; and

 represents the threshold score for Level 2—Alternate on the theta scale. (For more information on  and , refer to [*Chapter 6: Standard Setting*](#_Appendix_4.A:_Demographic).)

The slopes and intercepts for each grade level are shown in table 8.8. Also, refer to subsection [*7.1.3 Scale Scores for the Total Assessment*](#_Scale_Scores_for)for the special requirements for the Summative Alternate ELPAC reporting scale.

The 2022–23 student ability estimates that were derived from the IRT models using the linked item parameters were converted to the established score scales using the procedures and conversion constants described previously. The scale scores can be found through the raw-to-scale-score conversion tables presented in table 8.F.1 through table 8.F.7 in [appendix 8.F](#_Appendix_8.F:_Raw-to-Scale-Score).

Table 8.8 Slopes and Intercepts That Convert Theta Scores to Reporting Scale Scores

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Grade Level or Grade Span | Threshold Theta Score for Level 2—Alternate | Threshold Theta Score for Level 3—Alternate | Reporting Scale Score for Level 2—Alternate | Reporting Scale Score for Level 3—Alternate | Slope | Intercept |
| Kindergarten | −0.0341 | 1.4732 | 244 | 260 | 10.62 | 44.35 |
| 1 | −0.2819 | 1.1807 | 344 | 360 | 10.94 | 47.08 |
| 2 | −0.1351 | 1.2967 | 444 | 460 | 11.17 | 45.52 |
| 3ؘ–5 | −0.7329 | 1.0099 | 544 | 560 | 9.18 | 50.73 |
| 6–8 | −1.2416 | 0.5178 | 644 | 660 | 9.09 | 55.29 |
| 9–10 | −1.0927 | 0.9151 | 744 | 760 | 7.97 | 52.71 |
| 11–12 | −1.0927 | 0.9151 | 844 | 860 | 7.97 | 52.71 |

### Response Time Analyses

Response time analyses are conducted at the item level and the total test level. At the item level, timing information was collected by the delivery platform for each “page” (screen) that was presented to the students. Information about the time required to answer a single question is available only for items that appear on a page alone. When multiple items appear on a page, the response time is reported on the basis of the time required to answer all questions on the page. At the total test level, response times are calculated by summing the page durations for all items in the Summative Alternate ELPAC.

Response times for alternate assessments—the Summative Alternate ELPAC and the California Alternate Assessments (CAAs) for English language arts/literacy (ELA), mathematics, and science—should be interpreted with caution. These assessments are administered as a one-on-one interaction between test examiner and test taker. The test examiner typically needs to read the items to the student, following the *Directions for Administration;* then the student would take the time to respond to the item; and finally, the test examiner would record the responses or scores into the TDS. Some individualized instruction may also be allowed to provide support for students in need to respond to the items. The response times captured by the TDS may depend on how a test examiner administered the assessment, which, given the one-on-one nature for these assessments, could have very different meanings for different students. For instance, test sessions could include multiple breaks for students without the test examiner pausing the assessment in the TDS. Therefore, the response time information provided in this report is for information only and may not provide accurate indicators of how long it takes for students to complete the assessments.

Table 8.D.1 in [appendix 8.D](#_Appendix_8.D:_Response) provides summary statistics of response times for the Summative Alternate ELPAC, at the first, tenth, twenty-fifth, fiftieth, seventy-fifth, ninetieth, and ninety-ninth percentiles. Total test response times calculated for the fiftieth and ninetieth percentiles provide local educational agency (LEA) administrators with an indicator of how much time students required on average, as well as how much time might be needed for students who may require more time.

Because the response time distribution is often very skewed, the mean response time could be impacted by the unusually long response time at the end of the distribution. The median response time or response time at the fiftieth percentiles (i.e., half of the students spent that amount of time or less to finish the assessment) is more meaningful than the mean response time. The median testing time ranged from 12.19 minutes for grade span eleven and twelve at performance level 3 (scale score interval of 860–899) to 18.66 minutes for grade two at performance level 2 (scale score interval of 444–459). The ninety-ninth percentile of testing time (i.e., 99 percent of students completed the assessment within this testing time) ranged from 39.09 minutes for grade span eleven and twelve at performance level 3 (scale score interval of 860–899) to 100.92 minutes for grade span six through eight at performance level 1 (scale score interval of 601–643).

### Reliability Analyses

The reliability for a particular group of students’ test scores is the extent to which the scores would remain consistent if those same students were retested with a parallel version of the same assessment. There are many definitions of reliability (Haertel, 2006) that have their genesis in classical test theory and a variety of methods that can be used to estimate reliability.

The general concept of reliability concerns the extent to which the test scores measure *a particular construct* consistently. The variance in the distribution of test scores—essentially, the observed differences among individuals—is partly due to differences that are consistent and partly due to differences that are not consistent. The measure of variation associated with the first kind of differences—consistent differences—is called “true variance”; this would include actual differences in students’ knowledge. The measure of variation associated with the remaining differences—those that operate essentially at random—is called “error variance.” Error variance includes a variety of underlying differences such as selections of test content, which may cause a student’s test score to be slightly higher in one evaluation and slightly lower in another. Reliability is the proportion of total variance that is due to true variance. The standard error of measurement (SEM) is a statistic that characterizes the error variance.

Reliability coefficients range from zero to one. The higher the reliability coefficient for a set of scores, the more likely individuals are to obtain very similar scores upon repeated testing occasions, if the students do not change in their level of the knowledge or skills measured by the assessment.

#### Reliability Measures

In a specified population of students, the reliability of test scores, *X*, is defined as the proportion of the test score variance that is attributable to true differences in student abilities and is sometimes operationalized as the correlation between scores on two replications of the same testing procedure, .

Reliability coefficients may range from 0 to 1. The higher the reliability coefficient for a set of scores, the more likely students would be to obtain very similar scores if they were retested. In applied settings, the requirement of repeated administrations is impractical, and methodologies estimating reliability from relationships among student performances on items within a single test form are often used.

An IRT-based approach called marginal reliability (Green et al., 1984) can be used to estimate the reliability of the scores. The estimates of reliability coefficients reported here are for IRT-based ability estimates.

This reliability coefficient for theta estimates, , is defined on the basis of a single test administration, as shown in equation 8.13. *Refer to the* [*Alternative Text for Equation 8.13*](#_Alternative_Text_for_49) *for a description of this equation.*

 (8.13)

where,

*J* is the number of students who took the assessment,

 is the measure of variance in ability estimates, and

 is the squared conditional standard error of measurement (CSEM) (i.e., error variances) for student *j* with ability estimate .

#### Standard Error of Measurement

The SEM is a measure of how much students’ scores would vary from the scores they would earn on a perfectly reliable assessment. If it were possible to compute the error of measurement for each student’s score in a large group of students, these errors of measurement would have a mean of zero. These SEMs are an indication of how much the errors of measurement affect the students’ scores. The SEM is expressed in the same units as the test score, whether the units are in raw score or scale score metric.

The SEM is the square root of the error variance in the scores (i.e., the SD of the distribution of the differences between students’ observed scores and their true scores). The SEM is calculated using equation 8.14. *Refer to the* [*Alternative Text for Equation 8.14*](#_Alternative_Text_for_52) *for a description of this equation.*

 (8.14)

where,

 is the reliability estimated in equation 8.13,

 is the SD of the total test theta score, and

*A* is the slope of the scaling transformation of theta scoresto the reporting scale.

The SEM is useful in determining the confidence interval (CI) that likely captures a student’s true score. A student’s true score can be thought of as the mean of observed scores a student would earn over an infinite number of independent administrations of the assessment. Across those administrations, approximately 95 percent of the time the interval ranging from the student’s observed score minus 1.96 SEMs to the student’s observed score plus 1.96 SEMs would contain that student’s true score (Crocker & Algina, 1986). Therefore, this interval is called a 95 percent CI for the student’s true score. For example, if a student’s observed score on a given assessment equals 250 points and the SEM equals 5, one can be 95 percent confident that the student’s true score lies between 240 and 260 points (250  10).

Table 8.9 gives the mean and SD of the scale scores, the reliability, and the SEM for each grade level or grade span. These results indicate that the reliability estimates for all assessments are moderately high.

Table 8.9 Test Reliability of the Total Scores

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Grade Level or Grade Span | N Students | Mean | SD | Reliability | SEM |
| Kindergarten | 1,600 | 247 | 13.6 | 0.86 | 5.02 |
| Grade 1 | 1,460 | 348 | 15.1 | 0.87 | 5.34 |
| Grade 2 | 1,341 | 446 | 15.7 | 0.88 | 5.55 |
| Grade span 3–5 | 4,051 | 551 | 12.9 | 0.87 | 4.66 |
| Grade span 6–8 | 3,033 | 653 | 13.6 | 0.86 | 4.99 |
| Grade span 9–10 | 1,431 | 750 | 12.1 | 0.87 | 4.39 |
| Grade span 11–12 | 2,554 | 849 | 12.6 | 0.87 | 4.55 |

#### Student Group Reliabilities

The reliabilities were examined for various student groups that tested. The student groups included in these analyses were defined by their gender, ethnicity, primary disability type, economic status, enrollment in US schools, migrant status, military status, homeless status, and foster youth status. SEM information for the total test scores by grade level or grade span are reported for each student group.

Reliability values are estimates that approach the true reliability as the number of students whose scores contribute to the estimates increases. Reliabilities are not reported for samples that comprise 10 or fewer students. Results based on samples that contain 50 or fewer students should be interpreted with caution because these estimates may meaningfully deviate from the true reliability. In some cases, score reliabilities could not be estimated and are presented in the tables as “N/A.”

Table 8.E.1 through table 8.E.7 in [appendix 8.E](#_Appendix_8.E:_Reliability) present the overall test reliabilities for the various student groups. Most student groups in all seven grade levels or grade spans have reliability greater than 0.80. Note that the reliability of scores for the specific learning disability group is considerably lower than the reliability of scores for other student groups. The lowest reliability came from the specific learning disability in grade span six through eight, which was 0.24. The low reliability for this student group may likely be due to a lack of variation in student performance and is consistent with prior results—in the 2021–22 operational field test administration of the Summative Alternate ELPAC, the lowest reliability was from the same group in grade span six through eight, at 0.29.

#### Conditional Standard Errors of Measurement

Classical test theory assumes that the standard error of a test score is constant throughout the score range. While the assumption is probably reasonable in the mid-score ranges, it is less reasonable at the extremes of the score distribution. IRT expands the concept by providing estimates of the standard error at each score point on the distribution.

##### Methodology

CSEMs are estimated as part of the IRT-based scoring procedure. CSEMs for scale scores are based on IRT and are estimated as a function of measured ability. The CSEMs of theta scores (or of linearly transformed theta scores) are smaller at points of the scale in the test metric where more items are located. A student’s CSEM under the IRT framework is equal to the reciprocal of the square root of the test information function based on the items taken by each student. The CSEM for a student with proficiency  is calculated using equation 8.15. *Refer to the* [*Alternative Text for Equation 8.15*](#_Alternative_Text_for_53) *for a description of this equation.*

 (8.15)

where,

 is the test information for student *j* and is calculated using equation 8.16. *Refer to the* [*Alternative Text for Equation 8.16*](#_Alternative_Text_for_54) *for a description of this equation.*

 (8.16)

where,

*I* is the number of items on the test form, and

 is the item information of item *i* for student *j*.

Item information is calculated as presented in equation 8.17. *Refer to the* [*Alternative Text for Equation 8.17*](#_Alternative_Text_for_55) *for a description of this equation.*

 (8.17)

where,

 and  are the first and second order moments of the item score for item *i* for a student with theta score .

The expected score of item *i* for student *j* is calculated as presented in equation 8.18. *Refer to the* [*Alternative Text for Equation 8.18*](#_Alternative_Text_for_56) *for a description of this equation.*

 (8.18)

The expected squared score of item *i* for student *j* is calculated as presented in equation 8.19. *Refer to the* [*Alternative Text for Equation 8.19*](#_Alternative_Text_for_57) *for a description of this equation.*

 (8.19)

where,

is the probability of a student with proficiency  obtaining score *h* on item *i*, the computation of which is shown in equation 8.7; and

*Mi* is the maximum number of score points for item *i*.

CSEMs for scale scores are computed by transforming CSEMs of theta scores onto the reporting scale. Refer to subsection [*8.5.2* *Transformation from Theta Scores to Scale Scores*](#_Transformation_from_Theta_3)for scaling procedures. A student’s CSEM for scale scores under the IRT framework is equal to the CSEM for the theta score multiplied by the scaling factor *A*, as presented in equation 8.20. *Refer to the* [*Alternative Text for Equation 8.20*](#_Alternative_Text_for_58) *for a description of this equation.*

 (8.20)

where,

 is the CSEM on the scale score metric for student *j*;

 is the CSEM on the theta score metric for student *j* estimated in equation 8.15;

 is the  test information for student *j* as calculated in equation 8.16; and

*A* is the scaling factor (the slope) needed to transform theta to the scale score metric calculated in equation 8.11.

Table 8.10 presents the scale score CSEMs at the lowest score required for a student to be classified in the score reporting range two and score reporting range three for the Summative Alternate ELPAC.

Table 8.10 Scale Score CSEMs at the Score Reporting Range Thresholds

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Grade Level or Grade Span | Level 2‌―Score Reporting Range Threshold | Level 2‌—CSEM | Level 3‌―Score Reporting Range Threshold | Level 3‌—CSEM |
| Kindergarten | 244 | 4 | 260 | 4 |
| Grade 1 | 344 | 4 | 360 | 4 |
| Grade 2 | 444 | 4 | 460 | 5 |
| Grade span 3–5 | 544 | 3 | 560 | 4 |
| Grade span 6–8 | 644 | 3 | 660 | 4 |
| Grade span 9–10 | 744 | 3 | 760 | 4 |
| Grade span 11–12 | 844 | 3 | 860 | 5 |

The CSEMs for all score points are included in the raw-to-scale-score conversion tables for each grade level or grade span in table 8.F.1 through table 8.F.7 in [appendix 8.F](#_Appendix_7.G_=).

#### Decision Classification Analyses

When an assessment uses performance levels as the primary method to report test results, accuracy and consistency of decisions become key indicators of the quality of the assessment.

##### Methodology

The reliabilities of performance-level classifications, which are criterion referenced, are related to the reliabilities of the test scores on which they are based; however, they are not exactly the same. Glaser (1963) was among the first to draw attention to this distinction, and Feldt and Brennan (1989) reviewed the topic extensively. While test reliability evaluates the consistency of test scores, decision classification reliability evaluates the consistency of classification.

Decision accuracy is the extent to which students are classified in the same way as they would be if each student’s score were the average over all possible forms of the assessment (the student’s true score). Decision accuracy answers the following question: How closely does the actual classification of test takers, based on their single-form scores, agree with the classification that would be made on the basis of their true scores, if their true scores could somehow be known?

Decision consistency is the extent to which students are classified in the same way as they would be on the basis of a single form of an assessment other than the one for which data is available. Decision consistency answers the following question: What is the agreement between the classifications based on two nonoverlapping, equally difficult forms of the assessment?

The methodology used for estimating the reliability of classification decisions is described in Livingston and Lewis (1995). The necessary input information includes only the maximum and minimum possible scores on the assessment and the observed score distribution and the reliability coefficient for the group of students referenced by the estimates. The method was implemented by the ETS proprietary computer program RELCLASS-COMP (Version 4.14).

Reliability of classification at a threshold is estimated by combining the performance levels above a particular threshold and combining the performance levels below that threshold. The result is a two-by-two table indicating whether the students are above or below the threshold. The sum of the entries in the main diagonal is the number of students accurately (or consistently) classified as above or below that threshold.

Table 8.11 and table 8.12 illustrate these two-by-two contingency tables. The proportion of students being accurately classified is determined by summing across the diagonals of the upper tables. The proportion of consistently classified students is determined by summing the diagonals of the lower tables.

Table 8.11 Decision Accuracy for Reaching a Performance Level

|  |  |  |
| --- | --- | --- |
| Performance Level Status | Does Not Reach a Performance Level Based on True Score | Reaches a Performance Level Based on True Score |
| Does not reach a performance level | Correct classification | Incorrect classification |
| Reaches a performance level | Incorrect classification | Correct classification |

Table 8.12 Decision Consistency for Reaching a Performance Level

|  |  |  |
| --- | --- | --- |
| Performance Level Status | Does Not Reach a Performance Level Based on an Alternate Form | Reaches a Performance Level Based on an Alternate Form |
| Does not reach a performance level | Consistent classification | Inconsistent classification |
| Reaches a performance level | Inconsistent classification | Consistent classification |

The results of decision accuracy and consistency at each threshold performance level for the Summative Alternate ELPAC are presented in table 8.E.8 in [appendix 8.E](#_Chapter_7:_Psychometric) for all grade levels and grade spans.

At each threshold, the classification at adjacent performance levels has acceptable reliability and consistency. The classification accuracy ranged from 0.87 to 0.90 for the cut between Level 1 and Level 2, and from 0.87 to 0.91 for the cut between Level 2 and Level 3. The classification consistency ranged from 0.83 to 0.87 for the cut between Level 1 and Level 2, and 0.84 to 0.88 for the cut between Level 2 and Level 3. Overall, the accuracy ranged from 0.77 to 0.80 and classification consistency ranged from 0.70 to 0.73.

#### Interrater Agreement

The interrater reliability analyses are performed on approximately 10 percent of the overall testing population, randomly selected from the total population; those students’ responses are scored by two raters. The two sets of ratings are used to compute statistics describing the consistency (or reliability) of the ratings. This interrater consistency is described in three ways:

1. Percentage agreement between two raters
2. Cohen’s Kappa
3. Quadratic-weighted kappa (QWK) coefficient

In some scoring rubrics, zero is a valid score for the responses but is not provided by a rater. Instead, a score of zero is assigned when the student attempted the writing task but did not provide a response. Responses with zero scores should not be included in the calculation of the agreement statistics for these items.

##### Agreement Statistics

###### Percentage Agreement

Percentage agreement between two raters is frequently defined as the percentage of exact score agreement and adjacent score agreement. Exact score agreement means two raters give exact same scores. Adjacent score agreement means agreement between scores that differ by just one point. The percentage of exact score agreement is a stringent criterion, which tends to decrease with an increasing number of item score points. The fewer the item score points, the fewer degrees of freedom on which two raters can vary, and the higher the percentage of agreement.

###### Kappa

Interrater reliability or consistency is an indicator of homogeneity and is most frequently measured using Cohen’s Kappa statistic (1960), which takes chance agreement into account. For a human-scored item with *m+1* categories, one can construct an (*m+1)* × *(m+1)* rating table with scores provided by two raters, *X* and *Y*, as shown in table 8.13. Let n sub s t denote the number of responses for which rater *X’s* score = *s* and rater *Y’s* score = *t,* n sub s plus is the number of responses for which rater *X’s* score = *s*, n sub plus t is the number of responses for which rater *Y’s* score = *t*, and n sub plus plus is the number of all responses.

Table 8.13 Frequencies of Ratings

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Rating | Y = 0 | Y = 1 | Y = 2 | …\*\* | Y = m\* |
| X = 0 | n00 | n01 | n02 | … | n0m |
| X = 1 | N10 | n11 | n12 | … | n1m |
| X = 2 | n20 | n21 | n22 | … | n2m |
| … | … | … | … | … | … |
| X = m | nm0 | nm1 | nm2 | … | nmm |

\* m is the number of score categories of an item.

\*\* An ellipsis (…) signifies that there might be more rows (or columns) in the table.

*Refer to the* [*Alternative Text for Equation 8.21*](#_Alternative_Text_for_59) *for a description of this equation.* The kappa statistic is defined as

 (8.21)

*Refer to the* [*Alternative Text for Equation 8.22*](#_Alternative_Text_for_60) *for a description of this equation.*

 (8.22)

*Refer to the* [*Alternative Text for Equation 8.23*](#_Alternative_Text_for_61) *for a description of this equation.*

 (8.23)

where,

*pobs* is the observed agreement, and

*pexp* is the expected agreement between *X* and *Y*.

When *pobs* and *pexp* agree only at the chance level, the value of kappa is 0. When the two measurements agree perfectly, the value of kappa is 1.0.

###### Quadratic-Weighted Kappa

QWK is used because kappa does not take into account the degree of disagreement between raters. It is a generalization of the simple kappa coefficient using weights to quantify the relative difference between categories. The range of the QWK is from 0.0 to 1.0, with perfect agreement being equal to 1.0.

For a human-scored item with *m+1* categories, one can construct an (*m+1)* × *(m+1)* rating table with scores provided by two raters, *X* and *Y,* as described in table 8.13. The weighted kappa coefficient is defined as presented in equation 8.24. *Refer to the* [*Alternative Text for Equation 8.24*](#_Alternative_Text_for_62) *for a description of this equation.*

 (8.24)

For QWK, the weights are calculated using equation 8.25. *Refer to the* [*Alternative Text for Equation 8.25*](#_Alternative_Text_for_63) *for a description of this equation.*

 (8.25)

##### Results of Interrater Reliability

The interrater reliability statistics for each item in each grade level or grade span are shown in table 8.G.1 through table 8.G.7 in [appendix 8.G](#_Appendix_8.H:_Interrater). All rubric-scored items are two-point items. These tables show that 47 out of 66 items have a percentage exact agreement of at least 90 percent. All other items have a percentage exact agreement of no lower than 83 percent. The QWK ranged from 0.77 to 0.94 for all items across all grade levels or grade spans. This indicates the scoring has moderate to high interrater reliabilities.

### Validity Evidence

Validity refers to the degree to which each interpretation or use of a test score is supported by the accumulated evidence (American Educational Research Association [AERA], American Psychological Association [APA], & National Council on Measurement in Education [NCME], 2014; ETS, 2014). Concerns about validity drive the development, administration, and scoring of an assessment. Validity evidence also determines the appropriateness of test score interpretations and uses.

Validation is the process of accumulating evidence to support each proposed score interpretation or use. This validation process does not rely on a single study or gathering only one type of evidence. Rather, validation involves multiple investigations and different kinds of supporting evidence (AERA, APA, & NCME, 2014; Cronbach, 1971; ETS, 2014; Kane, 2006). It begins with the test design and is implicit throughout the entire assessment process, which includes item development and field testing, analyses of items, standard setting, test scaling and linking, scoring, reporting, and score usage.

In this section, the evidence gathered is presented to support the intended uses and interpretations of scores for the Summative Alternate ELPAC. This section discusses some of the principles prescribed by AERA, APA, and NCME’s *Standards for Educational and Psychological Testing* (2014). These *Standards* require a clear definition of the purpose of the assessment, a description of the constructs to be assessed, and the population to be assessed, as well as how the scores are to be interpreted and used.

The *Standards* identify five kinds of evidence that can provide support for score interpretations and uses:

1. Evidence based on test content
2. Evidence based on relations to other variables
3. Evidence based on response processes
4. Evidence based on internal structure
5. Evidence based on the consequences of testing

The next subsection defines the purpose of the Summative Alternate ELPAC, followed by a description and discussion of different kinds of validity evidence that have been gathered.

#### Design of the Summative Alternate ELPAC

##### Purpose

The Summative Alternate ELPAC is designed to assess students with the most significant cognitive disabilities whose IEP teams have designated the use of an alternate assessment on statewide assessments. The goal of the Initial Alternate ELPAC is to provide information to determine a student’s initial classification as an English learner (EL) or as initial fluent English proficient. The goal for the Summative Alternate ELPAC is to provide information on annual student progress toward English language proficiency (ELP) and support decisions on student reclassification as fluent English proficient.

##### The Constructs to Be Measured

The Summative Alternate ELPAC is designed to align with the 2012 *California English Language Development Standards: Kindergarten Through Grade 12* via the English Language Development Connectors (ELD Connectors), which reduce the depth, breadth, and complexity of the standards, as appropriate for students with the most significant cognitive disabilities. The ELD Connectors were developed through collaboration among California educators, the CDE, and ETS’ research and assessment experts, as well as with guidance from the Alternate ELPAC Test Design Advisory Team of four nationally recognized experts on the assessment of EL students with the most significant cognitive disabilities.

The ELD Connectors represent the highest level of expected performance in ELP for EL students with the most significant cognitive disabilities at a given grade level or grade span. The ELD Connectors are not intended to represent the full range of performance in ELP that may be measured by a standardized ELP assessment.

The test blueprint is used to measure students’ mastery of the ELD Connectors. They also provide an operational definition of the construct to which each set of standards refers and define the following for each content area:

* Subject to be assessed
* Tasks to be presented
* Administration instructions to be given
* Rules used to score student responses

The test blueprint controls as many aspects of the measurement procedure as possible so that the testing conditions will remain the same over test administrations (Cronbach, 1971) to minimize construct-irrelevant score variance (Messick, 1989).

ETS developed all Alternate ELPAC test items to conform to the SBE-approved ELD Connectors and test blueprint (CDE, 2019).

##### Interpretations and Uses of the Scores

Overall student performance is expressed as a scale score that is generated for the Summative Alternate ELPAC. The total score is also used to classify students in terms of their performance level, by applying threshold scores resulting from standard setting procedures.

The grade level– and grade span–performance level descriptors (PLDs) describe what students at each performance level know and can do, by grade level or grade span. The PLDs reflect the level of expectation on students’ performance on the contents aligned with ELD Connectors. California educators gathered to develop the grade level– or grade span–range PLDs using the general PLDs, which provided the number of reporting levels and the general definition of each reporting level. The importance of the grade level– or grade span–PLDs is that they define the knowledge or skill expectations at each performance level on a functional basis, define the standards as they apply to threshold scores, and give standardized meaning to scores or score ranges.

An LEA may use Summative Alternate ELPAC results to help make decisions about student placement in programs that support the student’s ongoing development toward ELP, student exit from EL programs, and student growth in proficiency while in EL programs. The Summative Alternate ELPAC, however, is a single measure of student performance and is intended to be used in combination with other relevant information in the decision-making process. Test scores must be interpreted cautiously when making decisions about students; other relevant information should be considered as well. It is advisable for parents/‌guardians to evaluate their child’s progress by looking at classroom work and progress reports in addition to the child’s Summative Alternate ELPAC results.

##### Intended Test Population

The Summative Alternate ELPAC is the required state assessment for ELP that must be administered to EL students, and potential EL students, in kindergarten through grade twelve (up to age twenty-one) who have been identified as having the most significant cognitive disabilities and who have been found eligible for alternate assessments by their IEP team.

#### Content

Evidence based on test content refers to traditional forms of content validity evidence, such as the rating (scoring) of test specifications and test items (Crocker et al., 1989; Sireci, 1998), as well as alignment methods for educational assessments that evaluate the interactions between curriculum frameworks, testing, and instruction (Rothman et al., 2002; Bhola, Impara, & Buckendahl, 2003; Martone & Sireci, 2009).

[Chapter 3](#_Item_Development_and_1) and [chapter 4](#_Toc122102494) of this technical report describe the procedures for item development and test assembly for the 2022–23 Summative Alternate ELPAC administration and include a description of the Alternate ELPAC blueprint, item review process, and procedures to review test forms to ensure appropriate content coverage and psychometric targets.

#### Response Processes

Validity evidence based on response processes refers to “evidence concerning the fit between the construct and the detailed nature of performance or response actually engaged in by students” (AERA et al., 2014, p. 12). This type of evidence generally includes documentation of activities such as

* systematic observations of test response behavior;
* showing the relationships of items intended to require demonstrations or applications of knowledge and skills to other measures that require similar levels of cognitive complexity in the content (i.e., teacher ratings of student performance); and
* evaluation of the reasoning processes students employ when solving test items (Embretson, 1983; Messick, 1989).

##### Observations of Test Response Behavior

An important step in developing the Summative Alternate ELPAC was conducting cognitive labs to understand how students interact with the assessment and to ensure that the assessment is accessible to all students in the intended population (CDE, 2020). The final report details all of the changes that were made to the assessment before the operational field test was administered, including steps taken to minimize construct irrelevance, improve face validity, and increase accessibility of items.

##### Teacher Ratings of Student Performance

[Chapter 10](#_In-Test_Survey_3) describes the in-test survey that accompanied the Summative Alternate ELPAC. This survey provided test administrators with an opportunity to provide ratings of students’ ELP based on their in-class performance. Overall, teachers’ ratings of students as EL (performance levels 1 and 2) or as fluent English proficient (performance level 3) agreed with the students’ classification based on their test results 75.2 percent of the time. This agreement rate fluctuated between 68.8 percent and 83.4 percent depending on grade level or grade span (ETS, 2023). The in-test survey will continue to be administered and evidence will continue to be collected in this area.

##### Testing Time Analysis

Testing time for each administration can be evaluated for consistency by examining the expected response processes for the items presented to students. The length of time it took students to complete an assessment was collected and analyzed to build a profile describing what a typical testing event looked like for expressive and receptive items separately at each grade level. In addition, variability in testing time was investigated to determine whether a student’s testing time should be viewed as unusual or irregular. It should be noted that the Summative Alternate ELPAC is untimed.

Students with no item responses and students who did not answer at least one expressive item and one receptive item were removed from these analyses. The remaining testing population is partitioned into three score intervals based on the performance level thresholds. Descriptive statistics of the time required to complete the total assessment are computed for each of the three groups. Refer to section [*8.6 Response Time Analyses*](#_Response_Time_Analyses) for more information and results.

Some cases of extremely long testing time may be attributed to students with special needs taking longer to complete the assessments or the assessment not being closed down properly. With that being said, the results should be interpreted with caution. The medians (fiftieth percentile) are more meaningful in the interpretation of the testing time comparisons because medians are less impacted by extreme values than means.

#### Relationship to Other Variables

Evidence based on *relations to other variables* can be evaluated using the correlation evidence between the Summative Alternate ELPAC and the CAAs for ELA, mathematics, and science, as they are provided for students with the most significant cognitive disabilities and the majority of students who take the Summative Alternate ELPAC take the CAAs. This type of evidence is essential for supporting the validity of certain inferences based on scores from the Summative Alternate ELPAC.

##### Relationship Between Summative Alternate ELPAC and California Alternate Assessment for English Language Arts/Literacy Test Scores

Table 8.14 presents the total number of students who took the Summative Alternate ELPAC and the matched and unmatched percentages. *Matched Percentage* represents the percentage of students who also took the CAA for ELA. *Not Matched Percentage* includes the percentage of students who took the Summative Alternate ELPAC but did not take the CAA for ELA. Kindergarten through grade two and grades nine, ten, and twelve are not included in this table because the CAA for ELA is not administered in these grade levels.

Table 8.14 also presents the correlations of Summative Alternate ELPAC and CAA for ELA scores. Correlations between 0.67 and 0.74 are observed; these values suggest that student scores are similarly ordered for the two assessments, which is consistent with their being measures of related skills and supports the assertion that the Summative Alternate ELPAC is an appropriate assessment for students with the most significant cognitive disabilities. These results are also consistent with the previous administration of these assessments. In the 2021–22 school year, these correlations ranged from 0.67 (in grade eleven) to 0.73 (in grade four).

Table 8.14 Correlation of Summative Alternate ELPAC and CAA for ELA Scores

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Grade Level | Number of Students Taking the Summative Alternate ELPAC | Matched Percentage | Not Matched Percentage | Number of Students Taking Both | Correlation |
| 3 | 1,505 | 93.55 | 6.45 | 1,408 | 0.72 |
| 4 | 1,475 | 94.37 | 5.63 | 1,392 | 0.72 |
| 5 | 1,398 | 93.78 | 6.22 | 1,311 | 0.72 |
| 6 | 1,210 | 93.97 | 6.03 | 1,137 | 0.73 |
| 7 | 1,116 | 93.55 | 6.45 | 1,044 | 0.74 |
| 8 | 1,083 | 93.17 | 6.83 | 1,009 | 0.67 |
| 11 | 869 | 86.65 | 13.35 | 753 | 0.67 |

##### Relationship Between Summative Alternate ELPAC and California Alternate Assessment for Mathematics Test Scores

Table 8.15 presents the total number of students who took the Summative Alternate ELPAC and the matched and unmatched percentages. *Matched Percentage* represents the percentage of students who also took the CAA for Mathematics. *Not Matched Percentage* includes the percentage of students who took the Summative Alternate ELPAC but did not take the CAA for Mathematics. Kindergarten through grade two and grades nine, ten, and twelve are not included in this table because the CAA for Mathematics is not administered in these grade levels.

Table 8.15 also presents the correlations of Summative Alternate ELPAC and CAA for Mathematics scores. Correlations between 0.63 and 0.68 are observed; these values suggest that the Summative Alternate ELPAC is an appropriate assessment for students with the most significant cognitive disabilities. These results are also consistent with the previous administration of these assessments. In the 2021–22 school year, these correlations ranged from 0.59 (in grade six) to 0.68 (in grade eight).

Table 8.15 Correlation of Summative Alternate ELPAC and CAA for Mathematics Scores

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Grade Level | Number of Students Taking the Summative Alternate ELPAC | Matched Percentage | Not Matched Percentage | Number of Students Taking Both | Correlation |
| 3 | 1,505 | 94.29 | 5.71 | 1,419 | 0.65 |
| 4 | 1,475 | 95.53 | 4.47 | 1,409 | 0.64 |
| 5 | 1,398 | 93.99 | 6.01 | 1,314 | 0.63 |
| 6 | 1,210 | 94.46 | 5.54 | 1,143 | 0.66 |
| 7 | 1,116 | 93.28 | 6.72 | 1,041 | 0.68 |
| 8 | 1,083 | 93.72 | 6.28 | 1,015 | 0.65 |
| 11 | 869 | 86.42 | 13.58 | 751 | 0.65 |

##### Relationship Between Summative Alternate ELPAC and California Alternate Assessment for Science Test Scores

Table 8.16 presents the total number of students who took the Summative Alternate ELPAC and the matched and unmatched percentages. *Matched Percentage* represents the percentage of students who also took the CAA for Science. *Not Matched Percentage* includes the percentage of students who took the Summative Alternate ELPAC but did not take the CAA for Science. Grade five, grade eight, and grades ten through twelve are shown in this table because these are the grade levels at which the CAA for Science is administered. The higher proportion of matched students at grades five and eight is because students take the CAA for Science only once during high school, so the potential high school sample is diluted across three different grade levels.

Table 8.16 presents the correlations of Summative Alternate ELPAC and CAA for Science scores. Correlations between 0.71 and 0.80 are observed; these values suggest that the Summative Alternate ELPAC is an appropriate assessment for students with the most significant cognitive disabilities. These results are also consistent with the previous administration of these assessments. In the 2021–22 school year, these correlations ranged from 0.58 (in grade ten) to 0.77 (in grade five).

Table 8.16 Correlation of Summative Alternate ELPAC and CAA for Science Scores

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Grade Level | Number of Students Taking the Summative Alternate ELPAC | Matched Percentage | Not Matched Percentage | Number of Students Taking Both | Correlation |
| 5 | 1,398 | 90.41 | 9.59 | 1,264 | 0.75 |
| 8 | 1,083 | 91.23 | 8.77 | 988 | 0.75 |
| 10 | 849 | 4.12 | 95.88 | 35 | 0.80 |
| 11 | 869 | 58.00 | 42.00 | 504 | 0.75 |
| 12 | 2,265 | 12.67 | 87.33 | 287 | 0.71 |

#### Internal Structure

Internal structure evidence evaluates the strength or salience of the major dimensions underlying an assessment using dimensionality evaluation, which includes DIF analyses. These analyses were conducted using the 2022–23 Summative Alternate ELPAC data.

##### Test Dimensionality

Results of the test dimensionality study are summarized in section 8.7 and appendix 8.E of the *Alternate ELPAC 2021–22 Operational Field Test Technical Report* (CDE, 2023b).

Evidence collected from the 2021–22 Alternate ELPAC operational field test data supported the receptive and expressive communication mode performances being reported together as a single Alternate ELPAC test score. This conclusion was based on the results of confirmatory factor analyses using correlated common factor model and bifactor models.

##### Differential Item Functioning

As described in section [*8.3 Differential Item Functioning Analysis*](#_Differential_Item_Functioning)*,* DIF analyses were conducted to assess differences in the item performance of groups of students who differ in their demographic characteristics. No items were identified as having significant levels of DIF for the gender and race or ethnicity groups. There were three items identified as having C-level DIF for the primary disability types, but all of these items were confirmed to be unbiased by a DIF review panel (refer to subsection [*8.3.4 Differential Item Functioning Analysis Results Summary*](#_Differential_Item_Functioning_3) for additional information).

##### Overall Reliability Estimates

The results of reliability and SEMs on the scale score for each assessment are presented in subsection [*8.7.2 Standard Error of Measurement*](#_Standard_Error_of_5). Results indicate that the scores for the Summative Alternate ELPAC are reliable.

##### Student Group Reliability Estimates

The reliabilities are also examined for various student groups. The student groups considered are based on gender, ethnicity, primary disability type, economic status, enrollment in US schools, migrant status, military status, homeless status, and foster youth status. These results are presented in subsection [*8.7.3 Student Group Reliabilities*](#_Student_Group_Reliabilities).

##### Reliability of Performance Classifications

The methodology used for estimating the reliability of classification decisions is described with the decision classification analyses in subsection [*8.7.5 Decision Classification Analyses*](#_Decision_Classification_Analyses).

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### Accessibility Information

#### Alternative Text for Equation 8.1

p value sub dich equals the fraction with the numerator the sum from j equals 1 to J sub i of X sub ij and the denominator J sub i end fraction. *(Return to* [*equation 8.1*](#EQ8_1)*.)*

#### Alternative Text for Equation 8.2

p value sub poly equals the fraction with the numerator the sum from j equals 1 to J sub i of X sub ij and the denominator J sub i times M sub i end fraction. *(Return to* [*equation 8.2*](#EQ8_2)*.)*

#### Alternative Text for Equation 8.3

r sub polyreg equals the fraction beta-hat times s sub tot divided by the square root of beta-hat squared times s squared sub tot plus 1. *(Return to* [*equation 8.3*](#EQ8_3)*.)*

#### Alternative Text for Equation 8.4

alpha sub MH equals the numerator open parenthesis the sum from m equals 1 to M of R sub rm times W sub fm divided by N sub tm close parenthesis divided by the denominator open parenthesis the sum from m equals 1 to M of R sub fm times W sub rm divided by N sub tm closed parenthesis. *(Return to* [*equation 8.4*](#EQ8_4)*.)*

#### Alternative Text for Equation 8.5

MH D-DIF equals negative 2.35 times the natural logarithm open bracket alpha sub MH close bracket. *(Return to* [*equation 8.5*](#EQ8_5)*.)*

#### Alternative Text for Equation 8.6

SMD equals the fraction with numerator the sum from m equals 1 to M of N sub fm times E sub fm and denominator the sum from m equals 1 to M of N sub fm end fraction minus the fraction with numerator the sum from m equals 1 to M of N sub fm times E sub rm and denominator the sum from m equals 1 to M of N sub fm end fraction equals the fraction with the numerator the sum from m equals 1 to M of D sub fm and the denominator m equals1 to M of N sub fm end fraction. *(Return to* [*equation 8.6*](#EQ8_6)*.)*

#### Alternative Text for Equation 8.7

p sub ih of theta-hat sub j equals the numerator exp open parenthesis the sum from v equals 1 to h of D times a sub i open parenthesis theta-hat sub j minus b sub i plus d sub iv close parenthesis close parenthesis divided by the denominator open parenthesis 1 plus the sum from c equals 1 to m sub i exp open parenthesis the sum from v equals 1 to c of D times a sub i open parenthesis theta-hat sub j minus b sub i plus d sub iv close parenthesis close parenthesis close parenthesis, if score h equals 1, 2, …, n sub i.

p sub ih of theta-hat sub j equals 1 divided by the denominator open parenthesis 1 plus the sum from c equals 1 to m sub i exp open parenthesis the sum from v equals 1 to c of D times a sub i open parenthesis theta-hat sub j minus b sub i plus d sub iv close parenthesis close parenthesis close parenthesis, if score h equals 0. *(Return to* [*equation 8.7*](#EQ8_7)*.)*

#### Alternative Text for Equation 8.8

z equals the numerator open absolute symbol, D subtracts Md sub D, close absolute symbol, divided by the denominator of 0.74 times IQR. *(Return to* [*equation 8.8*](#EQ8_8)*.)*

#### Alternative Text for Equation 8.9

epsilon of theta equals the sum from i equals 1 to n sub dich of P sub i of theta plus the sum from j equals 1 to n sub poly over each sum of x equals 1 to m of s sub xj times P sub xj of theta. *(Return to* [*equation 8.9*](#EQ8_9)*.)*

#### Alternative Text for Equation 8.10

SS sub j equals A times theta-hat plus B. *(Return to* [*equation 8.10*](#EQ8_10)*.)*

#### Alternative Text for Equation 8.11

A equals the numerator SS sub Level 3 minus SS sub Level 2 divided by the denominator theta-hat sub Level 3 minus theta-hat sub Level 2. *(Return to* [*equation 8.11*](#EQ8_11)*.)*

#### Alternative Text for Equation 8.12

B equals scale score sub Level 3 minus theta-hat sub Level 3 multiplied by the numerator open parentheses scale score sub Level 3 minus scale score sub Level 2 divided by the denominator theta-hat sub Level 3 minus theta-hat sub Level 2 close parentheses. *(Return to* [*equation 8.12*](#EQ8_12)*.)*

#### Alternative Text for Equation 8.13

rho sub theta-hat prime equals 1 minus the fraction with the numerator sum from j equals 1 to J of CSEM squared sub theta-hat sub j divided by the denominator J times s squared sub theta-hat. *(Return to* [*equation 8.13*](#EQ8_13)*.)*

#### Alternative Text for Equation 8.14

SEM sub scaled equals A times s sub theta-hat times the square root of 1 minus rho sub theta-hat prime. *(Return to* [*equation 8.14*](#EQ8_14)*.)*

#### Alternative Text for Equation 8.15

CSEM of theta-hat sub j equals 1 divided by the square root of I of theta sub j. *(Return to* [*equation 8.15*](#EQ8_15)*.)*

#### Alternative Text for Equation 8.16

I of theta-hat sub j equals the sum from i equals 1 to I of I sub i of theta-hat sub j. *(Return to* [*equation 8.16*](#EQ8_16)*.)*

#### Alternative Text for Equation 8.17

I sub i of theta-hat sub j equals open bracket s sub i2 of theta-hat sub j minus s sub i squared of theta-hat sub j. *(Return to* [*equation 8.17*](#EQ8_17)*.)*

#### Alternative Text for Equation 8.18

s sub i of theta-hat sub j equals the sum from h equals 0 to M sub i of h times p sub ih of theta-hat sub j. *(Return to* [*equation 8.18*](#EQ8_18)*.)*

#### Alternative Text for Equation 8.19

s sub i2 of theta-hat sub j equals the sum from h equals 0 to M sub I of h squared times p sub ih of theta-hat sub j. *(Return to* [*equation 8.19*](#EQ8_19)*.)*

#### Alternative Text for Equation 8.20

CSEM of SS sub j equals A times CSEM of theta-hat sub j. *(Return to* [*equation 8.20*](#EQ8_20)*.)*

#### Alternative Text for Equation 8.21

kappa equals the fraction with the numerator p sub obs minus p sub exp the denominator 1 minus p sub exp. *(Return to* [*equation 8.21*](#EQ8_21)*.)*

#### Alternative Text for Equation 8.22

P sub obs equals 1 divided by n times the sum from s equals 0 to m n sub ss. *(Return to* [*equation 8.22*](#EQ8_22)*.)*

#### Alternative Text for Equation 8.23

P sub exp equals 1 divided by n square times the sum from s equals 0 to m n sub s plus times n sub plus s. *(Return to* [*equation 8.23*](#EQ8_23)*.)*

#### Alternative Text for Equation 8.24

K sub ij equals open parenthesis the sum from i equals zero to m the sum from j equals zero to m of w sub ij times n sub ij divided by n sub plus plus close parenthesis minus open parenthesis the sum from i equals zero to m the sum from j equals zero to m of w sub ij times n sub I plus times n sub plus j divided by n squared sub plus plus close parenthesis divided open parenthesis 1 minus open parenthesis the sum from i equals zero to m the sum from j equals zero to m of w sub ij times n sub i plus times n sub plus j divided by n squared sub plus plus close parenthesis close parenthesis, K sub ij equals open parenthesis the sum from i equals zero to m the sum from j equals zero to m of w sub ij times n sub ij divided by n sub plus plus close parenthesis minus open parenthesis the sum from i equals zero to m the sum from j equals zero to m of w sub ij times n sub i plus times n sub plus j divided by n squared sub plus plus close parenthesis divided open parenthesis 1 minus open parenthesis the sum from i equals zero to m the sum from j equals zero to m of w sub ij times n sub i plus times n sub plus j divided by n squared sub plus plus close parenthesis close parenthesis. *(Return to* [*equation 8.24*](#EQ8_24)*.)*

#### Alternative Text for Equation 8.25

W sub ij equals 1 minus open parenthesis I minus j close parenthesis squared divided by m squared. *(Return to* [*equation 8.25*](#EQ8_25)*.)*

### Appendix 8.A: Classical Item Analyses Results

Notes: The following abbreviations are used in table 8.A.1 through table 8.A.7:

Item Types:

* D = dichotomous item
* P = polytomous item

Statistics:

* AIS = average item score

Flags:

* A = difficult item
* H = easy item
* Rpt = low item-total correlation
* P = positive distractor-total correlation
* O = high omit rate
* D = more high-scoring students chose a distractor

Table 8.A.1 Classical Item Statistics for Kindergarten

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Item Type | N | AIS | Item-Total Correlation | Percent Omit | Percent Score Point = 0 | Percent Score Point = 1 | Percent Score Point = 2 | Flag |
| VR052871 | D | 1,722 | 0.29 | 0.53 | 23 | 49 | 29 | N/A | A O |
| VR053826 | D | 1,722 | 0.78 | 0.74 | 12 | 10 | 78 | N/A | O |
| VR131679 | D | 1,722 | 0.27 | 0.53 | 23 | 49 | 27 | N/A | A O |
| VR131683 | D | 1,722 | 0.41 | 0.61 | 22 | 37 | 41 | N/A | O |
| VR131687 | D | 1,722 | 0.28 | 0.53 | 23 | 48 | 28 | N/A | A O |
| VR137085 | D | 1,722 | 0.70 | 0.65 | 14 | 16 | 70 | N/A | O |
| VR137753 | D | 784 | 0.65 | 0.62 | 16 | 18 | 65 | N/A | O |
| VR138924 | D | 1,722 | 0.50 | 0.63 | 19 | 31 | 50 | N/A | A O |
| VR138950 | D | 1,722 | 0.19 | 0.50 | 30 | 50 | 19 | N/A | A O |
| VR138982 | D | 1,722 | 0.56 | 0.74 | 20 | 24 | 56 | N/A | O |
| VR139666 | D | 1,722 | 0.42 | 0.63 | 24 | 34 | 42 | N/A | O |
| VR139673 | D | 1,722 | 0.49 | 0.67 | 22 | 28 | 49 | N/A | O |
| VR139729 | D | 1,722 | 0.31 | 0.52 | 25 | 44 | 31 | N/A | A O |
| VR154406 | D | 1,722 | 0.49 | 0.74 | 28 | 22 | 49 | N/A | O |
| VR154449 | D | 1,722 | 0.37 | 0.61 | 23 | 41 | 37 | N/A | O |
| VR154689 | D | 784 | 0.39 | 0.58 | 25 | 36 | 39 | N/A | O |
| VR154701 | D | 784 | 0.49 | 0.68 | 23 | 28 | 49 | N/A | O |
| VR170322 | D | 1,722 | 0.36 | 0.65 | 24 | 40 | 36 | N/A | O |
| VR244385 | D | 1,722 | 0.34 | 0.60 | 25 | 41 | 34 | N/A | O |
| VR292793 | D | 938 | 0.35 | 0.56 | 22 | 43 | 35 | N/A | O |
| VR292842 | D | 938 | 0.36 | 0.60 | 24 | 40 | 36 | N/A | O |
| VR292867 | D | 938 | 0.39 | 0.68 | 31 | 30 | 39 | N/A | O |
| VR294415 | D | 938 | 0.68 | 0.67 | 12 | 20 | 68 | N/A | O |
| VR131711 | P | 1,722 | 0.62 | 0.77 | 16 | 47 | 12 | 25 | O |
| VR139022 | P | 1,722 | 0.74 | 0.73 | 12 | 45 | 13 | 31 | [no flag] |
| VR139973 | P | 1,722 | 0.96 | 0.79 | 9 | 37 | 12 | 42 | [no flag] |
| VR140040 | P | 784 | 0.99 | 0.74 | 10 | 35 | 11 | 44 | [no flag] |
| VR154458 | P | 1,722 | 0.58 | 0.74 | 17 | 46 | 16 | 21 | O |
| VR154465 | P | 1,722 | 1.18 | 0.82 | 13 | 21 | 14 | 52 | [no flag] |
| VR154722 | P | 784 | 0.49 | 0.67 | 19 | 50 | 13 | 18 | O |
| VR154725 | P | 784 | 1.19 | 0.80 | 16 | 18 | 12 | 53 | O |
| VR215978 | P | 1,722 | 0.69 | 0.78 | 16 | 42 | 15 | 27 | O |
| VR216450 | P | 1,722 | 1.18 | 0.76 | 7 | 29 | 10 | 54 | [no flag] |
| VR223164 | P | 1,722 | 0.45 | 0.70 | 18 | 51 | 15 | 15 | O |
| VR291590 | P | 938 | 0.98 | 0.68 | 7 | 36 | 16 | 41 | [no flag] |
| VR292863 | P | 938 | 0.59 | 0.70 | 18 | 45 | 15 | 22 | O |

Table 8.A.2 Classical Item Statistics for Grade One

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Item Type | N | AIS | Item-Total Correlation | Percent Omit | Percent Score Point = 0 | Percent Score Point = 1 | Percent Score Point = 2 | Flag |
| VR053944 | D | 1,544 | 0.83 | 0.69 | 8 | 9 | 83 | N/A | [no flag] |
| VR130374 | D | 1,544 | 0.48 | 0.59 | 16 | 36 | 48 | N/A | O |
| VR130402 | D | 1,544 | 0.54 | 0.62 | 15 | 30 | 54 | N/A | O |
| VR130421 | D | 1,544 | 0.42 | 0.64 | 16 | 42 | 42 | N/A | O |
| VR133917 | D | 1,544 | 0.51 | 0.71 | 17 | 32 | 51 | N/A | O |
| VR133975 | D | 1,544 | 0.34 | 0.62 | 18 | 48 | 34 | N/A | O |
| VR134007 | D | 1,544 | 0.62 | 0.76 | 18 | 21 | 62 | N/A | O |
| VR137615 | D | 1,544 | 0.64 | 0.67 | 12 | 24 | 64 | N/A | O |
| VR137763 | D | 757 | 0.69 | 0.67 | 15 | 16 | 69 | N/A | O |
| VR138495 | D | 1,544 | 0.58 | 0.59 | 15 | 26 | 58 | N/A | O |
| VR138505 | D | 1,544 | 0.61 | 0.70 | 13 | 26 | 61 | N/A | O |
| VR138567 | D | 1,544 | 0.65 | 0.71 | 14 | 21 | 65 | N/A | O |
| VR138628 | D | 1,544 | 0.52 | 0.68 | 24 | 25 | 52 | N/A | O |
| VR150660 | D | 1,544 | 0.45 | 0.67 | 19 | 36 | 45 | N/A | O |
| VR150685 | D | 1,544 | 0.35 | 0.60 | 18 | 47 | 35 | N/A | O |
| VR150709 | D | 1,544 | 0.39 | 0.69 | 24 | 37 | 39 | N/A | O |
| VR154742 | D | 1,544 | 0.39 | 0.61 | 17 | 44 | 39 | N/A | O |
| VR154751 | D | 1,544 | 0.44 | 0.71 | 23 | 33 | 44 | N/A | O |
| VR288641 | D | 757 | 0.49 | 0.70 | 19 | 33 | 49 | N/A | O |
| VR288757 | D | 757 | 0.36 | 0.66 | 19 | 45 | 36 | N/A | O |
| VR291593 | D | 787 | 0.74 | 0.61 | 7 | 19 | 74 | N/A | [no flag] |
| VR292963 | D | 787 | 0.54 | 0.56 | 14 | 32 | 54 | N/A | O |
| VR292978 | D | 787 | 0.50 | 0.69 | 16 | 34 | 50 | N/A | O |
| VR293004 | D | 787 | 0.35 | 0.60 | 21 | 44 | 35 | N/A | O |
| VR053970 | P | 1,544 | 1.35 | 0.77 | 5 | 22 | 10 | 62 | [no flag] |
| VR130428 | P | 1,544 | 0.78 | 0.78 | 11 | 41 | 17 | 31 | [no flag] |
| VR133983 | P | 1,544 | 0.71 | 0.75 | 14 | 44 | 14 | 28 | [no flag] |
| VR137618 | P | 1,544 | 0.82 | 0.72 | 7 | 47 | 9 | 36 | [no flag] |
| VR137784 | P | 757 | 1.26 | 0.74 | 8 | 25 | 8 | 59 | [no flag] |
| VR150707 | P | 1,544 | 0.81 | 0.77 | 13 | 40 | 12 | 34 | [no flag] |
| VR154753 | P | 1,544 | 0.67 | 0.69 | 13 | 45 | 16 | 26 | [no flag] |
| VR154755 | P | 1,544 | 0.97 | 0.76 | 12 | 23 | 35 | 31 | [no flag] |
| VR288858 | P | 757 | 0.92 | 0.75 | 15 | 33 | 12 | 40 | [no flag] |
| VR288934 | P | 757 | 0.94 | 0.77 | 15 | 22 | 33 | 31 | O |
| VR291595 | P | 787 | 1.45 | 0.76 | 5 | 19 | 7 | 69 | [no flag] |
| VR292992 | P | 787 | 0.61 | 0.66 | 11 | 50 | 16 | 22 | [no flag] |

Table 8.A.3 Classical Item Statistics for Grade Two

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Item Type | N | AIS | Item-Total Correlation | Percent Omit | Percent Score Point = 0 | Percent Score Point = 1 | Percent Score Point = 2 | Flag |
| VR061015 | D | 683 | 0.71 | 0.60 | 8 | 20 | 71 | N/A | [no flag] |
| VR130352 | D | 1,425 | 0.44 | 0.65 | 12 | 44 | 44 | N/A | O |
| VR130367 | D | 1,425 | 0.50 | 0.72 | 12 | 38 | 50 | N/A | O |
| VR130401 | D | 1,425 | 0.35 | 0.67 | 13 | 52 | 35 | N/A | O |
| VR130438 | D | 1,425 | 0.50 | 0.70 | 13 | 38 | 50 | N/A | O |
| VR134637 | D | 1,425 | 0.49 | 0.62 | 14 | 37 | 49 | N/A | O |
| VR134649 | D | 1,425 | 0.52 | 0.71 | 18 | 30 | 52 | N/A | O |
| VR134668 | D | 1,425 | 0.39 | 0.67 | 19 | 42 | 39 | N/A | O |
| VR140204 | D | 1,425 | 0.68 | 0.66 | 9 | 23 | 68 | N/A | [no flag] |
| VR140495 | D | 1,425 | 0.53 | 0.68 | 12 | 35 | 53 | N/A | O |
| VR140498 | D | 1,425 | 0.41 | 0.70 | 16 | 42 | 41 | N/A | O |
| VR140501 | D | 1,425 | 0.71 | 0.75 | 11 | 19 | 71 | N/A | O |
| VR140520 | D | 1,425 | 0.57 | 0.69 | 16 | 27 | 57 | N/A | O |
| VR151565 | D | 1,425 | 0.39 | 0.59 | 17 | 45 | 39 | N/A | O |
| VR151573 | D | 1,425 | 0.43 | 0.67 | 14 | 43 | 43 | N/A | O |
| VR151643 | D | 1,425 | 0.20 | 0.47 | 24 | 56 | 20 | N/A | A O |
| VR155513 | D | 1,425 | 0.50 | 0.73 | 12 | 37 | 50 | N/A | O |
| VR155674 | D | 1,425 | 0.34 | 0.62 | 13 | 53 | 34 | N/A | O |
| VR193816 | D | 1,425 | 0.79 | 0.69 | 7 | 15 | 79 | N/A | [no flag] |
| VR289153 | D | 683 | 0.42 | 0.46 | 13 | 45 | 42 | N/A | O |
| VR289163 | D | 683 | 0.56 | 0.62 | 11 | 32 | 56 | N/A | O |
| VR291620 | D | 742 | 0.78 | 0.65 | 8 | 13 | 78 | N/A | [no flag] |
| VR293213 | D | 742 | 0.44 | 0.69 | 14 | 42 | 44 | N/A | O |
| VR293216 | D | 742 | 0.57 | 0.70 | 13 | 30 | 57 | N/A | O |
| VR293221 | D | 742 | 0.67 | 0.70 | 16 | 17 | 67 | N/A | O |
| VR061021 | P | 683 | 1.38 | 0.76 | 6 | 20 | 10 | 64 | [no flag] |
| VR134677 | P | 1,425 | 0.83 | 0.76 | 10 | 43 | 12 | 35 | [no flag] |
| VR140209 | P | 1,425 | 1.26 | 0.78 | 5 | 26 | 12 | 57 | [no flag] |
| VR151624 | P | 1,425 | 0.69 | 0.73 | 12 | 47 | 14 | 27 | [no flag] |
| VR155670 | P | 1,425 | 0.98 | 0.77 | 10 | 21 | 39 | 30 | [no flag] |
| VR193828 | P | 1,425 | 1.15 | 0.71 | 4 | 28 | 19 | 48 | [no flag] |
| VR223063 | P | 1,425 | 1.01 | 0.77 | 9 | 21 | 39 | 31 | [no flag] |
| VR289172 | P | 683 | 0.72 | 0.71 | 11 | 44 | 19 | 27 | [no flag] |
| VR289185 | P | 683 | 1.09 | 0.73 | 10 | 17 | 38 | 35 | [no flag] |
| VR291621 | P | 742 | 1.45 | 0.79 | 4 | 20 | 8 | 69 | [no flag] |
| VR293219 | P | 742 | 0.62 | 0.65 | 11 | 46 | 24 | 19 | [no flag] |

Table 8.A.4 Classical Item Statistics for Grade Span Three Through Five

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Item Type | N | AIS | Item-Total Correlation | Percent Omit | Percent Score Point = 0 | Percent Score Point = 1 | Percent Score Point = 2 | Flag |
| VR053988 | D | 4,283 | 0.81 | 0.69 | 5 | 14 | 81 | N/A | [no flag] |
| VR131591 | D | 4,283 | 0.53 | 0.70 | 8 | 39 | 53 | N/A | [no flag] |
| VR131622 | D | 4,283 | 0.56 | 0.62 | 7 | 37 | 56 | N/A | [no flag] |
| VR131627 | D | 4,283 | 0.44 | 0.51 | 11 | 46 | 44 | N/A | O |
| VR131628 | D | 4,283 | 0.66 | 0.74 | 11 | 23 | 66 | N/A | O |
| VR140200 | D | 4,283 | 0.65 | 0.76 | 11 | 24 | 65 | N/A | O |
| VR140214 | D | 4,283 | 0.56 | 0.74 | 8 | 36 | 56 | N/A | [no flag] |
| VR140221 | D | 4,283 | 0.58 | 0.74 | 11 | 30 | 58 | N/A | O |
| VR144415 | D | 4,283 | 0.81 | 0.72 | 6 | 13 | 81 | N/A | [no flag] |
| VR145701 | D | 4,283 | 0.80 | 0.75 | 7 | 13 | 80 | N/A | [no flag] |
| VR145817 | D | 4,283 | 0.63 | 0.68 | 7 | 30 | 63 | N/A | [no flag] |
| VR145916 | D | 4,283 | 0.65 | 0.67 | 7 | 28 | 65 | N/A | [no flag] |
| VR146024 | D | 4,283 | 0.69 | 0.72 | 10 | 21 | 69 | N/A | [no flag] |
| VR151042 | D | 4,283 | 0.46 | 0.55 | 11 | 43 | 46 | N/A | O |
| VR151060 | D | 4,283 | 0.38 | 0.65 | 12 | 51 | 38 | N/A | O |
| VR151083 | D | 4,283 | 0.25 | 0.42 | 14 | 61 | 25 | N/A | A O |
| VR155150 | D | 4,283 | 0.53 | 0.71 | 11 | 36 | 53 | N/A | O |
| VR155166 | D | 4,283 | 0.58 | 0.71 | 11 | 31 | 58 | N/A | O |
| VR289091 | D | 2,113 | 0.73 | 0.70 | 10 | 17 | 73 | N/A | O |
| VR289099 | D | 2,113 | 0.55 | 0.72 | 10 | 35 | 55 | N/A | O |
| VR291624 | D | 4,283 | 0.83 | 0.68 | 5 | 12 | 83 | N/A | [no flag] |
| VR292509 | D | 2,170 | 0.54 | 0.57 | 8 | 38 | 54 | N/A | [no flag] |
| VR292516 | D | 2,170 | 0.54 | 0.66 | 9 | 37 | 54 | N/A | [no flag] |
| VR292870 | D | 2,170 | 0.62 | 0.73 | 7 | 31 | 62 | N/A | [no flag] |
| VR053990 | P | 4,283 | 1.43 | 0.71 | 4 | 19 | 12 | 66 | [no flag] |
| VR140236 | P | 4,283 | 0.84 | 0.79 | 8 | 41 | 19 | 33 | [no flag] |
| VR144428 | P | 4,283 | 1.42 | 0.80 | 5 | 20 | 9 | 66 | [no flag] |
| VR151097 | P | 4,283 | 0.81 | 0.73 | 9 | 42 | 16 | 33 | [no flag] |
| VR155154 | P | 4,283 | 1.24 | 0.74 | 7 | 14 | 35 | 44 | [no flag] |
| VR155163 | P | 4,283 | 1.13 | 0.78 | 7 | 19 | 34 | 40 | [no flag] |
| VR289104 | P | 2,113 | 1.04 | 0.77 | 9 | 32 | 14 | 45 | [no flag] |
| VR289115 | P | 2,113 | 1.17 | 0.76 | 8 | 16 | 36 | 40 | [no flag] |
| VR291625 | P | 4,283 | 1.49 | 0.75 | 4 | 18 | 9 | 70 | [no flag] |
| VR292971 | P | 2,170 | 1.11 | 0.71 | 8 | 31 | 13 | 49 | [no flag] |

Table 8.A.5 Classical Item Statistics for Grade Span Six Through Eight

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Item Type | N | AIS | Item-Total Correlation | Percent Omit | Percent Score Point = 0 | Percent Score Point = 1 | Percent Score Point = 2 | Flag |
| VR054031 | D | 3,340 | 0.91 | 0.73 | 3 | 5 | 91 | N/A | [no flag] |
| VR132196 | D | 3,340 | 0.73 | 0.75 | 6 | 21 | 73 | N/A | [no flag] |
| VR132209 | D | 3,340 | 0.71 | 0.75 | 6 | 23 | 71 | N/A | [no flag] |
| VR132300 | D | 3,340 | 0.47 | 0.41 | 7 | 46 | 47 | N/A | [no flag] |
| VR132305 | D | 3,340 | 0.67 | 0.77 | 7 | 26 | 67 | N/A | [no flag] |
| VR133740 | D | 3,340 | 0.75 | 0.76 | 7 | 18 | 75 | N/A | [no flag] |
| VR133759 | D | 3,340 | 0.70 | 0.70 | 7 | 23 | 70 | N/A | [no flag] |
| VR133797 | D | 3,340 | 0.72 | 0.74 | 8 | 21 | 72 | N/A | [no flag] |
| VR146736 | D | 3,340 | 0.83 | 0.75 | 5 | 13 | 83 | N/A | [no flag] |
| VR148853 | D | 3,340 | 0.62 | 0.73 | 8 | 29 | 62 | N/A | [no flag] |
| VR148858 | D | 3,340 | 0.50 | 0.71 | 8 | 41 | 50 | N/A | [no flag] |
| VR148916 | D | 3,340 | 0.47 | 0.57 | 10 | 44 | 47 | N/A | [no flag] |
| VR150141 | D | 3,340 | 0.78 | 0.76 | 7 | 15 | 78 | N/A | [no flag] |
| VR150176 | D | 3,340 | 0.58 | 0.71 | 7 | 35 | 58 | N/A | [no flag] |
| VR150177 | D | 3,340 | 0.83 | 0.78 | 5 | 12 | 83 | N/A | [no flag] |
| VR150178 | D | 3,340 | 0.72 | 0.75 | 7 | 22 | 72 | N/A | [no flag] |
| VR166709 | D | 3,340 | 0.57 | 0.61 | 6 | 37 | 57 | N/A | [no flag] |
| VR167935 | D | 3,340 | 0.67 | 0.71 | 8 | 26 | 67 | N/A | [no flag] |
| VR289202 | D | 1,667 | 0.65 | 0.74 | 8 | 26 | 65 | N/A | [no flag] |
| VR289208 | D | 1,667 | 0.68 | 0.75 | 8 | 24 | 68 | N/A | [no flag] |
| VR291636 | D | 3,340 | 0.78 | 0.59 | 4 | 18 | 78 | N/A | [no flag] |
| VR292985 | D | 1,673 | 0.72 | 0.70 | 6 | 22 | 72 | N/A | [no flag] |
| VR292991 | D | 1,673 | 0.73 | 0.62 | 7 | 20 | 73 | N/A | [no flag] |
| VR293014 | D | 1,673 | 0.66 | 0.74 | 8 | 26 | 66 | N/A | [no flag] |
| VR133811 | P | 3,340 | 1.11 | 0.80 | 7 | 27 | 22 | 45 | [no flag] |
| VR146758 | P | 3,340 | 1.45 | 0.79 | 4 | 20 | 7 | 69 | [no flag] |
| VR148864 | P | 3,340 | 1.16 | 0.81 | 6 | 29 | 13 | 51 | [no flag] |
| VR167959 | P | 3,340 | 0.89 | 0.76 | 7 | 38 | 22 | 34 | [no flag] |
| VR167974 | P | 3,340 | 1.29 | 0.77 | 6 | 14 | 32 | 48 | [no flag] |
| VR213047 | P | 3,340 | 1.66 | 0.75 | 3 | 10 | 7 | 80 | H |
| VR289210 | P | 1,667 | 1.08 | 0.79 | 8 | 30 | 17 | 45 | [no flag] |
| VR289212 | P | 1,667 | 1.30 | 0.77 | 7 | 13 | 30 | 50 | [no flag] |
| VR291640 | P | 3,340 | 1.38 | 0.67 | 4 | 21 | 13 | 63 | [no flag] |
| VR293010 | P | 1,673 | 1.09 | 0.75 | 5 | 30 | 21 | 44 | [no flag] |

Table 8.A.6 Classical Item Statistics for Grade Span Nine and Ten

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Item Type | N | AIS | Item-Total Correlation | Percent Omit | Percent Score Point = 0 | Percent Score Point = 1 | Percent Score Point = 2 | Flag |
| VR132587 | D | 1,619 | 0.80 | 0.80 | 6 | 13 | 80 | N/A | [no flag] |
| VR132598 | D | 1,619 | 0.69 | 0.75 | 7 | 24 | 69 | N/A | [no flag] |
| VR132612 | D | 1,619 | 0.68 | 0.70 | 6 | 26 | 68 | N/A | [no flag] |
| VR132681 | D | 1,618 | 0.65 | 0.72 | 7 | 28 | 65 | N/A | [no flag] |
| VR132695 | D | 1,618 | 0.71 | 0.79 | 8 | 20 | 71 | N/A | [no flag] |
| VR132848 | D | 1,618 | 0.71 | 0.71 | 9 | 20 | 71 | N/A | [no flag] |
| VR145306 | D | 1,619 | 0.84 | 0.75 | 6 | 10 | 84 | N/A | [no flag] |
| VR147932 | D | 1,620 | 0.71 | 0.79 | 6 | 23 | 71 | N/A | [no flag] |
| VR148029 | D | 1,620 | 0.70 | 0.79 | 8 | 22 | 70 | N/A | [no flag] |
| VR148031 | D | 1,620 | 0.74 | 0.72 | 7 | 19 | 74 | N/A | [no flag] |
| VR148050 | D | 1,620 | 0.61 | 0.76 | 8 | 31 | 61 | N/A | [no flag] |
| VR150493 | D | 1,620 | 0.72 | 0.72 | 8 | 20 | 72 | N/A | [no flag] |
| VR150497 | D | 1,620 | 0.62 | 0.76 | 9 | 29 | 62 | N/A | [no flag] |
| VR150530 | D | 1,620 | 0.35 | 0.54 | 11 | 54 | 35 | N/A | O |
| VR154631 | D | 1,620 | 0.65 | 0.75 | 9 | 26 | 65 | N/A | [no flag] |
| VR154835 | D | 1,619 | 0.53 | 0.65 | 9 | 38 | 53 | N/A | [no flag] |
| VR155828 | D | 1,619 | 0.74 | 0.82 | 7 | 19 | 74 | N/A | [no flag] |
| VR191181 | D | 1,617 | 0.88 | 0.74 | 4 | 8 | 88 | N/A | [no flag] |
| VR289220 | D | 857 | 0.66 | 0.69 | 8 | 26 | 66 | N/A | [no flag] |
| VR289222 | D | 857 | 0.77 | 0.75 | 6 | 17 | 77 | N/A | [no flag] |
| VR291665 | D | 760 | 0.88 | 0.75 | 6 | 7 | 88 | N/A | [no flag] |
| VR291676 | D | 853 | 0.90 | 0.70 | 4 | 6 | 90 | N/A | [no flag] |
| VR293568 | D | 762 | 0.76 | 0.80 | 10 | 15 | 76 | N/A | [no flag] |
| VR293604 | D | 762 | 0.74 | 0.67 | 8 | 18 | 74 | N/A | [no flag] |
| VR293618 | D | 762 | 0.69 | 0.76 | 10 | 22 | 69 | N/A | [no flag] |
| VR132823 | P | 1,618 | 1.15 | 0.81 | 7 | 29 | 12 | 51 | [no flag] |
| VR145310 | P | 1,619 | 1.42 | 0.80 | 4 | 20 | 9 | 67 | [no flag] |
| VR150525 | P | 1,620 | 0.86 | 0.78 | 8 | 41 | 17 | 34 | [no flag] |
| VR154860 | P | 1,619 | 1.30 | 0.74 | 6 | 13 | 31 | 49 | [no flag] |
| VR154926 | P | 1,619 | 0.91 | 0.76 | 7 | 35 | 25 | 33 | [no flag] |
| VR191268 | P | 1,617 | 1.49 | 0.79 | 4 | 17 | 10 | 69 | [no flag] |
| VR289227 | P | 857 | 1.26 | 0.74 | 5 | 24 | 16 | 55 | [no flag] |
| VR289229 | P | 857 | 1.33 | 0.72 | 5 | 12 | 32 | 50 | [no flag] |
| VR291669 | P | 760 | 1.61 | 0.74 | 5 | 12 | 6 | 77 | H |
| VR291679 | P | 853 | 1.58 | 0.74 | 3 | 14 | 8 | 75 | [no flag] |
| VR293641 | P | 762 | 1.00 | 0.80 | 10 | 28 | 22 | 39 | [no flag] |

Table 8.A.7 Classical Item Statistics for Grade Span Eleven and Twelve

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Item Type | N | AIS | Item-Total Correlation | Percent Omit | Percent Score Point = 0 | Percent Score Point = 1 | Percent Score Point = 2 | Flag |
| VR056029 | D | 3,061 | 0.67 | 0.76 | 10 | 24 | 67 | N/A | [no flag] |
| VR056049 | D | 3,061 | 0.45 | 0.70 | 12 | 43 | 45 | N/A | O |
| VR132681 | D | 3,061 | 0.61 | 0.73 | 9 | 30 | 61 | N/A | [no flag] |
| VR132695 | D | 3,061 | 0.67 | 0.81 | 9 | 24 | 67 | N/A | [no flag] |
| VR132848 | D | 3,061 | 0.71 | 0.74 | 10 | 19 | 71 | N/A | [no flag] |
| VR133507 | D | 3,061 | 0.61 | 0.76 | 10 | 29 | 61 | N/A | O |
| VR133887 | D | 3,061 | 0.71 | 0.77 | 8 | 21 | 71 | N/A | [no flag] |
| VR133915 | D | 3,061 | 0.66 | 0.78 | 9 | 25 | 66 | N/A | [no flag] |
| VR134023 | D | 3,061 | 0.74 | 0.80 | 10 | 16 | 74 | N/A | [no flag] |
| VR144835 | D | 3,061 | 0.86 | 0.79 | 7 | 7 | 86 | N/A | [no flag] |
| VR150116 | D | 3,060 | 0.77 | 0.82 | 8 | 16 | 77 | N/A | [no flag] |
| VR150120 | D | 3,060 | 0.75 | 0.81 | 7 | 18 | 75 | N/A | [no flag] |
| VR150125 | D | 3,060 | 0.72 | 0.73 | 8 | 21 | 72 | N/A | [no flag] |
| VR150129 | D | 3,060 | 0.81 | 0.77 | 7 | 12 | 81 | N/A | [no flag] |
| VR155066 | D | 3,061 | 0.71 | 0.75 | 10 | 20 | 71 | N/A | [no flag] |
| VR155071 | D | 3,061 | 0.69 | 0.78 | 10 | 21 | 69 | N/A | [no flag] |
| VR191356 | D | 3,062 | 0.90 | 0.76 | 5 | 5 | 90 | N/A | [no flag] |
| VR224889 | D | 3,061 | 0.51 | 0.69 | 10 | 39 | 51 | N/A | O |
| VR289308 | D | 1,635 | 0.63 | 0.78 | 7 | 29 | 63 | N/A | [no flag] |
| VR289311 | D | 1,635 | 0.73 | 0.74 | 8 | 19 | 73 | N/A | [no flag] |
| VR291665 | D | 1,634 | 0.87 | 0.72 | 5 | 9 | 87 | N/A | [no flag] |
| VR291676 | D | 1,425 | 0.87 | 0.75 | 7 | 6 | 87 | N/A | [no flag] |
| VR293426 | D | 1,427 | 0.63 | 0.77 | 10 | 27 | 63 | N/A | O |
| VR293436 | D | 1,427 | 0.71 | 0.78 | 11 | 18 | 71 | N/A | O |
| VR293446 | D | 1,427 | 0.70 | 0.74 | 15 | 15 | 70 | N/A | O |
| VR132823 | P | 3,061 | 1.14 | 0.84 | 8 | 30 | 11 | 52 | [no flag] |
| VR144875 | P | 3,061 | 1.62 | 0.81 | 5 | 11 | 6 | 78 | H |
| VR155083 | P | 3,061 | 1.31 | 0.78 | 7 | 12 | 30 | 50 | [no flag] |
| VR155088 | P | 3,061 | 0.93 | 0.79 | 8 | 37 | 18 | 37 | [no flag] |
| VR191381 | P | 3,062 | 1.52 | 0.74 | 4 | 15 | 11 | 70 | [no flag] |
| VR218864 | P | 3,061 | 1.01 | 0.82 | 8 | 34 | 16 | 43 | [no flag] |
| VR289314 | P | 1,635 | 1.38 | 0.79 | 5 | 18 | 15 | 61 | [no flag] |
| VR289327 | P | 1,635 | 1.33 | 0.72 | 5 | 13 | 30 | 52 | [no flag] |
| VR291669 | P | 1,634 | 1.62 | 0.76 | 3 | 14 | 6 | 78 | H |
| VR291679 | P | 1,425 | 1.54 | 0.77 | 6 | 12 | 9 | 73 | [no flag] |
| VR293448 | P | 1,427 | 1.11 | 0.82 | 11 | 25 | 17 | 47 | [no flag] |

### Appendix 8.B: Differential Item Functioning Results

Table 8.B.1 Gender DIF Classifications Summary by Grade Level or Grade Span

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DIF Category | Kindergarten Number of Items | Kindergarten Percent | Grade 1 Number of Items | Grade 1 Percent | Grade 2 Number of Items | Grade 2 Percent | Grade Span 3–5 Number of Items | Grade Span 3–5 Percent | Grade Span 6–8 Number of Items | Grade Span 6–8 Percent | Grade Span 9–10 Number of Items | Grade Span 9–10 Percent | Grade Span 11–12 Number of Items | Grade Span 11–12 Percent |
| C− | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B− | 1 | 3 | 3 | 8 | 1 | 3 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 3 |
| A− | 19 | 53 | 14 | 39 | 15 | 42 | 15 | 44 | 19 | 56 | 12 | 33 | 16 | 44 |
| A+ | 16 | 44 | 18 | 50 | 20 | 56 | 18 | 53 | 15 | 44 | 23 | 64 | 19 | 53 |
| B+ | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| C+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N/A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Items Total:** | **36** | **100** | **36** | **100** | **36** | **100** | **34** | **100** | **34** | **100** | **36** | **100** | **36** | **100** |

Table 8.B.2 Hispanic or Latino versus Non-Hispanic and Non-Latino DIF Classifications Summary by Grade Level or Grade Span

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DIF Category | Kindergarten Number of Items | Kindergarten Percent | Grade 1 Number of Items | Grade 1 Percent | Grade 2 Number of Items | Grade 2 Percent | Grade Span 3–5 Number of Items | Grade Span 3–5 Percent | Grade Span 6–8 Number of Items | Grade Span 6–8 Percent | Grade Span 9–10 Number of Items | Grade Span 9–10 Percent | Grade Span 11–12 Number of Items | Grade Span 11–12 Percent |
| C− | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B− | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A− | 16 | 44 | 14 | 39 | 21 | 58 | 16 | 47 | 19 | 56 | 17 | 47 | 17 | 47 |
| A+ | 20 | 56 | 21 | 58 | 14 | 39 | 18 | 53 | 15 | 44 | 19 | 53 | 19 | 53 |
| B+ | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N/A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Items Total:** | **36** | **100** | **36** | **100** | **36** | **100** | **34** | **100** | **34** | **100** | **36** | **100** | **36** | **100** |

**Note:** In table 8.B.3, “N/A” is listed in the MH-DIF column for polytomous items and in the *SMD* column for dichotomous items.

Table 8.B.3 Items Exhibiting Significant DIF by Primary Disability Student Group

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Grade Level or Grade Span | Item ID | N Focal | N Reference | MH-DIF | SMD | Comparison | In Favor Of |
| 1 | VR288757 | 443 | 188 | 1.97 | N/A | Intellectual disability—Autism | Autism |
| 2 | VR061021 | 366 | 211 | N/A | −0.24 | Intellectual disability—Autism | Intellectual disability |
| 2 | VR289185 | 366 | 211 | N/A | −0.20 | Intellectual disability—Autism | Intellectual disability |
| 3–5 | VR289091 | 112 | 882 | −2.70 | N/A | Intellectual disability—Multiple disabilities | Intellectual disability |
| 6–8 | VR146736 | 197 | 1522 | −1.94 | N/A | Intellectual disability—Multiple disabilities | Intellectual disability |
| 6–8 | VR291636 | 163 | 1522 | 3.54 | N/A | Intellectual disability—Specific learning disability | Specific learning disability |

### Appendix 8.C: Item Response Theory Results

**Note:** In table 8.C.1 through table 8.C.7, “N/A” indicates that these items did not have *d*-‍parameter estimates, and SE = standard error.

Table 8.C.1 IRT Item Statistics, Kindergarten

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item ID | Item Difficulty b | SE | d1 | d2 |
| VR052871 | 1.26 | 0.09 | N/A | N/A |
| VR053826 | −1.59 | 0.10 | N/A | N/A |
| VR131679 | 1.36 | 0.09 | N/A | N/A |
| VR131683 | 0.57 | 0.08 | N/A | N/A |
| VR131687 | 1.25 | 0.09 | N/A | N/A |
| VR131711 | 0.95 | 0.06 | −0.72 | 0.72 |
| VR137085 | −1.15 | 0.09 | N/A | N/A |
| VR137753 | −0.72 | 0.12 | N/A | N/A |
| VR138924 | 0.09 | 0.08 | N/A | N/A |
| VR138950 | 1.98 | 0.09 | N/A | N/A |
| VR138982 | −0.19 | 0.08 | N/A | N/A |
| VR139022 | 0.65 | 0.06 | −0.70 | 0.70 |
| VR139666 | 0.51 | 0.08 | N/A | N/A |
| VR139673 | 0.11 | 0.08 | N/A | N/A |
| VR139729 | 1.14 | 0.08 | N/A | N/A |
| VR139973 | 0.23 | 0.06 | −0.90 | 0.90 |
| VR140040 | 0.17 | 0.08 | −0.99 | 0.99 |
| VR154406 | 0.09 | 0.08 | N/A | N/A |
| VR154449 | 0.86 | 0.08 | N/A | N/A |
| VR154458 | 1.07 | 0.06 | −0.44 | 0.44 |
| VR154465 | −0.29 | 0.06 | −0.62 | 0.62 |
| VR154689 | 0.71 | 0.12 | N/A | N/A |
| VR154701 | 0.16 | 0.12 | N/A | N/A |
| VR154722 | 1.19 | 0.08 | −0.70 | 0.70 |
| VR154725 | −0.32 | 0.09 | −0.71 | 0.71 |
| VR170322 | 0.91 | 0.08 | N/A | N/A |
| VR215978 | 0.81 | 0.06 | −0.53 | 0.53 |
| VR216450 | −0.28 | 0.06 | −1.04 | 1.04 |
| VR223164 | 1.42 | 0.07 | −0.38 | 0.38 |
| VR244385 | 0.97 | 0.08 | N/A | N/A |
| VR291590 | 0.20 | 0.08 | −0.46 | 0.46 |
| VR292793 | 0.99 | 0.11 | N/A | N/A |
| VR292842 | 0.84 | 0.11 | N/A | N/A |
| VR292863 | 1.00 | 0.08 | −0.44 | 0.44 |
| VR292867 | 0.66 | 0.11 | N/A | N/A |
| VR294415 | −1.03 | 0.12 | N/A | N/A |

Table 8.C.2 IRT Item Statistics, Grade One

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item ID | Item Difficulty b | SE | d1 | d2 |
| VR053944 | −2.06 | 0.10 | N/A | N/A |
| VR053970 | −0.69 | 0.07 | −0.88 | 0.88 |
| VR130374 | 0.20 | 0.09 | N/A | N/A |
| VR130402 | −0.12 | 0.09 | N/A | N/A |
| VR130421 | 0.51 | 0.09 | N/A | N/A |
| VR130428 | 0.59 | 0.06 | −0.33 | 0.33 |
| VR133917 | 0.04 | 0.09 | N/A | N/A |
| VR133975 | 0.99 | 0.09 | N/A | N/A |
| VR133983 | 0.75 | 0.07 | −0.51 | 0.51 |
| VR134007 | −0.58 | 0.09 | N/A | N/A |
| VR137615 | −0.70 | 0.09 | N/A | N/A |
| VR137618 | 0.49 | 0.06 | −1.11 | 1.11 |
| VR137763 | −0.95 | 0.13 | N/A | N/A |
| VR137784 | −0.49 | 0.09 | −1.25 | 1.25 |
| VR138495 | −0.37 | 0.09 | N/A | N/A |
| VR138505 | −0.46 | 0.09 | N/A | N/A |
| VR138567 | −0.77 | 0.09 | N/A | N/A |
| VR138628 | 0.00 | 0.09 | N/A | N/A |
| VR150660 | 0.35 | 0.09 | N/A | N/A |
| VR150685 | 0.91 | 0.09 | N/A | N/A |
| VR150707 | 0.54 | 0.06 | −0.72 | 0.72 |
| VR150709 | 0.72 | 0.09 | N/A | N/A |
| VR154742 | 0.69 | 0.09 | N/A | N/A |
| VR154751 | 0.43 | 0.09 | N/A | N/A |
| VR154753 | 0.83 | 0.07 | −0.32 | 0.32 |
| VR154755 | 0.16 | 0.07 | 0.66 | −0.66 |
| VR288641 | 0.19 | 0.12 | N/A | N/A |
| VR288757 | 0.89 | 0.12 | N/A | N/A |
| VR288858 | 0.30 | 0.08 | −0.65 | 0.65 |
| VR288934 | 0.18 | 0.09 | 0.54 | −0.54 |
| VR291593 | −1.28 | 0.13 | N/A | N/A |
| VR291595 | −0.90 | 0.09 | −1.34 | 1.34 |
| VR292963 | −0.13 | 0.11 | N/A | N/A |
| VR292978 | 0.09 | 0.12 | N/A | N/A |
| VR292992 | 0.95 | 0.08 | −0.33 | 0.33 |
| VR293004 | 0.85 | 0.11 | N/A | N/A |

Table 8.C.3 IRT Item Statistics, Grade Two

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item ID | Item Difficulty b | SE | d1 | d2 |
| VR061015 | −1.26 | 0.13 | N/A | N/A |
| VR061021 | −0.90 | 0.10 | −0.77 | 0.77 |
| VR130352 | 0.32 | 0.09 | N/A | N/A |
| VR130367 | −0.03 | 0.09 | N/A | N/A |
| VR130401 | 0.88 | 0.09 | N/A | N/A |
| VR130438 | 0.05 | 0.09 | N/A | N/A |
| VR134637 | 0.06 | 0.09 | N/A | N/A |
| VR134649 | −0.17 | 0.09 | N/A | N/A |
| VR134668 | 0.59 | 0.09 | N/A | N/A |
| VR134677 | 0.38 | 0.07 | −0.75 | 0.75 |
| VR140204 | −1.07 | 0.09 | N/A | N/A |
| VR140209 | −0.56 | 0.07 | −0.71 | 0.71 |
| VR140495 | −0.16 | 0.09 | N/A | N/A |
| VR140498 | 0.51 | 0.09 | N/A | N/A |
| VR140501 | −1.21 | 0.10 | N/A | N/A |
| VR140520 | −0.38 | 0.09 | N/A | N/A |
| VR151565 | 0.67 | 0.09 | N/A | N/A |
| VR151573 | 0.41 | 0.09 | N/A | N/A |
| VR151624 | 0.70 | 0.07 | −0.50 | 0.50 |
| VR151643 | 1.85 | 0.10 | N/A | N/A |
| VR155513 | 0.04 | 0.09 | N/A | N/A |
| VR155670 | 0.02 | 0.08 | 0.90 | −0.90 |
| VR155674 | 0.88 | 0.09 | N/A | N/A |
| VR193816 | −1.76 | 0.10 | N/A | N/A |
| VR193828 | −0.29 | 0.07 | −0.11 | 0.11 |
| VR223063 | −0.05 | 0.08 | 0.85 | −0.85 |
| VR289153 | 0.36 | 0.11 | N/A | N/A |
| VR289163 | −0.31 | 0.12 | N/A | N/A |
| VR289172 | 0.70 | 0.09 | −0.18 | 0.18 |
| VR289185 | −0.32 | 0.10 | 0.91 | −0.91 |
| VR291620 | −1.82 | 0.14 | N/A | N/A |
| VR291621 | −1.11 | 0.09 | −1.05 | 1.05 |
| VR293213 | 0.35 | 0.12 | N/A | N/A |
| VR293216 | −0.44 | 0.12 | N/A | N/A |
| VR293219 | 1.00 | 0.09 | 0.34 | −0.34 |
| VR293221 | −1.05 | 0.13 | N/A | N/A |

Table 8.C.4 IRT Item Statistics, Grade Span Three Through Five

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item ID | Item Difficulty b | SE | d1 | d2 |
| VR053988 | −2.06 | 0.06 | N/A | N/A |
| VR053990 | −1.09 | 0.04 | −0.58 | 0.58 |
| VR131591 | −0.21 | 0.05 | N/A | N/A |
| VR131622 | −0.39 | 0.05 | N/A | N/A |
| VR131627 | 0.31 | 0.05 | N/A | N/A |
| VR131628 | −1.01 | 0.06 | N/A | N/A |
| VR140200 | −0.92 | 0.05 | N/A | N/A |
| VR140214 | −0.34 | 0.05 | N/A | N/A |
| VR140221 | −0.48 | 0.05 | N/A | N/A |
| VR140236 | 0.36 | 0.04 | −0.26 | 0.26 |
| VR144415 | −2.05 | 0.06 | N/A | N/A |
| VR144428 | −0.99 | 0.04 | −1.03 | 1.03 |
| VR145701 | −1.99 | 0.06 | N/A | N/A |
| VR145817 | −0.80 | 0.05 | N/A | N/A |
| VR145916 | −0.89 | 0.05 | N/A | N/A |
| VR146024 | −1.16 | 0.06 | N/A | N/A |
| VR151042 | 0.20 | 0.05 | N/A | N/A |
| VR151060 | 0.68 | 0.05 | N/A | N/A |
| VR151083 | 1.43 | 0.05 | N/A | N/A |
| VR151097 | 0.39 | 0.04 | −0.42 | 0.42 |
| VR155150 | −0.21 | 0.05 | N/A | N/A |
| VR155154 | −0.76 | 0.04 | 0.80 | −0.80 |
| VR155163 | −0.41 | 0.04 | 0.65 | −0.65 |
| VR155166 | −0.50 | 0.05 | N/A | N/A |
| VR289091 | −1.55 | 0.08 | N/A | N/A |
| VR289099 | −0.40 | 0.07 | N/A | N/A |
| VR289104 | −0.16 | 0.05 | −0.52 | 0.52 |
| VR289115 | −0.56 | 0.06 | 0.82 | −0.82 |
| VR291624 | −2.28 | 0.06 | N/A | N/A |
| VR291625 | −1.21 | 0.04 | −0.88 | 0.88 |
| VR292509 | −0.18 | 0.07 | N/A | N/A |
| VR292516 | −0.19 | 0.07 | N/A | N/A |
| VR292870 | −0.64 | 0.07 | N/A | N/A |
| VR292971 | −0.22 | 0.05 | −0.72 | 0.72 |

Table 8.C.5 IRT Item Statistics, Grade Span Six Through Eight

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item ID | Item Difficulty b | SE | d1 | d2 |
| VR054031 | −3.54 | 0.10 | N/A | N/A |
| VR132196 | −1.55 | 0.07 | N/A | N/A |
| VR132209 | −1.46 | 0.07 | N/A | N/A |
| VR132300 | 0.08 | 0.06 | N/A | N/A |
| VR132305 | −1.17 | 0.07 | N/A | N/A |
| VR133740 | −1.70 | 0.07 | N/A | N/A |
| VR133759 | −1.34 | 0.07 | N/A | N/A |
| VR133797 | −1.54 | 0.07 | N/A | N/A |
| VR133811 | −0.34 | 0.05 | 0.09 | −0.09 |
| VR146736 | −2.48 | 0.08 | N/A | N/A |
| VR146758 | −1.24 | 0.05 | −1.14 | 1.14 |
| VR148853 | −0.82 | 0.06 | N/A | N/A |
| VR148858 | −0.11 | 0.06 | N/A | N/A |
| VR148864 | −0.44 | 0.05 | −0.54 | 0.54 |
| VR148916 | 0.12 | 0.06 | N/A | N/A |
| VR150141 | −1.99 | 0.07 | N/A | N/A |
| VR150176 | −0.54 | 0.06 | N/A | N/A |
| VR150177 | −2.45 | 0.08 | N/A | N/A |
| VR150178 | −1.47 | 0.07 | N/A | N/A |
| VR166709 | −0.53 | 0.06 | N/A | N/A |
| VR167935 | −1.16 | 0.06 | N/A | N/A |
| VR167959 | 0.23 | 0.05 | 0.11 | −0.11 |
| VR167974 | −0.97 | 0.05 | 0.76 | −0.76 |
| VR213047 | −2.09 | 0.06 | −0.88 | 0.88 |
| VR289202 | −1.12 | 0.09 | N/A | N/A |
| VR289208 | −1.28 | 0.09 | N/A | N/A |
| VR289210 | −0.29 | 0.06 | −0.20 | 0.20 |
| VR289212 | −1.05 | 0.07 | 0.74 | −0.74 |
| VR291636 | −1.99 | 0.07 | N/A | N/A |
| VR291640 | −1.06 | 0.05 | −0.49 | 0.49 |
| VR292985 | −1.50 | 0.10 | N/A | N/A |
| VR292991 | −1.54 | 0.09 | N/A | N/A |
| VR293010 | −0.25 | 0.06 | 0.03 | −0.03 |
| VR293014 | −1.04 | 0.09 | N/A | N/A |

Table 8.C.6 IRT Item Statistics, Grade Span Nine and Ten

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item ID | Item Difficulty b | SE | d1 | d2 |
| VR132587 | −2.40 | 0.12 | N/A | N/A |
| VR132598 | −1.43 | 0.10 | N/A | N/A |
| VR132612 | −1.33 | 0.10 | N/A | N/A |
| VR132681 | −1.10 | 0.10 | N/A | N/A |
| VR132695 | −1.57 | 0.10 | N/A | N/A |
| VR132823 | −0.57 | 0.08 | −0.60 | 0.60 |
| VR132848 | −1.48 | 0.10 | N/A | N/A |
| VR145306 | −2.73 | 0.12 | N/A | N/A |
| VR145310 | −1.34 | 0.08 | −0.82 | 0.82 |
| VR147932 | −1.56 | 0.11 | N/A | N/A |
| VR148029 | −1.51 | 0.11 | N/A | N/A |
| VR148031 | −1.75 | 0.10 | N/A | N/A |
| VR148050 | −0.83 | 0.10 | N/A | N/A |
| VR150493 | −1.58 | 0.10 | N/A | N/A |
| VR150497 | −0.87 | 0.10 | N/A | N/A |
| VR150525 | 0.25 | 0.07 | −0.20 | 0.20 |
| VR150530 | 0.85 | 0.10 | N/A | N/A |
| VR154631 | −1.11 | 0.10 | N/A | N/A |
| VR154835 | −0.28 | 0.09 | N/A | N/A |
| VR154860 | −1.18 | 0.08 | 0.82 | −0.82 |
| VR154926 | 0.12 | 0.08 | 0.28 | −0.28 |
| VR155828 | −1.87 | 0.11 | N/A | N/A |
| VR191181 | −3.31 | 0.13 | N/A | N/A |
| VR191268 | −1.61 | 0.08 | −0.67 | 0.67 |
| VR289220 | −1.18 | 0.13 | N/A | N/A |
| VR289222 | −2.03 | 0.15 | N/A | N/A |
| VR289227 | −0.92 | 0.09 | −0.22 | 0.22 |
| VR289229 | −1.29 | 0.11 | 0.97 | −0.97 |
| VR291665 | −3.19 | 0.18 | N/A | N/A |
| VR291669 | −2.05 | 0.11 | −1.06 | 1.06 |
| VR291676 | −3.46 | 0.19 | N/A | N/A |
| VR291679 | −1.82 | 0.10 | −0.95 | 0.95 |
| VR293568 | −1.93 | 0.16 | N/A | N/A |
| VR293604 | −1.79 | 0.14 | N/A | N/A |
| VR293618 | −1.48 | 0.14 | N/A | N/A |
| VR293641 | −0.10 | 0.10 | 0.15 | −0.15 |

Table 8.C.7 IRT Item Statistics, Grade Span Eleven and Twelve

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item ID | Item Difficulty b | SE | d1 | d2 |
| VR056029 | −1.30 | 0.07 | N/A | N/A |
| VR056049 | 0.15 | 0.07 | N/A | N/A |
| VR132681 | −0.97 | 0.07 | N/A | N/A |
| VR132695 | −1.33 | 0.08 | N/A | N/A |
| VR132823 | −0.57 | 0.06 | −0.67 | 0.67 |
| VR132848 | −1.60 | 0.08 | N/A | N/A |
| VR133507 | −0.91 | 0.07 | N/A | N/A |
| VR133887 | −1.57 | 0.08 | N/A | N/A |
| VR133915 | −1.25 | 0.08 | N/A | N/A |
| VR134023 | −1.87 | 0.08 | N/A | N/A |
| VR144835 | −3.15 | 0.10 | N/A | N/A |
| VR144875 | −2.22 | 0.06 | −0.97 | 0.97 |
| VR150116 | −2.09 | 0.08 | N/A | N/A |
| VR150120 | −1.94 | 0.08 | N/A | N/A |
| VR150125 | −1.65 | 0.08 | N/A | N/A |
| VR150129 | −2.50 | 0.09 | N/A | N/A |
| VR155066 | −1.59 | 0.08 | N/A | N/A |
| VR155071 | −1.51 | 0.08 | N/A | N/A |
| VR155083 | −1.29 | 0.06 | 0.88 | −0.88 |
| VR155088 | 0.05 | 0.06 | −0.03 | 0.03 |
| VR191356 | −3.77 | 0.11 | N/A | N/A |
| VR191381 | −1.80 | 0.06 | −0.40 | 0.40 |
| VR218864 | −0.18 | 0.06 | −0.17 | 0.17 |
| VR224889 | −0.16 | 0.07 | N/A | N/A |
| VR289308 | −0.98 | 0.10 | N/A | N/A |
| VR289311 | −1.74 | 0.10 | N/A | N/A |
| VR289314 | −1.29 | 0.07 | −0.07 | 0.07 |
| VR289327 | −1.23 | 0.08 | 0.87 | −0.87 |
| VR291665 | −3.11 | 0.12 | N/A | N/A |
| VR291669 | −2.08 | 0.08 | −0.87 | 0.87 |
| VR291676 | −3.43 | 0.14 | N/A | N/A |
| VR291679 | −2.03 | 0.08 | −0.61 | 0.61 |
| VR293426 | −1.14 | 0.10 | N/A | N/A |
| VR293436 | −1.79 | 0.11 | N/A | N/A |
| VR293446 | −1.70 | 0.10 | N/A | N/A |
| VR293448 | −0.56 | 0.07 | −0.10 | 0.10 |

Table 8.C.8 through table 8.C.14 present the item–person map for each grade level or grade span. Note the following about these tables:

* In the *Student Theta Distribution* column, “X” represents 5 students, “.” represents a value in between 1 and 4 students, and no students are denoted as “-”.

**PL2**

* In the *Item Domain(s)* column, “R” represents a receptive item and “E” represents an expressive item.
* A hyphen (“-”) represents no correspondence with a theta value.
* The horizontal dashed lines divide the space on the logit scale into performance levels.

Table 8.C.8 Item–Person Map for Kindergarten

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N Students | Performance Level | Student Theta Distribution | Logit | Item Domain(s) | N Items |
| 8 | 3 | .x | 4 | - | 0 |
| 10 | 3 | xx | 3.8 | - | 0 |
| 0 | 3 | - | 3.6 | - | 0 |
| 0 | 3 | - | 3.4 | - | 0 |
| 0 | 3 | - | 3.2 | - | 0 |
| 22 | 3 | .xxxx | 3 | - | 0 |
| 0 | 3 | - | 2.8 | - | 0 |
| 27 | 3 | .xxxxx | 2.6 | - | 0 |
| 15 | 3 | xxx | 2.4 | - | 0 |
| 26 | 3 | .xxxxx | 2.2 | - | 0 |
| 25 | 3 | xxxxx | 2 | R | 1 |
| 39 | 3 | .xxxxxxx | 1.8 | - | 0 |
| 43 | 3 | .xxxxxxxx | 1.6 | - | 0 |
| 47 | 2 | .xxxxxxxxx | 1.4 | R | 1 |
| 100 | 2 | xxxxxxxxxxxxxxxxxxxx | 1.2 | R R E E E | 5 |
| 139 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxx | 1 | E R E | 3 |
| 137 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxx | 0.8 | R R | 2 |
| 76 | 2 | .xxxxxxxxxxxxxxx | 0.6 | E E | 2 |
| 142 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxx | 0.4 | R R | 2 |
| 62 | 2 | .xxxxxxxxxxxx | 0.2 | E | 1 |
| 114 | 2 | .xxxxxxxxxxxxxxxxxxxxxx | 0 | R R | 2 |
| 61 | 1 | .xxxxxxxxxxxx | −0.2 | R | 1 |
| 66 | 1 | .xxxxxxxxxxxxx | −0.4 | E E | 2 |
| 117 | 1 | .xxxxxxxxxxxxxxxxxxxxxxx | −0.6 | - | 0 |
| 59 | 1 | .xxxxxxxxxxx | −0.8 | - | 0 |
| 54 | 1 | .xxxxxxxxxx | −1 | R | 1 |
| 50 | 1 | xxxxxxxxxx | −1.2 | - | 0 |
| 0 | 1 | - | −1.4 | - | 0 |
| 47 | 1 | .xxxxxxxxx | −1.6 | - | 0 |
| 0 | 1 | - | −1.8 | R | 1 |
| 0 | 1 | - | −2 | - | 0 |
| 57 | 1 | .xxxxxxxxxxx | −2.2 | - | 0 |
| 0 | 1 | - | −2.4 | - | 0 |
| 0 | 1 | - | −2.6 | - | 0 |
| 65 | 1 | xxxxxxxxxxxxx | −2.8 | - | 0 |
| 0 | 1 | - | −3 | - | 0 |
| 0 | 1 | - | −3.2 | - | 0 |
| 0 | 1 | - | −3.4 | - | 0 |
| 0 | 1 | - | −3.6 | - | 0 |
| 0 | 1 | - | −3.8 | - | 0 |
| 181 | 1 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −4 | - | 0 |

Table 8.C.9 Item–Person Map for Grade One

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N Students | Performance Level | Student Theta Distribution | Logit | Item Domain(s) | N Items |
| 27 | 3 | .xxxxx | 4 | - | 0 |
| 0 | 3 | - | 3.8 | - | 0 |
| 0 | 3 | - | 3.6 | - | 0 |
| 23 | 3 | .xxxx | 3.4 | - | 0 |
| 0 | 3 | - | 3.2 | - | 0 |
| 0 | 3 | - | 3 | - | 0 |
| 0 | 3 | - | 2.8 | - | 0 |
| 29 | 3 | .xxxxx | 2.6 | - | 0 |
| 0 | 3 | - | 2.4 | - | 0 |
| 42 | 3 | .xxxxxxxx | 2.2 | - | 0 |
| 32 | 3 | .xxxxxx | 2 | - | 0 |
| 38 | 3 | .xxxxxxx | 1.8 | - | 0 |
| 41 | 3 | .xxxxxxxx | 1.6 | - | 0 |
| 52 | 3 | .xxxxxxxxxx | 1.4 | - | 0 |
| 51 | 3 | .xxxxxxxxxx | 1.2 | R | 1 |
| 110 | 2 | xxxxxxxxxxxxxxxxxxxxxx | 1 | R | 1 |
| 57 | 2 | .xxxxxxxxxxx | 0.8 | E E | 2 |
| 99 | 2 | .xxxxxxxxxxxxxxxxxxx | 0.6 | R E E E | 4 |
| 73 | 2 | .xxxxxxxxxxxxxx | 0.4 | E R R | 3 |
| 135 | 2 | xxxxxxxxxxxxxxxxxxxxxxxxxxx | 0.2 | R E R | 3 |
| 123 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxx | 0 | E R | 2 |
| 60 | 2 | xxxxxxxxxxxx | −0.2 | R R | 2 |
| 118 | 1 | .xxxxxxxxxxxxxxxxxxxxxxx | −0.4 | - | 0 |
| 49 | 1 | .xxxxxxxxx | −0.6 | E R R E | 4 |
| 39 | 1 | .xxxxxxx | −0.8 | R | 1 |
| 37 | 1 | .xxxxxxx | −1 | - | 0 |
| 40 | 1 | xxxxxxxx | −1.2 | - | 0 |
| 31 | 1 | .xxxxxx | −1.4 | - | 0 |
| 28 | 1 | .xxxxx | −1.6 | - | 0 |
| 0 | 1 | - | −1.8 | - | 0 |
| 54 | 1 | .xxxxxxxxxx | −2 | R | 1 |
| 0 | 1 | - | −2.2 | - | 0 |
| 40 | 1 | xxxxxxxx | −2.4 | - | 0 |
| 0 | 1 | - | −2.6 | - | 0 |
| 0 | 1 | - | −2.8 | - | 0 |
| 0 | 1 | - | −3 | - | 0 |
| 59 | 1 | .xxxxxxxxxxx | −3.2 | - | 0 |
| 0 | 1 | - | −3.4 | - | 0 |
| 0 | 1 | - | −3.6 | - | 0 |
| 0 | 1 | - | −3.8 | - | 0 |
| 86 | 1 | .xxxxxxxxxxxxxxxxx | −4 | - | 0 |

Table 8.C.10 Item–Person Map for Grade Two

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N Students | Performance Level | Student Theta Distribution | Logit | Item Domain(s) | N Items |
| 18 | 3 | .xxx | 4 | - | 0 |
| 0 | 3 | - | 3.8 | - | 0 |
| 0 | 3 | - | 3.6 | - | 0 |
| 29 | 3 | .xxxxx | 3.4 | - | 0 |
| 0 | 3 | - | 3.2 | - | 0 |
| 0 | 3 | - | 3 | - | 0 |
| 37 | 3 | .xxxxxxx | 2.8 | - | 0 |
| 0 | 3 | - | 2.6 | - | 0 |
| 0 | 3 | - | 2.4 | - | 0 |
| 31 | 3 | .xxxxxx | 2.2 | - | 0 |
| 36 | 3 | .xxxxxxx | 2 | - | 0 |
| 0 | 3 | - | 1.8 | E | 1 |
| 39 | 3 | .xxxxxxx | 1.6 | - | 0 |
| 49 | 3 | .xxxxxxxxx | 1.4 | - | 0 |
| 88 | 2 | .xxxxxxxxxxxxxxxxx | 1.2 | - | 0 |
| 46 | 2 | .xxxxxxxxx | 1 | - | 0 |
| 49 | 2 | .xxxxxxxxx | 0.8 | R R E | 3 |
| 55 | 2 | xxxxxxxxxxx | 0.6 | R E | 2 |
| 133 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxx | 0.4 | R R R | 3 |
| 67 | 2 | .xxxxxxxxxxxxx | 0.2 | E E E | 3 |
| 136 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxx | 0 | R R E R | 4 |
| 64 | 1 | .xxxxxxxxxxxx | −0.2 | E R | 2 |
| 107 | 1 | .xxxxxxxxxxxxxxxxxxxxx | −0.4 | R E | 2 |
| 52 | 1 | .xxxxxxxxxx | −0.6 | E | 1 |
| 49 | 1 | .xxxxxxxxx | −0.8 | R | 1 |
| 43 | 1 | .xxxxxxxx | −1 | - | 0 |
| 63 | 1 | .xxxxxxxxxxxx | −1.2 | R | 1 |
| 0 | 1 | - | −1.4 | - | 0 |
| 30 | 1 | xxxxxx | −1.6 | - | 0 |
| 31 | 1 | .xxxxxx | −1.8 | R | 1 |
| 0 | 1 | - | −2 | - | 0 |
| 26 | 1 | .xxxxx | −2.2 | - | 0 |
| 0 | 1 | - | −2.4 | - | 0 |
| 30 | 1 | xxxxxx | −2.6 | - | 0 |
| 0 | 1 | - | −2.8 | - | 0 |
| 0 | 1 | - | −3 | - | 0 |
| 0 | 1 | - | −3.2 | - | 0 |
| 51 | 1 | .xxxxxxxxxx | −3.4 | - | 0 |
| 0 | 1 | - | −3.6 | - | 0 |
| 0 | 1 | - | −3.8 | - | 0 |
| 98 | 1 | .xxxxxxxxxxxxxxxxxxx | −4 | - | 0 |

Table 8.C.11 Item–Person Map for Grade Span Three Through Five

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N Students | Performance Level | Student Theta Distribution | Logit | Item Domain(s) | N Items |
| 92 | 3 | .xxxxxxxxxxxxxxxxxx | 4 | - | 0 |
| 0 | 3 | - | 3.8 | - | 0 |
| 0 | 3 | - | 3.6 | - | 0 |
| 0 | 3 | - | 3.4 | - | 0 |
| 0 | 3 | - | 3.2 | - | 0 |
| 157 | 3 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 3 | - | 0 |
| 0 | 3 | - | 2.8 | - | 0 |
| 0 | 3 | - | 2.6 | - | 0 |
| 0 | 3 | - | 2.4 | - | 0 |
| 200 | 3 | xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 2.2 | - | 0 |
| 0 | 3 | - | 2 | - | 0 |
| 206 | 3 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 1.8 | - | 0 |
| 0 | 3 | - | 1.6 | - | 0 |
| 188 | 3 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 1.4 | E | 1 |
| 175 | 3 | xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 1.2 | - | 0 |
| 180 | 2 | xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 1 | - | 0 |
| 0 | 2 | - | 0.8 | - | 0 |
| 323 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 0.6 | R R | 2 |
| 169 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 0.4 | E | 1 |
| 177 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 0.2 | E R | 2 |
| 386 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 0 | - | 0 |
| 184 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −0.2 | R R R R | 4 |
| 212 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −0.4 | E E | 2 |
| 342 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −0.6 | R | 1 |
| 155 | 1 | xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −0.8 | R R E R | 4 |
| 277 | 1 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −1 | E E E | 3 |
| 83 | 1 | .xxxxxxxxxxxxxxxx | −1.2 | E | 1 |
| 113 | 1 | .xxxxxxxxxxxxxxxxxxxxxx | −1.4 | - | 0 |
| 104 | 1 | .xxxxxxxxxxxxxxxxxxxx | −1.6 | - | 0 |
| 86 | 1 | .xxxxxxxxxxxxxxxxx | −1.8 | R | 1 |
| 60 | 1 | xxxxxxxxxxxx | −2 | R | 1 |
| 51 | 1 | .xxxxxxxxxx | −2.2 | R | 1 |
| 69 | 1 | .xxxxxxxxxxxxx | −2.4 | - | 0 |
| 0 | 1 | - | −2.6 | - | 0 |
| 54 | 1 | .xxxxxxxxxx | −2.8 | - | 0 |
| 0 | 1 | - | −3 | - | 0 |
| 49 | 1 | .xxxxxxxxx | −3.2 | - | 0 |
| 0 | 1 | - | −3.4 | - | 0 |
| 0 | 1 | - | −3.6 | - | 0 |
| 0 | 1 | - | −3.8 | - | 0 |
| 286 | 1 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −4 | - | 0 |

Table 8.C.12 Item–Person Map for Grade Span Six Through Eight

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N Students | Performance Level | Student Theta Distribution | Logit | Item Domain(s) | N Items |
| 226 | 3 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 4 | - | 0 |
| 0 | 3 | - | 3.8 | - | 0 |
| 0 | 3 | - | 3.6 | - | 0 |
| 0 | 3 | - | 3.4 | - | 0 |
| 0 | 3 | - | 3.2 | - | 0 |
| 0 | 3 | - | 3 | - | 0 |
| 0 | 3 | - | 2.8 | - | 0 |
| 0 | 3 | - | 2.6 | - | 0 |
| 0 | 3 | - | 2.4 | - | 0 |
| 222 | 3 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 2.2 | - | 0 |
| 0 | 3 | - | 2 | - | 0 |
| 0 | 3 | - | 1.8 | - | 0 |
| 226 | 3 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 1.6 | - | 0 |
| 0 | 3 | - | 1.4 | - | 0 |
| 228 | 3 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 1.2 | - | 0 |
| 0 | 3 | - | 1 | - | 0 |
| 194 | 3 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 0.8 | - | 0 |
| 180 | 3 | xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 0.6 | - | 0 |
| 161 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 0.4 | E | 1 |
| 147 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 0.2 | R E | 2 |
| 121 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxx | 0 | - | 0 |
| 109 | 2 | .xxxxxxxxxxxxxxxxxxxxx | −0.2 | R | 1 |
| 228 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −0.4 | R R | 2 |
| 95 | 2 | xxxxxxxxxxxxxxxxxxx | −0.6 | E E | 2 |
| 117 | 2 | .xxxxxxxxxxxxxxxxxxxxxxx | −0.8 | R | 1 |
| 134 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxx | −1 | E R E | 3 |
| 191 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −1.2 | E R R | 3 |
| 80 | 1 | xxxxxxxxxxxxxxxx | −1.4 | E | 1 |
| 177 | 1 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −1.6 | R E | 2 |
| 57 | 1 | .xxxxxxxxxxx | −1.8 | R R | 2 |
| 48 | 1 | .xxxxxxxxx | −2 | - | 0 |
| 62 | 1 | .xxxxxxxxxxxx | −2.2 | E | 1 |
| 42 | 1 | .xxxxxxxx | −2.4 | - | 0 |
| 39 | 1 | .xxxxxxx | −2.6 | R | 1 |
| 43 | 1 | .xxxxxxxx | −2.8 | R | 1 |
| 0 | 1 | - | −3 | - | 0 |
| 29 | 1 | .xxxxx | −3.2 | - | 0 |
| 33 | 1 | .xxxxxx | −3.4 | R | 1 |
| 0 | 1 | - | −3.6 | - | 0 |
| 33 | 1 | .xxxxxx | −3.8 | - | 0 |
| 187 | 1 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −4 | - | 0 |

Table 8.C.13 Item–Person Map for Grade Span Nine and Ten

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N Students | Performance Level | Student Theta Distribution | Logit | Item Domain(s) | N Items |
| 128 | 3 | .xxxxxxxxxxxxxxxxxxxxxxxxx | 4 | - | 0 |
| 0 | 3 | - | 3.8 | - | 0 |
| 0 | 3 | - | 3.6 | - | 0 |
| 0 | 3 | - | 3.4 | - | 0 |
| 0 | 3 | - | 3.2 | - | 0 |
| 0 | 3 | - | 3 | - | 0 |
| 0 | 3 | - | 2.8 | - | 0 |
| 0 | 3 | - | 2.6 | - | 0 |
| 0 | 3 | - | 2.4 | - | 0 |
| 114 | 3 | .xxxxxxxxxxxxxxxxxxxxxx | 2.2 | - | 0 |
| 0 | 3 | - | 2 | - | 0 |
| 0 | 3 | - | 1.8 | - | 0 |
| 111 | 3 | .xxxxxxxxxxxxxxxxxxxxxx | 1.6 | - | 0 |
| 0 | 3 | - | 1.4 | - | 0 |
| 97 | 3 | .xxxxxxxxxxxxxxxxxxx | 1.2 | - | 0 |
| 0 | 2 | - | 1 | E | 1 |
| 94 | 2 | .xxxxxxxxxxxxxxxxxx | 0.8 | - | 0 |
| 61 | 2 | .xxxxxxxxxxxx | 0.6 | - | 0 |
| 0 | 2 | - | 0.4 | - | 0 |
| 152 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 0.2 | E | 1 |
| 54 | 2 | .xxxxxxxxxx | 0 | E | 1 |
| 48 | 2 | .xxxxxxxxx | −0.2 | - | 0 |
| 52 | 2 | .xxxxxxxxxx | −0.4 | R | 1 |
| 47 | 2 | .xxxxxxxxx | −0.6 | E | 1 |
| 103 | 2 | .xxxxxxxxxxxxxxxxxxxx | −0.8 | E | 1 |
| 85 | 2 | xxxxxxxxxxxxxxxxx | −1 | R R R | 3 |
| 58 | 1 | .xxxxxxxxxxx | −1.2 | R R E E | 4 |
| 40 | 1 | xxxxxxxx | −1.4 | E R R | 3 |
| 29 | 1 | .xxxxx | −1.6 | E E | 2 |
| 80 | 1 | xxxxxxxxxxxxxxxx | −1.8 | R R | 2 |
| 45 | 1 | xxxxxxxxx | −2 | R | 1 |
| 37 | 1 | .xxxxxxx | −2.2 | R | 1 |
| 25 | 1 | xxxxx | −2.4 | - | 0 |
| 25 | 1 | xxxxx | −2.6 | R | 1 |
| 14 | 1 | .xx | −2.8 | - | 0 |
| 0 | 1 | - | −3 | - | 0 |
| 18 | 1 | .xxx | −3.2 | R | 1 |
| 12 | 1 | .xx | −3.4 | - | 0 |
| 0 | 1 | - | −3.6 | - | 0 |
| 0 | 1 | - | −3.8 | - | 0 |
| 139 | 1 | .xxxxxxxxxxxxxxxxxxxxxxxxxxx | −4 | - | 0 |

Table 8.C.14 Item–Person Map for Grade Span Eleven and Twelve

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N Students | Performance Level | Student Theta Distribution | Logit | Item Domain(s) | N Items |
| 381 | 3 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 4 | - | 0 |
| 0 | 3 | - | 3.8 | - | 0 |
| 0 | 3 | - | 3.6 | - | 0 |
| 0 | 3 | - | 3.4 | - | 0 |
| 0 | 3 | - | 3.2 | - | 0 |
| 0 | 3 | - | 3 | - | 0 |
| 0 | 3 | - | 2.8 | - | 0 |
| 0 | 3 | - | 2.6 | - | 0 |
| 0 | 3 | - | 2.4 | - | 0 |
| 0 | 3 | - | 2.2 | - | 0 |
| 260 | 3 | xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 2 | - | 0 |
| 0 | 3 | - | 1.8 | - | 0 |
| 0 | 3 | - | 1.6 | - | 0 |
| 187 | 3 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 1.4 | - | 0 |
| 0 | 3 | - | 1.2 | - | 0 |
| 152 | 3 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | 1 | - | 0 |
| 0 | 2 | - | 0.8 | - | 0 |
| 144 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxx | 0.6 | - | 0 |
| 125 | 2 | xxxxxxxxxxxxxxxxxxxxxxxxx | 0.4 | - | 0 |
| 136 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxx | 0.2 | E | 1 |
| 119 | 2 | .xxxxxxxxxxxxxxxxxxxxxxx | 0 | E | 1 |
| 100 | 2 | xxxxxxxxxxxxxxxxxxxx | −0.2 | R E | 2 |
| 96 | 2 | .xxxxxxxxxxxxxxxxxxx | −0.4 | - | 0 |
| 90 | 2 | xxxxxxxxxxxxxxxxxx | −0.6 | E | 1 |
| 207 | 2 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −0.8 | R | 1 |
| 100 | 2 | xxxxxxxxxxxxxxxxxxxx | −1 | R | 1 |
| 93 | 1 | .xxxxxxxxxxxxxxxxxx | −1.2 | E R | 2 |
| 170 | 1 | xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −1.4 | R R R | 3 |
| 85 | 1 | xxxxxxxxxxxxxxxxx | −1.6 | R R R E | 4 |
| 63 | 1 | .xxxxxxxxxxxx | −1.8 | E E | 2 |
| 108 | 1 | .xxxxxxxxxxxxxxxxxxxxx | −2 | R | 1 |
| 50 | 1 | xxxxxxxxxx | −2.2 | E R | 2 |
| 41 | 1 | .xxxxxxxx | −2.4 | E | 1 |
| 48 | 1 | .xxxxxxxxx | −2.6 | - | 0 |
| 26 | 1 | .xxxxx | −2.8 | - | 0 |
| 0 | 1 | - | −3 | R | 1 |
| 32 | 1 | .xxxxxx | −3.2 | - | 0 |
| 23 | 1 | .xxxx | −3.4 | - | 0 |
| 0 | 1 | - | −3.6 | - | 0 |
| 27 | 1 | .xxxxx | −3.8 | - | 0 |
| 271 | 1 | .xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | −4 | R | 1 |

### Appendix 8.D: Response Time Results

**Notes:**

* All students who completed the assessment and have an unrounded test time greater than zero (0) are included.
* Grade levels reflect students’ enrolled grade levels during the 2022–23 school year.
* “N/A” indicates that there was only one student in the quartile, and SD was not available.
* Response time percentiles are identified as follows:
* “Pt. 1” is the time taken by test takers in the first percentile of response time.
* “Pt. 10” is the time taken by test takers in the tenth percentile of response time.
* “Pt. 25” is the time taken by test takers in the twenty-fifth percentile of response time.
* “Pt. 50” is the time taken by test takers in the fiftieth percentile of response time.
* “Pt. 75” is the time taken by test takers in the seventy-fifth percentile of response time.
* “Pt. 90” is the time taken by test takers in the ninetieth percentile of response time.
* “Pt. 99” is the time taken by test takers in the ninety-ninth percentile of response time.

Table 8.D.1 Total Testing Time (in Minutes) at Each Scale Score Interval

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grade Level or Grade Span | Scale Score Interval Based on Performance Level | N | Mean | SD | Min. | Max. | Pt. 1 | Pt. 10 | Pt. 25 | Pt. 50 | Pt. 75 | Pt. 90 | Pt. 99 |
| Kindergarten | 201–243 | 757 | 18.14 | 14.71 | 0.33 | 102.58 | 2.05 | 4.98 | 8.66 | 13.98 | 22.47 | 37.42 | 73.81 |
| Kindergarten | 244–259 | 819 | 21.90 | 15.88 | 1.76 | 170.70 | 5.59 | 9.47 | 12.57 | 17.82 | 25.86 | 38.71 | 76.53 |
| Kindergarten | 260–299 | 215 | 19.34 | 12.15 | 2.24 | 94.92 | 6.11 | 9.38 | 12.22 | 16.27 | 21.87 | 33.66 | 67.30 |
| 1 | 301–343 | 581 | 18.92 | 14.80 | 0.46 | 113.53 | 1.99 | 5.35 | 9.05 | 14.70 | 24.45 | 36.36 | 79.41 |
| 1 | 344–359 | 657 | 22.29 | 15.17 | 3.35 | 146.13 | 6.32 | 9.68 | 13.07 | 18.44 | 25.64 | 38.61 | 88.38 |
| 1 | 360–399 | 336 | 17.99 | 12.43 | 5.23 | 129.17 | 6.30 | 8.74 | 11.36 | 14.45 | 19.92 | 32.49 | 58.46 |
| 2 | 401–443 | 644 | 18.35 | 13.30 | 0.49 | 99.88 | 1.80 | 5.86 | 9.51 | 15.28 | 23.52 | 35.55 | 62.51 |
| 2 | 444–459 | 539 | 22.61 | 13.95 | 1.48 | 110.03 | 4.87 | 9.89 | 14.00 | 18.66 | 27.59 | 40.60 | 72.71 |
| 2 | 460–499 | 275 | 18.82 | 10.94 | 2.76 | 113.97 | 4.65 | 9.90 | 12.37 | 16.20 | 22.04 | 30.41 | 54.93 |
| 3–5 | 501–543 | 1387 | 18.53 | 14.10 | 0.31 | 107.21 | 1.13 | 5.47 | 9.32 | 14.79 | 23.60 | 35.92 | 73.77 |
| 3–5 | 544–559 | 1973 | 20.32 | 13.60 | 1.46 | 159.40 | 4.16 | 9.56 | 12.49 | 17.13 | 23.68 | 33.80 | 73.17 |
| 3–5 | 560–599 | 1018 | 16.73 | 8.82 | 1.78 | 79.57 | 4.72 | 9.10 | 11.46 | 14.83 | 19.32 | 25.80 | 51.70 |
| 6–8 | 601–643 | 830 | 18.82 | 23.53 | 0.59 | 366.35 | 1.35 | 4.75 | 8.00 | 13.65 | 22.49 | 35.48 | 100.92 |
| 6–8 | 644–659 | 1303 | 18.46 | 12.22 | 1.45 | 166.13 | 2.89 | 8.47 | 11.49 | 15.51 | 22.14 | 30.38 | 64.69 |
| 6–8 | 660–699 | 1276 | 15.34 | 8.44 | 2.52 | 85.52 | 5.16 | 8.07 | 10.11 | 13.32 | 18.03 | 25.16 | 49.81 |
| 9–10 | 701–743 | 522 | 15.57 | 11.93 | 0.42 | 88.77 | 0.90 | 4.51 | 7.60 | 13.17 | 19.76 | 28.43 | 62.76 |
| 9–10 | 744–759 | 696 | 17.31 | 10.42 | 1.65 | 102.85 | 3.72 | 8.32 | 10.70 | 14.65 | 20.68 | 29.48 | 57.01 |
| 9–10 | 760–799 | 452 | 14.30 | 6.47 | 3.48 | 58.39 | 4.97 | 8.40 | 9.96 | 12.84 | 16.63 | 21.87 | 39.76 |
| 11–12 | 801–843 | 1038 | 15.40 | 12.82 | 0.31 | 108.84 | 0.44 | 3.50 | 6.92 | 12.32 | 19.55 | 29.53 | 65.73 |
| 11–12 | 844–859 | 1117 | 16.09 | 9.11 | 1.60 | 129.40 | 2.77 | 8.12 | 10.66 | 14.22 | 19.22 | 26.09 | 49.91 |
| 11–12 | 860–899 | 981 | 13.77 | 6.80 | 1.24 | 65.43 | 3.79 | 7.55 | 9.57 | 12.19 | 16.00 | 22.28 | 39.09 |

### Appendix 8.E: Reliability of Summative Alternate ELPAC Performance and Decision Classification

**Note:** SEM is standard error of measurement. In table 8.E.1 through table 8.E.7, to protect student privacy, when the number of students in a student group is 10 or fewer, the reliability and SEM statistics are not reported and are replaced by “N/A.”

Table 8.E.1 Reliability Estimates by Student Group for Kindergarten

|  |  |  |  |
| --- | --- | --- | --- |
| Student Group | N | Reliability | SEM |
| All | 1,600 | 0.86 | 5.02 |
| Male | 1,155 | 0.86 | 5.04 |
| Female | 445 | 0.86 | 4.96 |
| Nonbinary | 0 | N/A | N/A |
| American Indian or Alaska Native | 1 | N/A | N/A |
| Asian | 260 | 0.86 | 5.14 |
| Native Hawaiian or Other Pacific Islander | 4 | N/A | N/A |
| Filipino | 21 | 0.87 | 5.21 |
| Hispanic or Latino | 1,200 | 0.86 | 4.95 |
| Black or African American | 20 | 0.85 | 4.78 |
| White | 60 | 0.88 | 5.92 |
| Two or more races | 34 | 0.84 | 4.34 |
| Intellectual disability | 284 | 0.84 | 4.69 |
| Hearing impairment | 2 | N/A | N/A |
| Speech or language impairment | 65 | 0.86 | 4.75 |
| Visual impairment | 3 | N/A | N/A |
| Emotional impairment | 0 | N/A | N/A |
| Orthopedic impairment | 14 | 0.85 | 5.90 |
| Other health impairment | 79 | 0.88 | 4.96 |
| Specific learning disability | 3 | N/A | N/A |
| Deaf-blindness | 1 | N/A | N/A |
| Multiple disabilities | 60 | 0.83 | 5.19 |
| Autism | 1,086 | 0.87 | 5.10 |
| Traumatic brain injury | 2 | N/A | N/A |
| Not classified | 1 | N/A | N/A |
| Not economically disadvantaged | 363 | 0.86 | 5.12 |
| Economically disadvantaged | 1,237 | 0.86 | 4.99 |
| In US schools less than 12 months | 1,259 | 0.86 | 5.03 |
| In US schools 12 months or more | 273 | 0.88 | 5.06 |
| Duration unknown | 68 | 0.82 | 4.65 |
| Migrant education | 17 | 0.88 | 5.63 |
| Not migrant education | 1,583 | 0.86 | 5.01 |
| Armed forces family member | 18 | 0.80 | 4.52 |
| Not armed forces family member | 1,582 | 0.86 | 5.02 |
| Homeless | 73 | 0.88 | 5.57 |
| Not homeless | 1,527 | 0.86 | 4.99 |
| Foster youth | 4 | N/A | N/A |
| Not foster youth | 1,596 | 0.86 | 5.02 |

Table 8.E.2 Reliability Estimates by Student Group for Grade One

|  |  |  |  |
| --- | --- | --- | --- |
| Student Group | N | Reliability | SEM |
| All | 1,460 | 0.87 | 5.34 |
| Male | 1,060 | 0.88 | 5.33 |
| Female | 400 | 0.87 | 5.36 |
| Nonbinary | 0 | N/A | N/A |
| American Indian or Alaska Native | 2 | N/A | N/A |
| Asian | 253 | 0.87 | 5.23 |
| Native Hawaiian or Other Pacific Islander | 4 | N/A | N/A |
| Filipino | 18 | 0.88 | 4.87 |
| Hispanic or Latino | 1,078 | 0.88 | 5.36 |
| Black or African American | 16 | 0.90 | 6.22 |
| White | 66 | 0.86 | 5.06 |
| Two or more races | 23 | 0.90 | 5.99 |
| Intellectual disability | 359 | 0.86 | 5.10 |
| Hearing impairment | 3 | N/A | N/A |
| Speech or language impairment | 50 | 0.76 | 4.79 |
| Visual impairment | 1 | N/A | N/A |
| Emotional impairment | 0 | N/A | N/A |
| Orthopedic impairment | 19 | 0.86 | 4.80 |
| Other health impairment | 61 | 0.88 | 5.57 |
| Specific learning disability | 5 | N/A | N/A |
| Deaf-blindness | 0 | N/A | N/A |
| Multiple disabilities | 77 | 0.81 | 6.64 |
| Autism | 884 | 0.87 | 5.33 |
| Traumatic brain injury | 0 | N/A | N/A |
| Not classified | 1 | N/A | N/A |
| Not economically disadvantaged | 328 | 0.87 | 5.37 |
| Economically disadvantaged | 1,132 | 0.87 | 5.32 |
| In US schools less than 12 months | 88 | 0.87 | 5.34 |
| In US schools 12 months or more | 1,358 | 0.87 | 5.32 |
| Duration unknown | 14 | 0.88 | 6.72 |
| Migrant education | 8 | N/A | N/A |
| Not migrant education | 1,452 | 0.87 | 5.34 |
| Armed forces family member | 15 | 0.90 | 6.53 |
| Not armed forces family member | 1,445 | 0.87 | 5.32 |
| Homeless | 57 | 0.87 | 5.20 |
| Not homeless | 1,403 | 0.87 | 5.34 |
| Foster youth | 4 | N/A | N/A |
| Not foster youth | 1,456 | 0.87 | 5.34 |

Table 8.E.3 Reliability Estimates by Student Group for Grade Two

|  |  |  |  |
| --- | --- | --- | --- |
| Student Group | N | Reliability | SEM |
| All | 1,341 | 0.88 | 5.55 |
| Male | 956 | 0.88 | 5.61 |
| Female | 384 | 0.87 | 5.41 |
| Nonbinary | 1 | N/A | N/A |
| American Indian or Alaska Native | 1 | N/A | N/A |
| Asian | 199 | 0.88 | 5.72 |
| Native Hawaiian or Other Pacific Islander | 6 | N/A | N/A |
| Filipino | 16 | 0.88 | 5.63 |
| Hispanic or Latino | 987 | 0.87 | 5.51 |
| Black or African American | 17 | 0.88 | 5.52 |
| White | 89 | 0.87 | 5.52 |
| Two or more races | 26 | 0.88 | 5.86 |
| Intellectual disability | 415 | 0.86 | 5.21 |
| Hearing impairment | 5 | N/A | N/A |
| Speech or language impairment | 19 | 0.82 | 6.49 |
| Visual impairment | 1 | N/A | N/A |
| Emotional impairment | 0 | N/A | N/A |
| Orthopedic impairment | 17 | 0.86 | 4.96 |
| Other health impairment | 63 | 0.88 | 5.90 |
| Specific learning disability | 12 | 0.69 | 6.40 |
| Deaf-blindness | 0 | N/A | N/A |
| Multiple disabilities | 63 | 0.81 | 6.31 |
| Autism | 743 | 0.88 | 5.61 |
| Traumatic brain injury | 2 | N/A | N/A |
| Not classified | 1 | N/A | N/A |
| Not economically disadvantaged | 270 | 0.89 | 6.02 |
| Economically disadvantaged | 1,071 | 0.87 | 5.43 |
| In US schools less than 12 months | 46 | 0.81 | 5.36 |
| In US schools 12 months or more | 1,289 | 0.88 | 5.56 |
| Duration unknown | 6 | N/A | N/A |
| Migrant education | 20 | 0.89 | 5.99 |
| Not migrant education | 1,321 | 0.87 | 5.55 |
| Armed forces family member | 11 | 0.89 | 6.03 |
| Not armed forces family member | 1,330 | 0.87 | 5.55 |
| Homeless | 49 | 0.87 | 5.60 |
| Not homeless | 1,292 | 0.88 | 5.55 |
| Foster youth | 4 | N/A | N/A |
| Not foster youth | 1,337 | 0.87 | 5.55 |

Table 8.E.4 Reliability Estimates by Student Group for Grade Span Three Through Five

|  |  |  |  |
| --- | --- | --- | --- |
| Student Group | N | Reliability | SEM |
| All | 4,051 | 0.87 | 4.66 |
| Male | 2,760 | 0.87 | 4.67 |
| Female | 1,290 | 0.87 | 4.66 |
| Nonbinary | 1 | N/A | N/A |
| American Indian or Alaska Native | 9 | N/A | N/A |
| Asian | 605 | 0.86 | 4.45 |
| Native Hawaiian or Other Pacific Islander | 16 | 0.88 | 4.20 |
| Filipino | 82 | 0.86 | 4.53 |
| Hispanic or Latino | 3,067 | 0.87 | 4.72 |
| Black or African American | 40 | 0.88 | 4.69 |
| White | 172 | 0.88 | 4.58 |
| Two or more races | 60 | 0.85 | 4.51 |
| Intellectual disability | 1,636 | 0.86 | 4.51 |
| Hearing impairment | 25 | 0.86 | 4.45 |
| Speech or language impairment | 73 | 0.72 | 5.16 |
| Visual impairment | 5 | N/A | N/A |
| Emotional impairment | 5 | N/A | N/A |
| Orthopedic impairment | 63 | 0.88 | 4.59 |
| Other health impairment | 173 | 0.84 | 4.99 |
| Specific learning disability | 106 | 0.54 | 6.26 |
| Deaf-blindness | 0 | N/A | N/A |
| Multiple disabilities | 195 | 0.88 | 4.92 |
| Autism | 1,763 | 0.87 | 4.61 |
| Traumatic brain injury | 7 | N/A | N/A |
| Not classified | 0 | N/A | N/A |
| Not economically disadvantaged | 891 | 0.87 | 4.57 |
| Economically disadvantaged | 3,160 | 0.87 | 4.69 |
| In US schools less than 12 months | 70 | 0.89 | 4.87 |
| In US schools 12 months or more | 3,945 | 0.87 | 4.66 |
| Duration unknown | 36 | 0.88 | 4.52 |
| Migrant education | 54 | 0.85 | 4.68 |
| Not migrant education | 3,997 | 0.87 | 4.66 |
| Armed forces family member | 42 | 0.87 | 4.95 |
| Not armed forces family member | 4,009 | 0.87 | 4.66 |
| Homeless | 168 | 0.88 | 4.96 |
| Not homeless | 3,883 | 0.87 | 4.65 |
| Foster youth | 16 | 0.87 | 5.61 |
| Not foster youth | 4,035 | 0.87 | 4.66 |

Table 8.E.5 Reliability Estimates by Student Group for Grade Span Six Through Eight

|  |  |  |  |
| --- | --- | --- | --- |
| Student Group | N | Reliability | SEM |
| All | 3,033 | 0.86 | 4.99 |
| Male | 2,003 | 0.87 | 5.01 |
| Female | 1,030 | 0.86 | 4.95 |
| Nonbinary | 0 | N/A | N/A |
| American Indian or Alaska Native | 7 | N/A | N/A |
| Asian | 437 | 0.87 | 4.82 |
| Native Hawaiian or Other Pacific Islander | 9 | N/A | N/A |
| Filipino | 56 | 0.88 | 4.74 |
| Hispanic or Latino | 2,353 | 0.86 | 5.04 |
| Black or African American | 16 | 0.90 | 4.63 |
| White | 132 | 0.87 | 4.75 |
| Two or more races | 23 | 0.87 | 4.57 |
| Intellectual disability | 1,433 | 0.86 | 4.93 |
| Hearing impairment | 23 | 0.87 | 4.98 |
| Speech or language impairment | 29 | 0.39 | 6.07 |
| Visual impairment | 4 | N/A | N/A |
| Emotional impairment | 7 | N/A | N/A |
| Orthopedic impairment | 43 | 0.89 | 5.28 |
| Other health impairment | 114 | 0.72 | 5.21 |
| Specific learning disability | 120 | 0.24 | 6.31 |
| Deaf-blindness | 1 | N/A | N/A |
| Multiple disabilities | 158 | 0.89 | 5.14 |
| Autism | 1,096 | 0.86 | 4.78 |
| Traumatic brain injury | 4 | N/A | N/A |
| Not classified | 1 | N/A | N/A |
| Not economically disadvantaged | 658 | 0.87 | 4.73 |
| Economically disadvantaged | 2,375 | 0.86 | 5.06 |
| In US schools less than 12 months | 44 | 0.88 | 4.56 |
| In US schools 12 months or more | 2,974 | 0.86 | 4.99 |
| Duration unknown | 15 | 0.89 | 5.62 |
| Migrant education | 40 | 0.83 | 5.21 |
| Not migrant education | 2,993 | 0.87 | 4.99 |
| Armed forces family member | 16 | 0.89 | 5.19 |
| Not armed forces family member | 3,017 | 0.86 | 4.99 |
| Homeless | 124 | 0.84 | 4.96 |
| Not homeless | 2,909 | 0.87 | 4.99 |
| Foster youth | 10 | N/A | N/A |
| Not foster youth | 3,023 | 0.87 | 4.99 |

Table 8.E.6 Reliability Estimates by Student Group for Grade Span Nine and Ten

|  |  |  |  |
| --- | --- | --- | --- |
| Student Group | N | Reliability | SEM |
| All | 1,431 | 0.87 | 4.39 |
| Male | 945 | 0.87 | 4.37 |
| Female | 486 | 0.87 | 4.42 |
| Nonbinary | 0 | N/A | N/A |
| American Indian or Alaska Native | 2 | N/A | N/A |
| Asian | 193 | 0.87 | 4.27 |
| Native Hawaiian or Other Pacific Islander | 8 | N/A | N/A |
| Filipino | 22 | 0.86 | 4.18 |
| Hispanic or Latino | 1,112 | 0.87 | 4.44 |
| Black or African American | 15 | 0.87 | 4.23 |
| White | 69 | 0.88 | 4.08 |
| Two or more races | 10 | N/A | N/A |
| Intellectual disability | 788 | 0.86 | 4.25 |
| Hearing impairment | 5 | N/A | N/A |
| Speech or language impairment | 7 | N/A | N/A |
| Visual impairment | 3 | N/A | N/A |
| Emotional impairment | 6 | N/A | N/A |
| Orthopedic impairment | 24 | 0.90 | 4.13 |
| Other health impairment | 47 | 0.80 | 5.41 |
| Specific learning disability | 49 | 0.64 | 5.21 |
| Deaf-blindness | 0 | N/A | N/A |
| Multiple disabilities | 87 | 0.88 | 4.29 |
| Autism | 410 | 0.86 | 4.43 |
| Traumatic brain injury | 5 | N/A | N/A |
| Not classified | 0 | N/A | N/A |
| Not economically disadvantaged | 275 | 0.87 | 4.35 |
| Economically disadvantaged | 1,156 | 0.87 | 4.40 |
| In US schools less than 12 months | 26 | 0.88 | 3.70 |
| In US schools 12 months or more | 1,397 | 0.87 | 4.40 |
| Duration unknown | 8 | N/A | N/A |
| Migrant education | 22 | 0.88 | 4.16 |
| Not migrant education | 1,409 | 0.87 | 4.39 |
| Armed forces family member | 8 | N/A | N/A |
| Not armed forces family member | 1,423 | 0.87 | 4.38 |
| Homeless | 49 | 0.87 | 4.46 |
| Not homeless | 1,382 | 0.87 | 4.39 |
| Foster youth | 9 | N/A | N/A |
| Not foster youth | 1,422 | 0.87 | 4.39 |

Table 8.E.7 Reliability Estimates by Student Group for Grade Span Eleven and Twelve

|  |  |  |  |
| --- | --- | --- | --- |
| Student Group | N | Reliability | SEM |
| All | 2,554 | 0.87 | 4.55 |
| Male | 1,649 | 0.87 | 4.55 |
| Female | 904 | 0.87 | 4.53 |
| Nonbinary | 1 | N/A | N/A |
| American Indian or Alaska Native | 3 | N/A | N/A |
| Asian | 368 | 0.87 | 4.28 |
| Native Hawaiian or Other Pacific Islander | 13 | 0.80 | 4.34 |
| Filipino | 52 | 0.90 | 4.68 |
| Hispanic or Latino | 1,986 | 0.87 | 4.59 |
| Black or African American | 17 | 0.89 | 4.18 |
| White | 94 | 0.89 | 4.59 |
| Two or more races | 21 | 0.88 | 4.94 |
| Intellectual disability | 1,365 | 0.85 | 4.41 |
| Hearing impairment | 23 | 0.79 | 4.33 |
| Speech or language impairment | 9 | N/A | N/A |
| Visual impairment | 8 | N/A | N/A |
| Emotional impairment | 12 | 0.77 | 6.03 |
| Orthopedic impairment | 53 | 0.91 | 4.93 |
| Other health impairment | 69 | 0.78 | 5.09 |
| Specific learning disability | 54 | 0.54 | 5.79 |
| Deaf-blindness | 1 | N/A | N/A |
| Multiple disabilities | 189 | 0.90 | 4.61 |
| Autism | 752 | 0.86 | 4.52 |
| Traumatic brain injury | 18 | 0.87 | 4.80 |
| Not classified | 1 | N/A | N/A |
| Not economically disadvantaged | 671 | 0.88 | 4.48 |
| Economically disadvantaged | 1,883 | 0.86 | 4.57 |
| In US schools less than 12 months | 21 | 0.87 | 4.08 |
| In US schools 12 months or more | 2,516 | 0.87 | 4.55 |
| Duration unknown | 17 | 0.90 | 4.87 |
| Migrant education | 25 | 0.85 | 4.60 |
| Not migrant education | 2,529 | 0.87 | 4.55 |
| Armed forces family member | 15 | 0.87 | 4.76 |
| Not armed forces family member | 2,539 | 0.87 | 4.55 |
| Homeless | 85 | 0.81 | 4.86 |
| Not homeless | 2,469 | 0.87 | 4.54 |
| Foster youth | 12 | 0.90 | 5.58 |
| Not foster youth | 2,542 | 0.87 | 4.54 |

Table 8.E.8 Classification Accuracy and Consistency

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Grade Level or Grade Span | Cut Between Level 1 and Level 2 Accuracy | Cut Between Level 1 and Level 2 Consistency | Cut Between Level 2 and Level 3 Accuracy | Cut Between Level 2 and Level 3 Consistency | Overall Accuracy | Overall Consistency |
| Kindergarten | 0.87 | 0.83 | 0.91 | 0.88 | 0.78 | 0.71 |
| 1 | 0.88 | 0.84 | 0.90 | 0.87 | 0.78 | 0.71 |
| 2 | 0.88 | 0.85 | 0.91 | 0.88 | 0.80 | 0.73 |
| 3–5 | 0.88 | 0.84 | 0.89 | 0.86 | 0.78 | 0.70 |
| 6–8 | 0.90 | 0.87 | 0.87 | 0.84 | 0.77 | 0.71 |
| 9–10 | 0.88 | 0.85 | 0.89 | 0.86 | 0.77 | 0.70 |
| 11–12 | 0.89 | 0.86 | 0.90 | 0.87 | 0.79 | 0.73 |

### Appendix 8.F: Raw-to-Scale-Score Conversions

Table 8.F.1 Raw-to-Scale-Score Conversion Table for Kindergarten

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Scale Score | CSEM | Level |
| 0 | 201 | 50 | 1 |
| 1 | 214 | 11 | 1 |
| 2 | 222 | 8 | 1 |
| 3 | 227 | 6 | 1 |
| 4 | 231 | 6 | 1 |
| 5 | 233 | 5 | 1 |
| 6 | 236 | 5 | 1 |
| 7 | 238 | 4 | 1 |
| 8 | 239 | 4 | 1 |
| 9 | 241 | 4 | 1 |
| 10 | 242 | 4 | 1 |
| 11 | 244 | 4 | 2 |
| 12 | 245 | 4 | 2 |
| 13 | 247 | 4 | 2 |
| 14 | 248 | 4 | 2 |
| 15 | 249 | 4 | 2 |
| 16 | 250 | 4 | 2 |
| 17 | 252 | 4 | 2 |
| 18 | 253 | 4 | 2 |
| 19 | 254 | 4 | 2 |
| 20 | 255 | 4 | 2 |
| 21 | 257 | 4 | 2 |
| 22 | 258 | 4 | 2 |
| 23 | 259 | 4 | 2 |
| 24 | 261 | 4 | 3 |
| 25 | 263 | 4 | 3 |
| 26 | 265 | 5 | 3 |
| 27 | 267 | 5 | 3 |
| 28 | 269 | 6 | 3 |
| 29 | 273 | 6 | 3 |
| 30 | 277 | 8 | 3 |
| 31 | 285 | 11 | 3 |
| 32 | 299 | 31 | 3 |

Table 8.F.2 Raw-to-Scale-Score Conversion Table for Grade One

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Scale Score | CSEM | Level |
| 0 | 301 | 41 | 1 |
| 1 | 311 | 11 | 1 |
| 2 | 320 | 8 | 1 |
| 3 | 325 | 7 | 1 |
| 4 | 329 | 6 | 1 |
| 5 | 332 | 5 | 1 |
| 6 | 334 | 5 | 1 |
| 7 | 336 | 5 | 1 |
| 8 | 338 | 5 | 1 |
| 9 | 340 | 4 | 1 |
| 10 | 342 | 4 | 1 |
| 11 | 343 | 4 | 1 |
| 12 | 345 | 4 | 2 |
| 13 | 346 | 4 | 2 |
| 14 | 348 | 4 | 2 |
| 15 | 349 | 4 | 2 |
| 16 | 350 | 4 | 2 |
| 17 | 352 | 4 | 2 |
| 18 | 353 | 4 | 2 |
| 19 | 354 | 4 | 2 |
| 20 | 356 | 4 | 2 |
| 21 | 357 | 4 | 2 |
| 22 | 358 | 4 | 2 |
| 23 | 360 | 4 | 3 |
| 24 | 362 | 4 | 3 |
| 25 | 364 | 5 | 3 |
| 26 | 366 | 5 | 3 |
| 27 | 368 | 6 | 3 |
| 28 | 372 | 6 | 3 |
| 29 | 376 | 8 | 3 |
| 30 | 384 | 11 | 3 |
| 31 | 399 | 41 | 3 |

Table 8.F.3 Raw-to-Scale-Score Conversion Table for Grade Two

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Scale Score | CSEM | Level |
| 0 | 401 | 40 | 1 |
| 1 | 408 | 11 | 1 |
| 2 | 416 | 8 | 1 |
| 3 | 421 | 7 | 1 |
| 4 | 425 | 6 | 1 |
| 5 | 428 | 6 | 1 |
| 6 | 431 | 5 | 1 |
| 7 | 433 | 5 | 1 |
| 8 | 435 | 5 | 1 |
| 9 | 437 | 4 | 1 |
| 10 | 439 | 4 | 1 |
| 11 | 440 | 4 | 1 |
| 12 | 442 | 4 | 1 |
| 13 | 443 | 4 | 1 |
| 14 | 445 | 4 | 2 |
| 15 | 446 | 4 | 2 |
| 16 | 448 | 4 | 2 |
| 17 | 449 | 4 | 2 |
| 18 | 451 | 4 | 2 |
| 19 | 452 | 4 | 2 |
| 20 | 454 | 4 | 2 |
| 21 | 456 | 4 | 2 |
| 22 | 458 | 5 | 2 |
| 23 | 460 | 5 | 3 |
| 24 | 462 | 5 | 3 |
| 25 | 464 | 6 | 3 |
| 26 | 467 | 6 | 3 |
| 27 | 471 | 7 | 3 |
| 28 | 476 | 8 | 3 |
| 29 | 484 | 11 | 3 |
| 30 | 499 | 38 | 3 |

Table 8.F.4 Raw-to-Scale-Score Conversion Table for Grade Span Three Through Five

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Scale Score | CSEM | Level |
| 0 | 501 | 24 | 1 |
| 1 | 514 | 9 | 1 |
| 2 | 521 | 7 | 1 |
| 3 | 525 | 6 | 1 |
| 4 | 528 | 5 | 1 |
| 5 | 531 | 5 | 1 |
| 6 | 533 | 4 | 1 |
| 7 | 535 | 4 | 1 |
| 8 | 536 | 4 | 1 |
| 9 | 538 | 4 | 1 |
| 10 | 539 | 4 | 1 |
| 11 | 541 | 4 | 1 |
| 12 | 542 | 3 | 1 |
| 13 | 543 | 3 | 1 |
| 14 | 545 | 3 | 2 |
| 15 | 546 | 3 | 2 |
| 16 | 547 | 3 | 2 |
| 17 | 549 | 3 | 2 |
| 18 | 550 | 4 | 2 |
| 19 | 551 | 4 | 2 |
| 20 | 553 | 4 | 2 |
| 21 | 554 | 4 | 2 |
| 22 | 556 | 4 | 2 |
| 23 | 557 | 4 | 2 |
| 24 | 559 | 4 | 2 |
| 25 | 561 | 5 | 3 |
| 26 | 564 | 5 | 3 |
| 27 | 567 | 6 | 3 |
| 28 | 571 | 7 | 3 |
| 29 | 578 | 9 | 3 |
| 30 | 599 | 41 | 3 |

Table 8.F.5 Raw-to-Scale-Score Conversion Table for Grade Span Six Through Eight

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Scale Score | CSEM | Level |
| 0 | 601 | 17 | 1 |
| 1 | 613 | 9 | 1 |
| 2 | 620 | 7 | 1 |
| 3 | 624 | 6 | 1 |
| 4 | 627 | 5 | 1 |
| 5 | 630 | 5 | 1 |
| 6 | 632 | 4 | 1 |
| 7 | 634 | 4 | 1 |
| 8 | 636 | 4 | 1 |
| 9 | 637 | 4 | 1 |
| 10 | 639 | 4 | 1 |
| 11 | 640 | 4 | 1 |
| 12 | 641 | 4 | 1 |
| 13 | 643 | 3 | 1 |
| 14 | 644 | 3 | 2 |
| 15 | 645 | 3 | 2 |
| 16 | 647 | 3 | 2 |
| 17 | 648 | 3 | 2 |
| 18 | 649 | 3 | 2 |
| 19 | 651 | 4 | 2 |
| 20 | 652 | 4 | 2 |
| 21 | 654 | 4 | 2 |
| 22 | 655 | 4 | 2 |
| 23 | 657 | 4 | 2 |
| 24 | 659 | 4 | 2 |
| 25 | 661 | 4 | 3 |
| 26 | 663 | 5 | 3 |
| 27 | 666 | 6 | 3 |
| 28 | 670 | 7 | 3 |
| 29 | 676 | 9 | 3 |
| 30 | 699 | 56 | 3 |

Table 8.F.6 Raw-to-Scale-Score Conversion Table for Grade Span Nine and Ten

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Scale Score | CSEM | Level |
| 0 | 701 | 15 | 1 |
| 1 | 715 | 8 | 1 |
| 2 | 721 | 6 | 1 |
| 3 | 725 | 5 | 1 |
| 4 | 728 | 4 | 1 |
| 5 | 730 | 4 | 1 |
| 6 | 732 | 4 | 1 |
| 7 | 734 | 4 | 1 |
| 8 | 735 | 3 | 1 |
| 9 | 737 | 3 | 1 |
| 10 | 738 | 3 | 1 |
| 11 | 739 | 3 | 1 |
| 12 | 740 | 3 | 1 |
| 13 | 741 | 3 | 1 |
| 14 | 743 | 3 | 1 |
| 15 | 744 | 3 | 2 |
| 16 | 745 | 3 | 2 |
| 17 | 746 | 3 | 2 |
| 18 | 747 | 3 | 2 |
| 19 | 748 | 3 | 2 |
| 20 | 750 | 3 | 2 |
| 21 | 751 | 3 | 2 |
| 22 | 752 | 3 | 2 |
| 23 | 754 | 4 | 2 |
| 24 | 755 | 4 | 2 |
| 25 | 757 | 4 | 2 |
| 26 | 759 | 4 | 2 |
| 27 | 762 | 5 | 3 |
| 28 | 765 | 6 | 3 |
| 29 | 771 | 8 | 3 |
| 30 | 799 | 50 | 3 |

Table 8.F.7 Raw-to-Scale-Score Conversion Table for Grade Span Eleven and Twelve

|  |  |  |  |
| --- | --- | --- | --- |
| Raw Score | Scale Score | CSEM | Level |
| 0 | 801 | 13 | 1 |
| 1 | 813 | 8 | 1 |
| 2 | 819 | 6 | 1 |
| 3 | 823 | 5 | 1 |
| 4 | 826 | 4 | 1 |
| 5 | 828 | 4 | 1 |
| 6 | 830 | 4 | 1 |
| 7 | 832 | 4 | 1 |
| 8 | 833 | 3 | 1 |
| 9 | 835 | 3 | 1 |
| 10 | 836 | 3 | 1 |
| 11 | 837 | 3 | 1 |
| 12 | 838 | 3 | 1 |
| 13 | 840 | 3 | 1 |
| 14 | 841 | 3 | 1 |
| 15 | 842 | 3 | 1 |
| 16 | 843 | 3 | 1 |
| 17 | 844 | 3 | 2 |
| 18 | 846 | 3 | 2 |
| 19 | 847 | 3 | 2 |
| 20 | 848 | 3 | 2 |
| 21 | 849 | 3 | 2 |
| 22 | 851 | 3 | 2 |
| 23 | 852 | 3 | 2 |
| 24 | 854 | 4 | 2 |
| 25 | 856 | 4 | 2 |
| 26 | 858 | 4 | 2 |
| 27 | 860 | 5 | 3 |
| 28 | 864 | 6 | 3 |
| 29 | 869 | 8 | 3 |
| 30 | 899 | 56 | 3 |

### Appendix 8.G: Interrater Reliability

Table 8.G.1 Interrater Reliability for Kindergarten

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Maximum Points | Number of Responses | Kappa | QWK | Percent Exact | Percent Adjacent | Percent Discrepant |
| VR131711 | 2 | 227 | 0.87 | 0.92 | 93 | 6 | 2 |
| VR139022 | 2 | 242 | 0.87 | 0.89 | 92 | 4 | 4 |
| VR139973 | 2 | 253 | 0.84 | 0.87 | 91 | 5 | 5 |
| VR140040 | 2 | 245 | 0.81 | 0.86 | 89 | 6 | 4 |
| VR154458 | 2 | 226 | 0.90 | 0.94 | 94 | 5 | 1 |
| VR154465 | 2 | 231 | 0.81 | 0.89 | 91 | 7 | 2 |
| VR154722 | 2 | 219 | 0.90 | 0.92 | 94 | 4 | 2 |
| VR154725 | 2 | 226 | 0.81 | 0.87 | 91 | 6 | 3 |
| VR215978 | 2 | 225 | 0.88 | 0.91 | 93 | 5 | 2 |
| VR216450 | 2 | 256 | 0.84 | 0.89 | 92 | 5 | 3 |
| VR223164 | 2 | 223 | 0.85 | 0.89 | 91 | 6 | 3 |
| **AVERAGE:** | **N/A** | **234** | **0.85** | **0.89** | **92** | **5** | **3** |

Table 8.G.2 Interrater Reliability for Grade One

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Maximum Points | Number of Responses | Kappa | QWK | Percent Exact | Percent Adjacent | Percent Discrepant |
| VR053970 | 2 | 246 | 0.81 | 0.84 | 91 | 4 | 5 |
| VR130428 | 2 | 224 | 0.81 | 0.86 | 88 | 8 | 4 |
| VR133983 | 2 | 220 | 0.83 | 0.88 | 90 | 6 | 4 |
| VR137618 | 2 | 237 | 0.81 | 0.84 | 90 | 4 | 6 |
| VR137784 | 2 | 238 | 0.85 | 0.87 | 92 | 3 | 5 |
| VR150707 | 2 | 221 | 0.82 | 0.87 | 89 | 7 | 4 |
| VR154753 | 2 | 220 | 0.85 | 0.88 | 90 | 6 | 3 |
| VR154755 | 2 | 218 | 0.86 | 0.86 | 91 | 6 | 3 |
| VR288858 | 2 | 219 | 0.82 | 0.86 | 89 | 5 | 5 |
| VR288934 | 2 | 220 | 0.84 | 0.88 | 90 | 9 | 1 |
| **AVERAGE:** | **N/A** | **226** | **0.83** | **0.86** | **90** | **6** | **4** |

Table 8.G.3 Interrater Reliability for Grade Two

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Maximum Points | Number of Responses | Kappa | QWK | Percent Exact | Percent Adjacent | Percent Discrepant |
| VR061021 | 2 | 197 | 0.77 | 0.84 | 89 | 7 | 4 |
| VR134677 | 2 | 186 | 0.73 | 0.81 | 84 | 10 | 6 |
| VR140209 | 2 | 194 | 0.79 | 0.83 | 89 | 6 | 5 |
| VR151624 | 2 | 186 | 0.83 | 0.88 | 90 | 7 | 3 |
| VR155670 | 2 | 188 | 0.81 | 0.87 | 88 | 11 | 1 |
| VR193828 | 2 | 197 | 0.83 | 0.91 | 90 | 8 | 2 |
| VR223063 | 2 | 191 | 0.83 | 0.88 | 90 | 9 | 1 |
| VR289172 | 2 | 187 | 0.84 | 0.86 | 90 | 6 | 4 |
| VR289185 | 2 | 187 | 0.84 | 0.85 | 90 | 7 | 2 |
| **AVERAGE:** | **N/A** | **190** | **0.81** | **0.86** | **89** | **8** | **3** |

Table 8.G.4 Interrater Reliability for Grade Span Three Through Five

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Maximum Points | Number of Responses | Kappa | QWK | Percent Exact | Percent Adjacent | Percent Discrepant |
| VR053990 | 2 | 681 | 0.78 | 0.82 | 90 | 5 | 5 |
| VR140236 | 2 | 637 | 0.81 | 0.87 | 88 | 9 | 3 |
| VR144428 | 2 | 672 | 0.74 | 0.83 | 88 | 8 | 4 |
| VR151097 | 2 | 631 | 0.81 | 0.87 | 88 | 8 | 3 |
| VR155154 | 2 | 648 | 0.78 | 0.82 | 87 | 11 | 2 |
| VR155163 | 2 | 645 | 0.79 | 0.82 | 87 | 10 | 3 |
| VR289104 | 2 | 626 | 0.83 | 0.88 | 90 | 7 | 3 |
| VR289115 | 2 | 628 | 0.78 | 0.81 | 87 | 11 | 2 |
| VR291625 | 2 | 680 | 0.79 | 0.82 | 92 | 4 | 4 |
| **AVERAGE:** | **N/A** | **650** | **0.79** | **0.84** | **89** | **8** | **3** |

Table 8.G.5 Interrater Reliability for Grade Span Six Through Eight

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Maximum Points | Number of Responses | Kappa | QWK | Percent Exact | Percent Adjacent | Percent Discrepant |
| VR133811 | 2 | 555 | 0.72 | 0.78 | 83 | 13 | 5 |
| VR146758 | 2 | 577 | 0.79 | 0.83 | 92 | 4 | 4 |
| VR148864 | 2 | 558 | 0.83 | 0.87 | 90 | 7 | 3 |
| VR167959 | 2 | 557 | 0.79 | 0.84 | 86 | 11 | 3 |
| VR167974 | 2 | 561 | 0.83 | 0.85 | 90 | 8 | 2 |
| VR213047 | 2 | 577 | 0.81 | 0.83 | 95 | 3 | 2 |
| VR289210 | 2 | 552 | 0.78 | 0.83 | 87 | 10 | 4 |
| VR289212 | 2 | 555 | 0.78 | 0.77 | 88 | 9 | 3 |
| VR291640 | 2 | 578 | 0.83 | 0.89 | 92 | 6 | 2 |
| **AVERAGE:** | **N/A** | **563** | **0.79** | **0.83** | **89** | **8** | **3** |

Table 8.G.6 Interrater Reliability for Grade Span Nine and Ten

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Maximum Points | Number of Responses | Kappa | QWK | Percent Exact | Percent Adjacent | Percent Discrepant |
| VR132823 | 2 | 251 | 0.84 | 0.89 | 92 | 5 | 3 |
| VR145310 | 2 | 258 | 0.88 | 0.92 | 95 | 3 | 2 |
| VR150525 | 2 | 249 | 0.88 | 0.93 | 92 | 6 | 2 |
| VR154860 | 2 | 253 | 0.83 | 0.82 | 91 | 6 | 3 |
| VR154926 | 2 | 255 | 0.85 | 0.88 | 90 | 7 | 2 |
| VR191268 | 2 | 255 | 0.85 | 0.85 | 94 | 2 | 4 |
| VR289227 | 2 | 244 | 0.85 | 0.89 | 92 | 5 | 3 |
| VR289229 | 2 | 245 | 0.88 | 0.90 | 94 | 5 | 1 |
| VR291679 | 2 | 252 | 0.85 | 0.88 | 96 | 2 | 2 |
| **AVERAGE:** | N/A | 251 | 0.86 | 0.88 | 93 | 5 | 2 |

Table 8.G.7 Interrater Reliability for Grade Span Eleven and Twelve

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Item ID | Maximum Points | Number of Responses | Kappa | QWK | Percent Exact | Percent Adjacent | Percent Discrepant |
| VR132823 | 2 | 474 | 0.85 | 0.90 | 92 | 6 | 2 |
| VR144875 | 2 | 487 | 0.79 | 0.84 | 93 | 4 | 3 |
| VR155083 | 2 | 479 | 0.81 | 0.84 | 89 | 9 | 2 |
| VR155088 | 2 | 477 | 0.84 | 0.89 | 90 | 7 | 3 |
| VR191381 | 2 | 491 | 0.81 | 0.87 | 93 | 5 | 2 |
| VR218864 | 2 | 474 | 0.83 | 0.90 | 90 | 8 | 2 |
| VR289314 | 2 | 475 | 0.81 | 0.87 | 91 | 7 | 2 |
| VR289327 | 2 | 476 | 0.85 | 0.87 | 92 | 7 | 2 |
| VR291669 | 2 | 488 | 0.78 | 0.86 | 93 | 5 | 3 |
| **AVERAGE:** | **N/A** | **480** | **0.82** | **0.87** | **91** | **6** | **2** |

## Quality-Control Procedures

The California Department of Education (CDE) and ETS implemented rigorous quality-control procedures throughout the assessment development, administration, scoring, analyses, and reporting processes for the Summative Alternate English Language Proficiency Assessments for California (ELPAC). As part of this effort, ETS’ staff worked with its Office of Professional Standards Compliance, which publishes and maintains the *ETS Standards for Quality and Fairness* (ETS, 2014). These *Standards* support the goals of delivering technically sound, fair, and useful products and services; and assisting the public and auditors evaluating those products and services. Quality-control procedures are outlined in this chapter.

### Quality Control of Item Development

ETS’ goal is to provide the best standards-based and innovative items for the Summative Alternate ELPAC. Items developed for the Summative Alternate ELPAC were subject to an extensive item review process. The item writers responsible for developing Summative Alternate ELPAC items were trained in ELPAC and ETS’ policies on quality control of item content, bias and sensitivity guidelines, as well as guidelines for accessibility, to ensure that the items allow the widest possible range of students to demonstrate their abilities.

Once a draft item was accepted for authoring—that is, once it was entered into ETS’ item bank and formatted for use in an assessment—ETS employed a series of internal reviews and an initial CDE review. These reviews used established criteria and specifications to judge the quality of an item’s content and ensured that each item measured what it was intended to measure. These reviews also examined the overall quality of the test items before presentation to the CDE and item reviewers. To finish the process, a group of California educators reviewed the items for accessibility, bias and sensitivity, and content, and made recommendations for item enhancement. The details on quality control of item development are described in section [*3.2 ETS Item Review Process*](#_ETS_Item_Review_2).

During administrations of the Summative Alternate ELPAC, when sufficient student response data on each item became available, ETS’ Psychometric Analysis & Research (PAR) staff conducted item analyses and a key check to examine whether the items performed as expected. ETS’ psychometric staff conducted a thorough evaluation of all item statistics using the statistical criteria described in subsection [*8.2.6 Summary of Classical Item Analyses Flagging Criteria*](#_Summary_of_Classical_3) to flag items that were potentially problematic because of poor item performance, content issues, item bias, or accessibility challenges. Flagged items were then reviewed by ETS’ Assessment & Learning Technology Development (ALTD) staff, the CDE, and California educators to determine whether issues existed.

### Quality Control of Test Assembly and Delivery

The assembly of all test forms must conform to blueprints that represent a set of constraints and specifications. ETS conducted multiple levels of quality assurance (QA) checks on each assembled Summative Alternate ELPAC form to ensure it met the form-building specifications. Both ETS’ ALTD and PAR staff reviewed and signed off on the accuracy of forms before the test forms were posted for CDE review. Detailed information related to test assembly can be found in [*Chapter 4: Test Assembly*](#_Toc122102494).

In particular, the assembly of all test forms went through a certification process that involved various checks, including verifying that

* all item answers in the key were correctly identified and documented in the scoring system;
* items were scored correctly in the item bank and incorrect responses were scored as incorrect;
* all items assessed the intended standard;
* all content in the item was correct with the exception of distractors, which are intended to be incorrect;
* all items met the statistical criteria, to the extent possible;
* distractors were plausible;
* multiple-choice, single-select (MCSS) item options were parallel in structure;
* language was grade-level appropriate;
* no more than three MCSS items in a row had the same key;
* all graphics were correct (copyright, spelling, relevance, etc.);
* there were no unintended mechanical errors in grammar, spelling, punctuation, and the like; and
* items adhered to the approved style guide.

Reviews were also conducted for functionality and sequencing during the user acceptance testing (UAT) process to ensure all items functioned as expected. Three cycles of UAT were conducted: the first by the test delivery system (TDS) vendor, the second by ETS, and the third by the CDE. CDE staff made a final quality check to ensure that all issues identified during UAT were resolved before the release of the operational assessment.

#### Quality Control of Test Assignment

Test assignment for the ELPAC, including the Summative Alternate ELPAC, is controlled by the Test Operations Management System (TOMS), using student demographic information received from the California Longitudinal Pupil Achievement Data System (CALPADS) (CDE, 2023b). The two systems are kept in sync during the testing window.

Students at eligible grade levels were assigned to the general ELPAC by default. For students eligible for the Summative Alternate ELPAC, local educational agencies (LEAs) logged on to TOMS and assigned students to take the alternate assessment, which automatically unassigned those students from taking the general ELPAC. The CDE provided guidance to support LEAs in determining which students were eligible for the Summative Alternate ELPAC (CDE, 2023a).

The quality of test assignment for the Summative Alternate ELPAC was monitored and controlled through several strategies. TOMS enforced preconditions for eligibility for the Summative Alternate ELPAC by permitting assignment only for students with an Individuals with Disabilities Education Act (IDEA)11F[[4]](#footnote-5) indicator of “Yes” as sent by CALPADS.

Additionally, TOMS prevented the prohibited “mixing and matching” of assessments—a student assigned to take an alternate assessment was automatically prevented from assignment to a general assessment.

### Quality Control of Test Materials

Brief descriptions of the types of materials used for and during testing appear in the following subsections.

#### Test Administration Manuals

ETS’ staff verified that test instruction manuals accurately matched the test materials and testing processes. Editors reviewed each document for spelling, grammar, accuracy, and adherence to CDE style. Each document was approved by the CDE before being published to the ELPAC website. Only nonsecure documents were posted to this website. Secure materials, such as the *Summative Alternate ELPAC Directions for Administration*, were made available to designated LEA staff through TOMS, which required a secure logon.

The manuals used in the administration of the Summative Alternate ELPAC are listed in subsection [*5.3.4 Instructions for Test Administration*](#_Instructions_for_Test_2).

#### Processing Test Materials

The ways in which materials associated with student testing were processed are described in subsequent subsections.

##### Computer-based Assessments

Computer-based assessments submitted by students were transmitted from Cambium Assessment, Inc. (CAI) to ETS each day. Each system checked for the completeness of the student record and stopped records that were identified as having an error. (For example, the system would identify a test part that was missing a content registration ID, a unique identifier that matches the student’s opportunities.)

### Quality Control of Test Administration

The quality of test administration for the Summative Alternate ELPAC was monitored and controlled through several strategies.

A fully supported Outreach team that includes California Technical Assistance Center phone support and Success Agents supported all LEAs in the administration of the ELPAC. In addition to providing guidance and answering questions, the Outreach team regularly conducted campaigns on particular administration topics to ensure all LEAs understood correct test administration procedures. Outreach was guided by individuals who managed communications to LEAs; provided regional and web-based trainings; and hosted a website, [the](https://www.caaspp.org/) ELPAC website, that housed a full range of manuals, videos, and other instructional and support materials.

The quality of test administration was further managed through comprehensive rules and guidelines for maintaining the security and standardization of the ELPAC. LEAs received training on these topics and were provided tools for reporting security incidents and resolving testing discrepancies for specific testing sessions.

The ETS Office of Testing Integrity (OTI) reinforced the quality-control procedures for test administration, providing QA services for all testing programs managed by ETS. The detailed procedures the OTI developed and applied in quality control are described in subsection [*5.7.1 ETS’ Office of Testing Integrity*](#_ETS’_Office_of_2).

### Quality Control of Scoring

ETS conforms to high standards of quality and fairness when scoring assessments and reporting scores. These standards dictate that ETS provides accurate and understandable assessment results to the intended recipients. It is also ETS’ mission to provide appropriate guidelines for score interpretation and cautions about the limitations in the meaning and use of the test scores. Finally, ETS conducts analyses needed to ensure that the assessments are equitable for various demographic student groups.

#### Machine-Scoring Procedures

To ensure valid item-level scoring for the Summative Alternate ELPAC, quality-control procedures were employed by CAI, the ELPAC subcontractor responsible for providing the TDS and scoring machine-scorable items. CAI staff independently reviewed all Summative Alternate ELPAC forms by producing sample results for assessments. The sample results were compared with the answer keys for each form to confirm the accuracy of scoring keys. The scores for all applicable items were recorded. A final comparison of the test map to each computer-based form as configured in the UAT environment ensured that no changes to the form were introduced prior to operational deployment.

A real-time, quality-monitoring component was built into the TDS. After an assessment was administered to a student, the TDS passed the resulting data to the QA system. QA conducted a series of data integrity checks, ensuring, for example, that the record for each assessment contained information for each item, keys for MCSS items, score points in each item, and the total number of operational items. In addition, QA also checked to ensure that the test record contained no data from items that might have been invalidated.

Data passed directly from the Quality Monitoring System to the database of record, which served as the repository for all test information, and from which all test information was pulled and transmitted to ETS in a predetermined results format.

#### Rubric-Scored Item Scoring

The rubric-scored items in the Summative Alternate ELPAC were scored by local test examiners when they administered the assessment. Every LEA that had an eligible Summative Alternate ELPAC student in California was required to either complete the online LEA Certification course on the Moodle Training Site, Summative Alternate ELPAC Administration and Scoring Training, or coordinate with another certified LEA via a Memorandum of Understanding stating that the certified LEA would either provide test examiner training or provide a trained test examiner to perform the testing. For more information on the training of administration and scoring for the Summative Alternate ELPAC, refer to section [*5.2. Administration and Scoring Training*](#_Administration_and_Scoring_1).

To ensure the quality of the rubric-scored items, second scoring was conducted by a secondary test examiner on approximately 10 percent of students’ responses on expressive items. Ideally, the secondary test examiner was an educator familiar with the student’s individual testing needs and preferred modes of communication to accurately score the responses. However, while familiarity with the student was not required, the second scorer still had to complete the Administration and Scoring Training.

Results of the interrater reliability were included in subsection [*8.7.6 Interrater Agreement*](#_Interrater__)*.*

#### Development of Scoring Specifications

A number of measures were taken to ascertain that the scoring keys were applied to the student responses as intended and the student scores were computed accurately. ETS built and reviewed the scoring system models based on the reporting specifications approved by the CDE. These specifications contain detailed scoring procedures, along with the procedures for determining whether a student has attempted an assessment and whether that student’s response data should be included in the statistical analyses and calculations for computing summary data.

Prior to the test administration, ETS’ ALTD staff reviewed and verified the keys for each item. Then, these keys were provided to CAI for implementing machine scoring of the selected-response items. In addition, the student’s original response string was stored for data verification and auditing purposes. Standard quality inspections were performed on all data files, including the evaluation of each student data record for correctness and completeness. Student results were kept confidential and secure at all times.

ETS’ scoring specifications for the Summative Alternate ELPAC were completed, approved, and checked well in advance of the receipt of student response data. These specifications contained detailed scoring procedures, as well as the procedures for determining whether a student attempted an assessment and whether that student’s response data should be included in the statistical analyses and computing summary data.

### Quality Control of Psychometric Processes

#### Scoring Verification

ETS developed two independent and parallel scoring structures to produce students’ scores: the Enterprise Score Key Management (eSKM) scoring system, which collected, scored, and delivered individual students’ scores to the ETS reporting system; and then the ETS PAR team computed individual student scores based on the same scoring specifications as described in subsection [*9.5.3 Development of Scoring Specifications*](#_Toc120784183). The scores from the two sources were then compared for internal quality control. Any differences in the scores were discussed and resolved. All scores complied with the ETS scoring specifications and passed the parallel scoring process. This ensured the quality and accuracy of scoring and supported the transfer of scores into TOMS, the database of the student records scoring.

#### Psychometric Analyses

The psychometric procedures for the Summative Alternate ELPAC were developed, reviewed, and approved prior to the receipt of student response data. The ETS psychometric team also developed specifications for each of the psychometric analyses performed. These specifications contain detailed descriptions of the analysis steps such as sample inclusion, analyses methods, and special handling of the data.

All psychometric analyses conducted at ETS underwent comprehensive quality checks by a team of psychometricians and data analysts. Detailed checklists and psychometric specifications were developed by members of the team for each of the statistical procedures performed on Summative Alternate ELPAC results data, including item analyses, differential item functioning analyses, item response theory (IRT) calibration, equating, and scaling.

Detailed checklists were developed by members of the team for each of the statistical procedures. Classical item analyses were performed to evaluate the performance of the operational items. Classical item statistics included item difficulty and correlations between item scores and total scores. Items that were flagged for questionable statistical attributes were sent to ETS’ ALTD staff for review; their comments were then reviewed by the psychometricians before the review by the CDE. The ETS ALTD and PAR teams worked together to evaluate and make recommendations to the CDE about any problematic items that should be removed from IRT calibration.

IRT calibration of field test items included checks to ascertain that the input files were established accurately. Checks were also made on the number of items, number of students with valid scores, IRT item difficulty and discrimination estimates, standard errors for the item difficulty estimates, and the equating and scaling process. Two psychometricians conducted parallel calibration processing and compared the results to check for any inconsistency. Psychometricians also performed detailed reviews of relevant statistics to determine whether the chosen IRT model fits the data. ETS then presented and reviewed the calibration results with the CDE for approval.

Once raw-to-scale-score conversion tables for each form were generated, psychometricians carried out quality-control checks on each scoring table to verify

* all possible raw scores for each form were included in the tables;
* the lowest obtainable scale score and the highest obtainable scale score matched the specifications for each grade level, respectively; and
* the threshold score for the performance level was correctly identified.

After all quality-control steps were completed and any differences were resolved, one final inspection of scoring tables was conducted prior to uploading the tables to eSKM for score reporting.

### Quality Control of Reporting

To ensure the quality of Summative Alternate ELPAC results, for both individual student and summary reports, three general areas were evaluated:

1. Comparison of report formats with input sources from the CDE-approved samples
2. Validation of the report data through quality-control checks performed by ETS’ Data Quality Services and Center of Reporting & Scoring Services teams, as well as running of all Student Score Reports (SSRs) through ETS’ patented QC Interrogator software, which compares elements of the SSR to acceptable values to identify errors and is used in conjunction with human review to detect errors on every score report batch as part of quality-control procedures
3. Proofreading of the quality-control and production reports by the CDE and ETS prior to making reports available to the LEA for download in TOMS and the California Educator Reporting System as well as via the LEA’s student information system

All reports were required to include a single, accurate LEA code, an LEA name, and a school name. All elements conformed to the CDE’s official county/district/school (CDS) code and naming records. From the start of processing through scoring and reporting, the CDS Master File was used to verify and confirm accurate codes and names. The CDE provided a revised LEA Master File to ETS throughout the year as updates became available.

After the reports were validated in accordance with the CDE’s requirements, a set of reports representing all possible grade levels and reporting outcomes was provided to the CDE and ETS for review and approval. Electronic reports were sent on the actual report template to the CDE. The CDE and ETS reviewed and approved the reports after a thorough examination.

Upon the CDE’s approval of the reports generated for the quality-control LEAs, ETS proceeded with the first batch of report production. The reviewed set of reports incorporated CDE-selected LEAs and provided the final check prior to generating all reports and making them available electronically for download in TOMS and for student information systems through an application programming interface.

#### Exclusion of Student Scores from Summary Reports

ETS provided the CDE with reporting specifications that documented when to exclude student scores from summary reports. These specifications included the logic for handling submitted assessments that, for example, indicated the student tested but responded to no items, was absent, was not tested because of parent/guardian request, or did not complete the assessment because of illness. The methods for handling other anomalies were also covered in the specifications. These anomalies are described in more detail in [*7.3.2 Special Cases*](#_Special_Cases_1).

### Quality Control of End-to-End Testing

ETS conducted end-to-end testing prior to the start of the test administration. The purpose of this testing is to verify that all systems, processes, and resources were ready for the operational administration. Once released from processing, the test results were sent through the system for scoring and reporting. SSRs were created, along with data files for subject-matter experts in the teams to review and verify.

#### Computer-based Assessments

ETS employed a number of strategies to verify ongoing systems performance, including monitoring of system availability and system usage. Time was allotted for UAT to confirm that the systems met requirements and to make identified corrections before final deployment. To accomplish system acceptance and sign-off, ETS deployed systems to a staging area, which mirrors the final production environment, for operational testing and UAT. Final approval by the CDE triggered final deployment of the system.

To begin the quality-control process for end-to-end testing of the administration, the ETS program and resolutions teams prepared by entering responses in computer-based assessments for all grade levels and grade spans. These responses were entered for fictitious students in selected schools and across several LEAs. Each student’s assessment was completed with responses that were all correct, all incorrect, and combinations of correct and incorrect. These response combinations were the expected results across performance levels and score ranges. The responses were sent for processing, including for system quality control of computer-based assessments.

Once released from processing, the test results were sent through the system for scoring and reporting. SSRs were created, along with data files for subject-matter experts in the teams to review and verify. Individual SSRs were generated on the basis of the fictitious students when 100 percent quality control was demonstrated by ETS’ Resolution staff.

### References

California Department of Education. (2023a). *Alternate assessment decision-making tool for California.* Sacramento, CA: California Department of Education.

California Department of Education. (2023b). *CAASPP and ELPAC Test Operations Management System user guide*. Sacramento, CA: California Department of Education.

Educational Testing Service. (2014). *ETS Standards for Quality and Fairness*. Princeton, NJ: Educational Testing Service.

## In-Test Survey

This chapter describes the development and administration of the in-test survey, the survey questionnaires for test examiners, and the results from the analyses of test examiners’ responses.

### Survey Design and Development

The Summative Alternate English Language Proficiency Assessments for California (ELPAC) in-test survey was developed by research staff at ETS in consultation with national experts, technical advisors, and the California Department of Education. The various groups provided guidance in terms of the length of the survey and the questions to consider.

The goal of the survey was to gather validity evidence on the following aspects of the Summative Alternate ELPAC:

* **English Language Proficiency (ELP):** To gather an external measure of student ELP and provide concurrent and future checks on the validity of the assessment
* **Communication modes:** To gather evidence on whether the assessment design allowed students to use a preferred communication mode
* **Accessibility:**
* To gather evidence about how accessibility resources were used during test administration (This allows comparisons between student groups using certain accessibility resources to those who are not using it and any discrepancies on test scores between student groups.)
* To inform future test administration training (e.g., to refine the training content or experience)

Ten survey questions were developed. Survey questions 1 through 5 were designed to collect data about the students’ ELP. The questions support the interpretation of the test scores by establishing a range of skills in the domains of Listening and Reading (receptive communication modes) and Speaking and Writing (expressive communication mode) as shown during classroom instruction. Questions 6 and 7 asked about students’ primary communication mode used during classroom instruction and during the test administration. Questions 8 through 10 were asked to gather information about the student’s use (if any) of universal tools, designated supports, and accommodations during the administration of the Summative Alternate ELPAC. The 10 survey questions with the details on the options and student response frequencies are presented in [appendix 10.A](#_Appendix_10.A:_Student_1).

### Survey Administration

All test examiners were required to respond to the in-test survey questions via the test delivery system (TDS). Six questions were to be answered prior to testing the student, and four questions were to be answered after testing the student. Test examiners and local educational agencies were provided with access to the survey questions in the web-based *Summative Alternate ELPAC Test Administration Manual* and other test administration resources prior to entering the TDS to limit the time a student sat with a test examiner for test administration.

### Summary of Survey Responses

Survey question 1 asked a test examiner to rate the student’s overall ELP level (high or fluent, medium or intermediate, low or novice) based on interactions with the student during classroom instruction. The frequencies of the responses to this survey question are presented by grade level and grade span in table 10.A.1 through table 10.A.7 in [appendix 10.A](#_Appendix_10.A:_Student_1). Table 10.A.8 through table 10.A.14 provide the mean and standard deviation of the scale scores from the Summative Alternate ELPAC for students in each of the levels rated by the test examiners. Results showed 75.2 percent agreement between the Summative Alternate ELPAC ELP level based on threshold scores and the teachers’ ratings of students as English learners or as fluent English proficient across grade levels and grade spans (ETS, 2023). Agreement was highest for students in kindergarten (83.4%) and lowest for students in grade span six through eight (68.8%).

Survey questions 2 through 5 asked the test examiner to rate the student’s language skills in Listening, Speaking, Reading, and Writing. Responses to these questions are presented in table 10.A.15 through table 10.A.42 in [appendix 10.A](#_Appendix_10.A:_Student_1). Results indicate that the approximate ordering of skills by domain level is reasonable. As grade level or grade span increases, a higher percentage of students can perform higher-level, more complex skills.

Survey questions 6 and 7 asked about the student’s primary communication mode used during classroom instruction and during the administration of the Summative Alternate ELPAC. Responses to these questions are presented in table 10.A.43 through table 10.A.56 in [appendix 10.A](#_Appendix_10.A:_Student_1). Results indicate that the primary communication modes used by students were consistent for instruction and assessment.

Survey questions 8 through 10 asked about the student’s use of the available universal tools, designated supports, or accommodations. Responses to these questions are presented in table 10.A.57 through table 10.A.77 in [appendix 10.A](#_Appendix_10.A:_Student_1). About 11 percent of students used universal tools during the Summative Alternate ELPAC administration. The most-used designated supports were separate setting (such as a setting different from that made available for most students; the most beneficial time; special lighting or acoustics; or use of adaptive furniture) and simplified test directions. The most-used accommodations were breaks and alternate response options.

### Reference

ETS. (2023). *Summative Alternate English Language Proficiency Assessments for California threshold score validation study report* [Unpublished report]. Princeton, NJ: ETS.

### Appendix 10.A: Student Survey Results

**Note:** “N/A” is not applicable, and “SD” is standard deviation.

Table 10.A.1 Responses to Question 1 for Kindergarten

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | N | Percent |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 239 | 13 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 515 | 28 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 1,060 | 58 |
| Missing | 27 | 1 |
| **Total:** | **1,841** | **100** |

Table 10.A.2 Responses to Question 1 for Grade One

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | N | Percent |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 239 | 15 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 514 | 32 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 834 | 52 |
| Missing | 21 | 1 |
| **Total:** | **1,608** | **100** |

Table 10.A.3 Responses to Question 1 for Grade Two

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | N | Percent |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 256 | 17 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 496 | 33 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 720 | 49 |
| Missing | 12 | 1 |
| **Total:** | **1,484** | **100** |

Table 10.A.4 Responses to Question 1 for Grade Span Three Through Five

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | N | Percent |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 1,018 | 23 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 1,562 | 35 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 1,825 | 41 |
| Missing | 62 | 1 |
| **Total:** | **4,467** | **100** |

Table 10.A.5 Responses to Question 1 for Grade Span Six Through Eight

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | N | Percent |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 1,035 | 30 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 1,111 | 32 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 1,275 | 37 |
| Missing | 54 | 2 |
| **Total:** | **3,475** | **100** |

Table 10.A.6 Responses to Question 1 for Grade Span Nine and Ten

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | N | Percent |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 575 | 34 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 544 | 32 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 569 | 33 |
| Missing | 25 | 1 |
| **Total:** | **1,713** | **100** |

Table 10.A.7 Responses to Question 1 for Grade Span Eleven and Twelve

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | N | Percent |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 1,148 | 36 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 959 | 30 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 1,045 | 33 |
| Missing | 42 | 1 |
| **Total:** | **3,194** | **100** |

Table 10.A.8 Scale Score Summary by Response to English Language Proficiency Question for Kindergarten

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | Scale Score Mean | Scale Score SD |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 254 | 19 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 250 | 14 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 236 | 19 |
| Missing | 237 | 20 |
| **Total:** | **242** | **19** |

Table 10.A.9 Scale Score Summary by Response to English Language Proficiency Question for Grade One

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | Scale Score Mean | Scale Score SD |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 360 | 19 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 352 | 16 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 339 | 18 |
| Missing | 348 | 22 |
| **Total:** | **346** | **19** |

Table 10.A.10 Scale Score Summary by Response to English Language Proficiency Question for Grade Two

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | Scale Score Mean | Scale Score SD |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 456 | 18 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 450 | 17 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 436 | 19 |
| Missing | 441 | 16 |
| **Total:** | **444** | **20** |

Table 10.A.11 Scale Score Summary by Response to English Language Proficiency Question for Grade Span Three Through Five

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | Scale Score Mean | Scale Score SD |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 560 | 16 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 552 | 14 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 540 | 18 |
| Missing | 548 | 14 |
| **Total:** | **549** | **18** |

Table 10.A.12 Scale Score Summary by Response to English Language Proficiency Question for Grade Span Six Through Eight

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | Scale Score Mean | Scale Score SD |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 665 | 18 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 658 | 17 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 642 | 19 |
| Missing | 642 | 25 |
| **Total:** | **654** | **21** |

Table 10.A.13 Scale Score Summary by Response to English Language Proficiency Question for Grade Span Nine and Ten

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | Scale Score Mean | Scale Score SD |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 763 | 19 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 753 | 17 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 736 | 19 |
| Missing | 743 | 21 |
| **Total:** | **751** | **22** |

Table 10.A.14 Scale Score Summary by Response to English Language Proficiency Question for Grade Span Eleven and Twelve

|  |  |  |
| --- | --- | --- |
| Based on your interactions with this student during classroom instruction, which of the following best characterizes this student’s current level of overall English language proficiency? | Scale Score Mean | Scale Score SD |
| High or fluent English proficient (Students at this level have sufficient English language proficiency. They may need occasional linguistic support to enable them to access adapted grade-level content in English.) | 866 | 22 |
| Medium or intermediate English learner (Students at this level have moderate English language proficiency. They may need frequent linguistic support to enable them to access adapted grade-level content in English.) | 853 | 18 |
| Low or novice English learner (Students at this level have minimal English language proficiency. They need substantial linguistic support to enable them to access adapted grade-level content in English.) | 835 | 20 |
| Missing | 845 | 26 |
| **Total:** | **852** | **24** |

Table 10.A.15 Responses to Question 2 for Kindergarten

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s listening skills in English? | N | Percent |
| Follows 2-step directions | 301 | 16 |
| Follows 1-step directions | 494 | 27 |
| Attends and responds to simple commands | 345 | 19 |
| Indicates a choice when offered an array of items | 206 | 11 |
| Points to or touches objects upon request | 322 | 17 |
| Does not yet attend to sound | 154 | 8 |
| Missing | 19 | 1 |
| **Total:** | **1,841** | **100** |

Table 10.A.16 Responses to Question 2 for Grade One

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s listening skills in English? | N | Percent |
| Follows 2-step directions | 378 | 24 |
| Follows 1-step directions | 478 | 30 |
| Attends and responds to simple commands | 287 | 18 |
| Indicates a choice when offered an array of items | 146 | 9 |
| Points to or touches objects upon request | 230 | 14 |
| Does not yet attend to sound | 82 | 5 |
| Missing | 7 | 0 |
| **Total:** | **1,608** | **100** |

Table 10.A.17 Responses to Question 2 for Grade Two

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s listening skills in English? | N | Percent |
| Follows 2-step directions | 422 | 28 |
| Follows 1-step directions | 447 | 30 |
| Attends and responds to simple commands | 260 | 18 |
| Indicates a choice when offered an array of items | 102 | 7 |
| Points to or touches objects upon request | 175 | 12 |
| Does not yet attend to sound | 72 | 5 |
| Missing | 6 | 0 |
| **Total:** | **1,484** | **100** |

Table 10.A.18 Responses to Question 2 for Grade Span Three Through Five

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s listening skills in English? | N | Percent |
| Follows 2-step directions | 1,636 | 37 |
| Follows 1-step directions | 1,228 | 27 |
| Attends and responds to simple commands | 740 | 17 |
| Indicates a choice when offered an array of items | 267 | 6 |
| Points to or touches objects upon request | 403 | 9 |
| Does not yet attend to sound | 156 | 3 |
| Missing | 37 | 1 |
| **Total:** | **4,467** | **100** |

Table 10.A.19 Responses to Question 2 for Grade Span Six Through Eight

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s listening skills in English? | N | Percent |
| Follows 2-step directions | 1,462 | 42 |
| Follows 1-step directions | 862 | 25 |
| Attends and responds to simple commands | 509 | 15 |
| Indicates a choice when offered an array of items | 181 | 5 |
| Points to or touches objects upon request | 285 | 8 |
| Does not yet attend to sound | 142 | 4 |
| Missing | 34 | 1 |
| **Total:** | **3,475** | **100** |

Table 10.A.20 Responses to Question 2 for Grade Span Nine and Ten

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s listening skills in English? | N | Percent |
| Follows 2-step directions | 715 | 42 |
| Follows 1-step directions | 391 | 23 |
| Attends and responds to simple commands | 264 | 15 |
| Indicates a choice when offered an array of items | 94 | 5 |
| Points to or touches objects upon request | 145 | 8 |
| Does not yet attend to sound | 82 | 5 |
| Missing | 22 | 1 |
| **Total:** | **1,713** | **100** |

Table 10.A.21 Responses to Question 2 for Grade Span Eleven and Twelve

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s listening skills in English? | N | Percent |
| Follows 2-step directions | 1,473 | 46 |
| Follows 1-step directions | 676 | 21 |
| Attends and responds to simple commands | 419 | 13 |
| Indicates a choice when offered an array of items | 192 | 6 |
| Points to or touches objects upon request | 269 | 8 |
| Does not yet attend to sound | 146 | 5 |
| Missing | 19 | 1 |
| **Total:** | **3,194** | **100** |

Table 10.A.22 Responses to Question 3 for Kindergarten

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s speaking skills in English? | N | Percent |
| Verbally speaks 3 or more words in complete sentences using grammatical rules | 82 | 4 |
| Verbally speaks 2-3 or more words in sentences or phrases without consistently following grammatical rules | 245 | 13 |
| Verbally speaks 1-2 word phrases | 308 | 17 |
| Verbally speaks 1 word at a time | 193 | 10 |
| Uses touch and gestures by pointing and head nodding | 297 | 16 |
| Uses a sign language (American Sign Language or other) | 13 | 1 |
| Uses vocalizations, gestures, and facial expressions to communicate intentionally | 294 | 16 |
| Uses eye gaze with intentionality | 28 | 2 |
| Uses an Augmentative and Alternative Communication (AAC) system (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 67 | 4 |
| Intentionally communicative, when interpreted by a familiar individual | 80 | 4 |
| Not yet intentionally communicative | 216 | 12 |
| Missing | 18 | 1 |
| **Total:** | **1,841** | **100** |

Table 10.A.23 Responses to Question 3 for Grade One

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s speaking skills in English? | N | Percent |
| Verbally speaks 3 or more words in complete sentences using grammatical rules | 150 | 9 |
| Verbally speaks 2-3 or more words in sentences or phrases without consistently following grammatical rules | 307 | 19 |
| Verbally speaks 1-2 word phrases | 247 | 15 |
| Verbally speaks 1 word at a time | 174 | 11 |
| Uses touch and gestures by pointing and head nodding | 220 | 14 |
| Uses a sign language (American Sign Language or other) | 7 | 0 |
| Uses vocalizations, gestures, and facial expressions to communicate intentionally | 207 | 13 |
| Uses eye gaze with intentionality | 26 | 2 |
| Uses an Augmentative and Alternative Communication (AAC) system (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 96 | 6 |
| Intentionally communicative, when interpreted by a familiar individual | 49 | 3 |
| Not yet intentionally communicative | 114 | 7 |
| Missing | 11 | 1 |
| **Total:** | **1,608** | **100** |

Table 10.A.24 Responses to Question 3 for Grade Two

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s speaking skills in English? | N | Percent |
| Verbally speaks 3 or more words in complete sentences using grammatical rules | 172 | 12 |
| Verbally speaks 2-3 or more words in sentences or phrases without consistently following grammatical rules | 313 | 21 |
| Verbally speaks 1-2 word phrases | 242 | 16 |
| Verbally speaks 1 word at a time | 153 | 10 |
| Uses touch and gestures by pointing and head nodding | 186 | 13 |
| Uses a sign language (American Sign Language or other) | 12 | 1 |
| Uses vocalizations, gestures, and facial expressions to communicate intentionally | 173 | 12 |
| Uses eye gaze with intentionality | 20 | 1 |
| Uses an Augmentative and Alternative Communication (AAC) system (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 86 | 6 |
| Intentionally communicative, when interpreted by a familiar individual | 34 | 2 |
| Not yet intentionally communicative | 87 | 6 |
| Missing | 6 | 0 |
| **Total:** | **1,484** | **100** |

Table 10.A.25 Responses to Question 3 for Grade Span Three Through Five

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s speaking skills in English? | N | Percent |
| Verbally speaks 3 or more words in complete sentences using grammatical rules | 861 | 19 |
| Verbally speaks 2-3 or more words in sentences or phrases without consistently following grammatical rules | 1,129 | 25 |
| Verbally speaks 1-2 word phrases | 732 | 16 |
| Verbally speaks 1 word at a time | 351 | 8 |
| Uses touch and gestures by pointing and head nodding | 411 | 9 |
| Uses a sign language (American Sign Language or other) | 22 | 0 |
| Uses vocalizations, gestures, and facial expressions to communicate intentionally | 342 | 8 |
| Uses eye gaze with intentionality | 51 | 1 |
| Uses an Augmentative and Alternative Communication (AAC) system (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 250 | 6 |
| Intentionally communicative, when interpreted by a familiar individual | 74 | 2 |
| Not yet intentionally communicative | 202 | 5 |
| Missing | 42 | 1 |
| **Total:** | **4,467** | **100** |

Table 10.A.26 Responses to Question 3 for Grade Span Six Through Eight

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s speaking skills in English? | N | Percent |
| Verbally speaks 3 or more words in complete sentences using grammatical rules | 943 | 27 |
| Verbally speaks 2-3 or more words in sentences or phrases without consistently following grammatical rules | 822 | 24 |
| Verbally speaks 1-2 word phrases | 468 | 13 |
| Verbally speaks 1 word at a time | 254 | 7 |
| Uses touch and gestures by pointing and head nodding | 311 | 9 |
| Uses a sign language (American Sign Language or other) | 34 | 1 |
| Uses vocalizations, gestures, and facial expressions to communicate intentionally | 210 | 6 |
| Uses eye gaze with intentionality | 36 | 1 |
| Uses an Augmentative and Alternative Communication (AAC) system (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 162 | 5 |
| Intentionally communicative, when interpreted by a familiar individual | 59 | 2 |
| Not yet intentionally communicative | 141 | 4 |
| Missing | 35 | 1 |
| **Total:** | **3,475** | **100** |

Table 10.A.27 Responses to Question 3 for Grade Span Nine and Ten

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s speaking skills in English? | N | Percent |
| Verbally speaks 3 or more words in complete sentences using grammatical rules | 537 | 31 |
| Verbally speaks 2-3 or more words in sentences or phrases without consistently following grammatical rules | 354 | 21 |
| Verbally speaks 1-2 word phrases | 211 | 12 |
| Verbally speaks 1 word at a time | 119 | 7 |
| Uses touch and gestures by pointing and head nodding | 136 | 8 |
| Uses a sign language (American Sign Language or other) | 12 | 1 |
| Uses vocalizations, gestures, and facial expressions to communicate intentionally | 109 | 6 |
| Uses eye gaze with intentionality | 17 | 1 |
| Uses an Augmentative and Alternative Communication (AAC) system (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 72 | 4 |
| Intentionally communicative, when interpreted by a familiar individual | 35 | 2 |
| Not yet intentionally communicative | 92 | 5 |
| Missing | 19 | 1 |
| **Total:** | **1,713** | **100** |

Table 10.A.28 Responses to Question 3 for Grade Span Eleven and Twelve

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s speaking skills in English? | N | Percent |
| Verbally speaks 3 or more words in complete sentences using grammatical rules | 1,065 | 33 |
| Verbally speaks 2-3 or more words in sentences or phrases without consistently following grammatical rules | 597 | 19 |
| Verbally speaks 1-2 word phrases | 371 | 12 |
| Verbally speaks 1 word at a time | 202 | 6 |
| Uses touch and gestures by pointing and head nodding | 257 | 8 |
| Uses a sign language (American Sign Language or other) | 29 | 1 |
| Uses vocalizations, gestures, and facial expressions to communicate intentionally | 216 | 7 |
| Uses eye gaze with intentionality | 46 | 1 |
| Uses an Augmentative and Alternative Communication (AAC) system (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 131 | 4 |
| Intentionally communicative, when interpreted by a familiar individual | 74 | 2 |
| Not yet intentionally communicative | 179 | 6 |
| Missing | 27 | 1 |
| **Total:** | **3,194** | **100** |

Table 10.A.29 Responses to Question 4 for Kindergarten

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s reading skills in English? | N | Percent |
| Reads text without any symbol support with comprehension | 30 | 2 |
| Reads text without symbol support but without comprehension | 58 | 3 |
| Identifies individual words without picture support | 87 | 5 |
| Reads words, phrases, or sentences when pictures/symbols are provided for support | 128 | 7 |
| Recognizes letter sounds (knows sounds associated with letters) | 202 | 11 |
| Recognizes letters (can identify them by name) | 286 | 16 |
| Matches objects to pictures | 438 | 24 |
| Identifies and names objects | 75 | 4 |
| Does not yet have an understanding of print or text | 513 | 28 |
| Missing | 24 | 1 |
| **Total:** | **1,841** | **100** |

Table 10.A.30 Responses to Question 4 for Grade One

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s reading skills in English? | N | Percent |
| Reads text without any symbol support with comprehension | 62 | 4 |
| Reads text without symbol support but without comprehension | 96 | 6 |
| Identifies individual words without picture support | 99 | 6 |
| Reads words, phrases, or sentences when pictures/symbols are provided for support | 147 | 9 |
| Recognizes letter sounds (knows sounds associated with letters) | 204 | 13 |
| Recognizes letters (can identify them by name) | 253 | 16 |
| Matches objects to pictures | 335 | 21 |
| Identifies and names objects | 67 | 4 |
| Does not yet have an understanding of print or text | 335 | 21 |
| Missing | 10 | 1 |
| **Total:** | **1,608** | **100** |

Table 10.A.31 Responses to Question 4 for Grade Two

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s reading skills in English? | N | Percent |
| Reads text without any symbol support with comprehension | 65 | 4 |
| Reads text without symbol support but without comprehension | 104 | 7 |
| Identifies individual words without picture support | 112 | 8 |
| Reads words, phrases, or sentences when pictures/symbols are provided for support | 182 | 12 |
| Recognizes letter sounds (knows sounds associated with letters) | 168 | 11 |
| Recognizes letters (can identify them by name) | 221 | 15 |
| Matches objects to pictures | 305 | 21 |
| Identifies and names objects | 50 | 3 |
| Does not yet have an understanding of print or text | 269 | 18 |
| Missing | 8 | 1 |
| **Total:** | **1,484** | **100** |

Table 10.A.32 Responses to Question 4 for Grade Span Three Through Five

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s reading skills in English? | N | Percent |
| Reads text without any symbol support with comprehension | 404 | 9 |
| Reads text without symbol support but without comprehension | 488 | 11 |
| Identifies individual words without picture support | 366 | 8 |
| Reads words, phrases, or sentences when pictures/symbols are provided for support | 748 | 17 |
| Recognizes letter sounds (knows sounds associated with letters) | 436 | 10 |
| Recognizes letters (can identify them by name) | 491 | 11 |
| Matches objects to pictures | 743 | 17 |
| Identifies and names objects | 128 | 3 |
| Does not yet have an understanding of print or text | 612 | 14 |
| Missing | 51 | 1 |
| **Total:** | **4,467** | **100** |

Table 10.A.33 Responses to Question 4 for Grade Span Six Through Eight

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s reading skills in English? | N | Percent |
| Reads text without any symbol support with comprehension | 620 | 18 |
| Reads text without symbol support but without comprehension | 392 | 11 |
| Identifies individual words without picture support | 266 | 8 |
| Reads words, phrases, or sentences when pictures/symbols are provided for support | 630 | 18 |
| Recognizes letter sounds (knows sounds associated with letters) | 215 | 6 |
| Recognizes letters (can identify them by name) | 264 | 8 |
| Matches objects to pictures | 525 | 15 |
| Identifies and names objects | 102 | 3 |
| Does not yet have an understanding of print or text | 415 | 12 |
| Missing | 46 | 1 |
| **Total:** | **3,475** | **100** |

Table 10.A.34 Responses to Question 4 for Grade Span Nine and Ten

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s reading skills in English? | N | Percent |
| Reads text without any symbol support with comprehension | 352 | 21 |
| Reads text without symbol support but without comprehension | 201 | 12 |
| Identifies individual words without picture support | 154 | 9 |
| Reads words, phrases, or sentences when pictures/symbols are provided for support | 280 | 16 |
| Recognizes letter sounds (knows sounds associated with letters) | 77 | 4 |
| Recognizes letters (can identify them by name) | 109 | 6 |
| Matches objects to pictures | 234 | 14 |
| Identifies and names objects | 42 | 2 |
| Does not yet have an understanding of print or text | 245 | 14 |
| Missing | 19 | 1 |
| **Total:** | **1,713** | **100** |

Table 10.A.35 Responses to Question 4 for Grade Span Eleven and Twelve

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s reading skills in English? | N | Percent |
| Reads text without any symbol support with comprehension | 772 | 24 |
| Reads text without symbol support but without comprehension | 337 | 11 |
| Identifies individual words without picture support | 260 | 8 |
| Reads words, phrases, or sentences when pictures/symbols are provided for support | 469 | 15 |
| Recognizes letter sounds (knows sounds associated with letters) | 104 | 3 |
| Recognizes letters (can identify them by name) | 181 | 6 |
| Matches objects to pictures | 476 | 15 |
| Identifies and names objects | 113 | 4 |
| Does not yet have an understanding of print or text | 457 | 14 |
| Missing | 25 | 1 |
| **Total:** | **3,194** | **100** |

Table 10.A.36 Responses to Question 5 for Kindergarten

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s writing skills in English? | N | Percent |
| Writes 1-3 sentences (spelling not always correct) | 9 | 0 |
| Writes a simple sentence or phrase (spelling not always correct) | 21 | 1 |
| Writes words (spelling not always correct) | 68 | 4 |
| Writes using word banks | 27 | 1 |
| Selects letters or symbols to express meaning | 79 | 4 |
| Copies letters and words, but does not produce independent writing | 415 | 23 |
| Randomly selects letters or symbols when asked to write | 163 | 9 |
| Makes random marks or scribbles | 653 | 35 |
| Does not yet demonstrate expressive writing skills | 386 | 21 |
| Missing | 20 | 1 |
| **Total:** | **1,841** | **100** |

Table 10.A.37 Responses to Question 5 for Grade One

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s writing skills in English? | N | Percent |
| Writes 1-3 sentences (spelling not always correct) | 27 | 2 |
| Writes a simple sentence or phrase (spelling not always correct) | 64 | 4 |
| Writes words (spelling not always correct) | 101 | 6 |
| Writes using word banks | 76 | 5 |
| Selects letters or symbols to express meaning | 59 | 4 |
| Copies letters and words, but does not produce independent writing | 419 | 26 |
| Randomly selects letters or symbols when asked to write | 110 | 7 |
| Makes random marks or scribbles | 449 | 28 |
| Does not yet demonstrate expressive writing skills | 291 | 18 |
| Missing | 12 | 1 |
| **Total:** | **1,608** | **100** |

Table 10.A.38 Responses to Question 5 for Grade Two

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s writing skills in English? | N | Percent |
| Writes 1-3 sentences (spelling not always correct) | 33 | 2 |
| Writes a simple sentence or phrase (spelling not always correct) | 76 | 5 |
| Writes words (spelling not always correct) | 132 | 9 |
| Writes using word banks | 63 | 4 |
| Selects letters or symbols to express meaning | 53 | 4 |
| Copies letters and words, but does not produce independent writing | 438 | 30 |
| Randomly selects letters or symbols when asked to write | 94 | 6 |
| Makes random marks or scribbles | 373 | 25 |
| Does not yet demonstrate expressive writing skills | 218 | 15 |
| Missing | 4 | 0 |
| **Total:** | **1,484** | **100** |

Table 10.A.39 Responses to Question 5 for Grade Span Three Through Five

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s writing skills in English? | N | Percent |
| Writes 1-3 sentences (spelling not always correct) | 285 | 6 |
| Writes a simple sentence or phrase (spelling not always correct) | 487 | 11 |
| Writes words (spelling not always correct) | 394 | 9 |
| Writes using word banks | 314 | 7 |
| Selects letters or symbols to express meaning | 159 | 4 |
| Copies letters and words, but does not produce independent writing | 1,321 | 30 |
| Randomly selects letters or symbols when asked to write | 236 | 5 |
| Makes random marks or scribbles | 720 | 16 |
| Does not yet demonstrate expressive writing skills | 500 | 11 |
| Missing | 51 | 1 |
| **Total:** | **4,467** | **100** |

Table 10.A.40 Responses to Question 5 for Grade Span Six Through Eight

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s writing skills in English? | N | Percent |
| Writes 1-3 sentences (spelling not always correct) | 487 | 14 |
| Writes a simple sentence or phrase (spelling not always correct) | 546 | 16 |
| Writes words (spelling not always correct) | 334 | 10 |
| Writes using word banks | 267 | 8 |
| Selects letters or symbols to express meaning | 89 | 3 |
| Copies letters and words, but does not produce independent writing | 763 | 22 |
| Randomly selects letters or symbols when asked to write | 123 | 4 |
| Makes random marks or scribbles | 416 | 12 |
| Does not yet demonstrate expressive writing skills | 403 | 12 |
| Missing | 47 | 1 |
| **Total:** | **3,475** | **100** |

Table 10.A.41 Responses to Question 5 for Grade Span Nine and Ten

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s writing skills in English? | N | Percent |
| Writes 1-3 sentences (spelling not always correct) | 311 | 18 |
| Writes a simple sentence or phrase (spelling not always correct) | 300 | 18 |
| Writes words (spelling not always correct) | 171 | 10 |
| Writes using word banks | 100 | 6 |
| Selects letters or symbols to express meaning | 44 | 3 |
| Copies letters and words, but does not produce independent writing | 304 | 18 |
| Randomly selects letters or symbols when asked to write | 66 | 4 |
| Makes random marks or scribbles | 185 | 11 |
| Does not yet demonstrate expressive writing skills | 209 | 12 |
| Missing | 23 | 1 |
| **Total:** | **1,713** | **100** |

Table 10.A.42 Responses to Question 5 for Grade Span Eleven and Twelve

|  |  |  |
| --- | --- | --- |
| Which of the following best describes the student’s writing skills in English? | N | Percent |
| Writes 1-3 sentences (spelling not always correct) | 672 | 21 |
| Writes a simple sentence or phrase (spelling not always correct) | 478 | 15 |
| Writes words (spelling not always correct) | 338 | 11 |
| Writes using word banks | 151 | 5 |
| Selects letters or symbols to express meaning | 87 | 3 |
| Copies letters and words, but does not produce independent writing | 574 | 18 |
| Randomly selects letters or symbols when asked to write | 99 | 3 |
| Makes random marks or scribbles | 335 | 10 |
| Does not yet demonstrate expressive writing skills | 430 | 13 |
| Missing | 30 | 1 |
| **Total:** | **3,194** | **100** |

Table 10.A.43 Responses to Question 6 for Kindergarten

|  |  |  |
| --- | --- | --- |
| During classroom instruction, what is the primary communication mode that the student uses to communicate, either in English or in another language? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 144 | 8 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 287 | 16 |
| Verbal (i.e., spoken language) – single word responses | 292 | 16 |
| Writing | 2 | 0 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 514 | 28 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 155 | 8 |
| Eye gaze | 42 | 2 |
| Braille (either contracted or uncontracted) | 0 | 0 |
| American Sign Language (ASL) or other signed response | 5 | 0 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 172 | 9 |
| Other | 26 | 1 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 155 | 8 |
| I am not sure what communication modes the student uses in the classroom | 26 | 1 |
| Missing | 21 | 1 |
| **Total:** | **1,841** | **100** |

Table 10.A.44 Responses to Question 6 for Grade One

|  |  |  |
| --- | --- | --- |
| During classroom instruction, what is the primary communication mode that the student uses to communicate, either in English or in another language? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 250 | 16 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 272 | 17 |
| Verbal (i.e., spoken language) – single word responses | 262 | 16 |
| Writing | 1 | 0 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 376 | 23 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 131 | 8 |
| Eye gaze | 41 | 3 |
| Braille (either contracted or uncontracted) | 0 | 0 |
| American Sign Language (ASL) or other signed response | 4 | 0 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 126 | 8 |
| Other | 13 | 1 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 94 | 6 |
| I am not sure what communication modes the student uses in the classroom | 23 | 1 |
| Missing | 15 | 1 |
| **Total:** | **1,608** | **100** |

Table 10.A.45 Responses to Question 6 for Grade Two

|  |  |  |
| --- | --- | --- |
| During classroom instruction, what is the primary communication mode that the student uses to communicate, either in English or in another language? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 289 | 19 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 266 | 18 |
| Verbal (i.e., spoken language) – single word responses | 248 | 17 |
| Writing | 1 | 0 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 321 | 22 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 125 | 8 |
| Eye gaze | 30 | 2 |
| Braille (either contracted or uncontracted) | 0 | 0 |
| American Sign Language (ASL) or other signed response | 6 | 0 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 91 | 6 |
| Other | 13 | 1 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 78 | 5 |
| I am not sure what communication modes the student uses in the classroom | 12 | 1 |
| Missing | 4 | 0 |
| **Total:** | **1,484** | **100** |

Table 10.A.46 Responses to Question 6 for Grade Span Three Through Five

|  |  |  |
| --- | --- | --- |
| During classroom instruction, what is the primary communication mode that the student uses to communicate, either in English or in another language? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 1,370 | 31 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 869 | 19 |
| Verbal (i.e., spoken language) – single word responses | 634 | 14 |
| Writing | 7 | 0 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 677 | 15 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 372 | 8 |
| Eye gaze | 60 | 1 |
| Braille (either contracted or uncontracted) | 0 | 0 |
| American Sign Language (ASL) or other signed response | 20 | 0 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 183 | 4 |
| Other | 28 | 1 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 162 | 4 |
| I am not sure what communication modes the student uses in the classroom | 39 | 1 |
| Missing | 46 | 1 |
| **Total:** | **4,467** | **100** |

Table 10.A.47 Responses to Question 6 for Grade Span Six Through Eight

|  |  |  |
| --- | --- | --- |
| During classroom instruction, what is the primary communication mode that the student uses to communicate, either in English or in another language? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 1,307 | 38 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 636 | 18 |
| Verbal (i.e., spoken language) – single word responses | 433 | 12 |
| Writing | 11 | 0 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 452 | 13 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 242 | 7 |
| Eye gaze | 52 | 1 |
| Braille (either contracted or uncontracted) | 1 | 0 |
| American Sign Language (ASL) or other signed response | 22 | 1 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 122 | 4 |
| Other | 21 | 1 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 118 | 3 |
| I am not sure what communication modes the student uses in the classroom | 19 | 1 |
| Missing | 39 | 1 |
| **Total:** | **3,475** | **100** |

Table 10.A.48 Responses to Question 6 for Grade Span Nine and Ten

|  |  |  |
| --- | --- | --- |
| During classroom instruction, what is the primary communication mode that the student uses to communicate, either in English or in another language? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 704 | 41 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 243 | 14 |
| Verbal (i.e., spoken language) – single word responses | 199 | 12 |
| Writing | 6 | 0 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 220 | 13 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 107 | 6 |
| Eye gaze | 31 | 2 |
| Braille (either contracted or uncontracted) | 0 | 0 |
| American Sign Language (ASL) or other signed response | 9 | 1 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 76 | 4 |
| Other | 14 | 1 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 69 | 4 |
| I am not sure what communication modes the student uses in the classroom | 14 | 1 |
| Missing | 21 | 1 |
| **Total:** | **1,713** | **100** |

Table 10.A.49 Responses to Question 6 for Grade Span Eleven and Twelve

|  |  |  |
| --- | --- | --- |
| During classroom instruction, what is the primary communication mode that the student uses to communicate, either in English or in another language? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 1,299 | 41 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 495 | 15 |
| Verbal (i.e., spoken language) – single word responses | 357 | 11 |
| Writing | 9 | 0 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 392 | 12 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 215 | 7 |
| Eye gaze | 64 | 2 |
| Braille (either contracted or uncontracted) | 1 | 0 |
| American Sign Language (ASL) or other signed response | 29 | 1 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 127 | 4 |
| Other | 28 | 1 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 127 | 4 |
| I am not sure what communication modes the student uses in the classroom | 22 | 1 |
| Missing | 29 | 1 |
| **Total:** | **3,194** | **100** |

Table 10.A.50 Responses to Question 7 for Kindergarten

|  |  |  |
| --- | --- | --- |
| During the Alternate ELPAC administration, what was the primary communication mode that the student used to respond to test questions? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 88 | 5 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 197 | 11 |
| Verbal (i.e., spoken language) – single word responses | 339 | 18 |
| Writing | 0 | 0 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 756 | 41 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 91 | 5 |
| Eye gaze | 33 | 2 |
| Braille (either contracted or uncontracted) | 0 | 0 |
| American Sign Language (ASL) or other signed response | 0 | 0 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 57 | 3 |
| Other | 26 | 1 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 222 | 12 |
| I am not sure what communication modes the student uses in the classroom | 0 | 0 |
| Missing | 32 | 2 |
| **Total:** | **1,841** | **100** |

Table 10.A.51 Responses to Question 7 for Grade One

|  |  |  |
| --- | --- | --- |
| During the Alternate ELPAC administration, what was the primary communication mode that the student used to respond to test questions? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 185 | 12 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 228 | 14 |
| Verbal (i.e., spoken language) – single word responses | 295 | 18 |
| Writing | 0 | 0 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 593 | 37 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 66 | 4 |
| Eye gaze | 39 | 2 |
| Braille (either contracted or uncontracted) | 0 | 0 |
| American Sign Language (ASL) or other signed response | 2 | 0 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 43 | 3 |
| Other | 8 | 0 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 131 | 8 |
| I am not sure what communication modes the student uses in the classroom | 0 | 0 |
| Missing | 18 | 1 |
| **Total:** | **1,608** | **100** |

Table 10.A.52 Responses to Question 7 for Grade Two

|  |  |  |
| --- | --- | --- |
| During the Alternate ELPAC administration, what was the primary communication mode that the student used to respond to test questions? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 218 | 15 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 205 | 14 |
| Verbal (i.e., spoken language) – single word responses | 264 | 18 |
| Writing | 3 | 0 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 532 | 36 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 62 | 4 |
| Eye gaze | 20 | 1 |
| Braille (either contracted or uncontracted) | 0 | 0 |
| American Sign Language (ASL) or other signed response | 2 | 0 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 39 | 3 |
| Other | 15 | 1 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 109 | 7 |
| I am not sure what communication modes the student uses in the classroom | 0 | 0 |
| Missing | 15 | 1 |
| **Total:** | **1,484** | **100** |

Table 10.A.53 Responses to Question 7 for Grade Span Three Through Five

|  |  |  |
| --- | --- | --- |
| During the Alternate ELPAC administration, what was the primary communication mode that the student used to respond to test questions? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 1,042 | 23 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 753 | 17 |
| Verbal (i.e., spoken language) – single word responses | 807 | 18 |
| Writing | 3 | 0 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 1,228 | 27 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 184 | 4 |
| Eye gaze | 56 | 1 |
| Braille (either contracted or uncontracted) | 2 | 0 |
| American Sign Language (ASL) or other signed response | 9 | 0 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 71 | 2 |
| Other | 35 | 1 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 218 | 5 |
| I am not sure what communication modes the student uses in the classroom | 0 | 0 |
| Missing | 59 | 1 |
| **Total:** | **4,467** | **100** |

Table 10.A.54 Responses to Question 7 for Grade Span Six Through Eight

|  |  |  |
| --- | --- | --- |
| During the Alternate ELPAC administration, what was the primary communication mode that the student used to respond to test questions? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 1,124 | 32 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 582 | 17 |
| Verbal (i.e., spoken language) – single word responses | 490 | 14 |
| Writing | 9 | 0 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 794 | 23 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 149 | 4 |
| Eye gaze | 45 | 1 |
| Braille (either contracted or uncontracted) | 0 | 0 |
| American Sign Language (ASL) or other signed response | 19 | 1 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 47 | 1 |
| Other | 21 | 1 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 136 | 4 |
| I am not sure what communication modes the student uses in the classroom | 0 | 0 |
| Missing | 59 | 2 |
| **Total:** | **3,475** | **100** |

Table 10.A.55 Responses to Question 7 for Grade Span Nine and Ten

|  |  |  |
| --- | --- | --- |
| During the Alternate ELPAC administration, what was the primary communication mode that the student used to respond to test questions? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 603 | 35 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 237 | 14 |
| Verbal (i.e., spoken language) – single word responses | 220 | 13 |
| Writing | 7 | 0 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 388 | 23 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 54 | 3 |
| Eye gaze | 28 | 2 |
| Braille (either contracted or uncontracted) | 0 | 0 |
| American Sign Language (ASL) or other signed response | 8 | 0 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 34 | 2 |
| Other | 13 | 1 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 93 | 5 |
| I am not sure what communication modes the student uses in the classroom | 0 | 0 |
| Missing | 28 | 2 |
| **Total:** | **1,713** | **100** |

Table 10.A.56 Responses to Question 7 for Grade Span Eleven and Twelve

|  |  |  |
| --- | --- | --- |
| During the Alternate ELPAC administration, what was the primary communication mode that the student used to respond to test questions? | N | Percent |
| Verbal (i.e., spoken language) – responses of three words or more | 1,090 | 34 |
| Verbal (i.e., spoken language) – two words responses or fixed phrases | 410 | 13 |
| Verbal (i.e., spoken language) – single word responses | 494 | 15 |
| Writing | 16 | 1 |
| Gesture (e.g., pointing, nodding, touching, arranging) | 642 | 20 |
| Augmentative and Alternative Communication (AAC) systems (e.g., communication board, picture cards, Big Mack Switch, Proloquo2 Go APP on iPad) | 138 | 4 |
| Eye gaze | 62 | 2 |
| Braille (either contracted or uncontracted) | 1 | 0 |
| American Sign Language (ASL) or other signed response | 21 | 1 |
| Vocalizations (i.e., sounds made orally but not recognizable as words) | 48 | 2 |
| Other | 38 | 1 |
| The student does not yet have an established communication mode and does not yet demonstrate communicative intent. | 191 | 6 |
| I am not sure what communication modes the student uses in the classroom | 0 | 0 |
| Missing | 43 | 1 |
| **Total:** | **3,194** | **100** |

Table 10.A.57 Responses to Question 8 for Kindergarten

|  |  |  |
| --- | --- | --- |
| Did the student use any additional Universal Tools, other than expanding the items and passages as recommended for all students, during the Alternate ELPAC administration? (That is, did the student use other tools such as Zoom, the Highlighter, the Digital Notepad, etc.) | N | Percent |
| Yes | 221 | 12 |
| No | 1,582 | 86 |
| Missing | 38 | 2 |
| **Total:** | **1,841** | **100** |

Table 10.A.58 Responses to Question 8 for Grade One

|  |  |  |
| --- | --- | --- |
| Did the student use any additional Universal Tools, other than expanding the items and passages as recommended for all students, during the Alternate ELPAC administration? (That is, did the student use other tools such as Zoom, the Highlighter, the Digital Notepad, etc.) | N | Percent |
| Yes | 228 | 14 |
| No | 1,370 | 85 |
| Missing | 10 | 1 |
| **Total:** | **1,608** | **100** |

Table 10.A.59 Responses to Question 8 for Grade Two

|  |  |  |
| --- | --- | --- |
| Did the student use any additional Universal Tools, other than expanding the items and passages as recommended for all students, during the Alternate ELPAC administration? (That is, did the student use other tools such as Zoom, the Highlighter, the Digital Notepad, etc.) | N | Percent |
| Yes | 184 | 12 |
| No | 1,277 | 86 |
| Missing | 23 | 2 |
| **Total:** | **1,484** | **100** |

Table 10.A.60 Responses to Question 8 for Grade Span Three Through Five

|  |  |  |
| --- | --- | --- |
| Did the student use any additional Universal Tools, other than expanding the items and passages as recommended for all students, during the Alternate ELPAC administration? (That is, did the student use other tools such as Zoom, the Highlighter, the Digital Notepad, etc.) | N | Percent |
| Yes | 492 | 11 |
| No | 3,906 | 87 |
| Missing | 69 | 2 |
| **Total:** | **4,467** | **100** |

Table 10.A.61 Responses to Question 8 for Grade Span Six Through Eight

|  |  |  |
| --- | --- | --- |
| Did the student use any additional Universal Tools, other than expanding the items and passages as recommended for all students, during the Alternate ELPAC administration? (That is, did the student use other tools such as Zoom, the Highlighter, the Digital Notepad, etc.) | N | Percent |
| Yes | 340 | 10 |
| No | 3,081 | 89 |
| Missing | 54 | 2 |
| **Total:** | **3,475** | **100** |

Table 10.A.62 Responses to Question 8 for Grade Span Nine and Ten

|  |  |  |
| --- | --- | --- |
| Did the student use any additional Universal Tools, other than expanding the items and passages as recommended for all students, during the Alternate ELPAC administration? (That is, did the student use other tools such as Zoom, the Highlighter, the Digital Notepad, etc.) | N | Percent |
| Yes | 142 | 8 |
| No | 1,535 | 90 |
| Missing | 36 | 2 |
| **Total:** | **1,713** | **100** |

Table 10.A.63 Responses to Question 8 for Grade Span Eleven and Twelve

|  |  |  |
| --- | --- | --- |
| Did the student use any additional Universal Tools, other than expanding the items and passages as recommended for all students, during the Alternate ELPAC administration? (That is, did the student use other tools such as Zoom, the Highlighter, the Digital Notepad, etc.) | N | Percent |
| Yes | 308 | 10 |
| No | 2,834 | 89 |
| Missing | 52 | 2 |
| **Total:** | **3,194** | **100** |

Table 10.A.64 Responses to Question 9 for Kindergarten

|  |  |  |
| --- | --- | --- |
| Which of the following Designated Supports, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| American Sign Language/Manually Coded English (ASL/MCE) for test directions | 27 | 1 |
| Color contrast | 16 | 1 |
| Color overlay | 3 | 0 |
| Designated Interface Assistant | 35 | 2 |
| Magnification | 162 | 9 |
| Masking | 158 | 9 |
| Medical supports | 6 | 0 |
| Mouse pointer | 76 | 4 |
| Noise buffer | 57 | 3 |
| Permissive Mode | 14 | 1 |
| Print on demand | 31 | 2 |
| Print Size | 57 | 3 |
| Separate Setting | 787 | 43 |
| Simplified test directions | 511 | 28 |
| Streamline | 16 | 1 |
| Translated test directions | 52 | 3 |
| Turn off any universal tool(s) | 5 | 0 |
| No designated supports used | 593 | 32 |
| Missing | 133 | 7 |
| **Total:** | **1,841** | **100** |

Table 10.A.65 Responses to Question 9 for Grade One

|  |  |  |
| --- | --- | --- |
| Which of the following Designated Supports, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| American Sign Language/Manually Coded English (ASL/MCE) for test directions | 26 | 2 |
| Color contrast | 15 | 1 |
| Color overlay | 5 | 0 |
| Designated Interface Assistant | 28 | 2 |
| Magnification | 144 | 9 |
| Masking | 107 | 7 |
| Medical supports | 3 | 0 |
| Mouse pointer | 91 | 6 |
| Noise buffer | 63 | 4 |
| Permissive Mode | 5 | 0 |
| Print on demand | 8 | 0 |
| Print Size | 32 | 2 |
| Separate Setting | 710 | 44 |
| Simplified test directions | 446 | 28 |
| Streamline | 10 | 1 |
| Translated test directions | 25 | 2 |
| Turn off any universal tool(s) | 4 | 0 |
| No designated supports used | 533 | 33 |
| Missing | 117 | 7 |
| **Total:** | **1,608** | **100** |

Table 10.A.66 Responses to Question 9 for Grade Two

|  |  |  |
| --- | --- | --- |
| Which of the following Designated Supports, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| American Sign Language/Manually Coded English (ASL/MCE) for test directions | 32 | 2 |
| Color contrast | 15 | 1 |
| Color overlay | 11 | 1 |
| Designated Interface Assistant | 18 | 1 |
| Magnification | 111 | 7 |
| Masking | 101 | 7 |
| Medical supports | 5 | 0 |
| Mouse pointer | 63 | 4 |
| Noise buffer | 75 | 5 |
| Permissive Mode | 1 | 0 |
| Print on demand | 10 | 1 |
| Print Size | 34 | 2 |
| Separate Setting | 701 | 47 |
| Simplified test directions | 451 | 30 |
| Streamline | 19 | 1 |
| Translated test directions | 32 | 2 |
| Turn off any universal tool(s) | 5 | 0 |
| No designated supports used | 460 | 31 |
| Missing | 102 | 7 |
| **Total:** | **1,484** | **100** |

Table 10.A.67 Responses to Question 9 for Grade Span Three Through Five

|  |  |  |
| --- | --- | --- |
| Which of the following Designated Supports, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| American Sign Language/Manually Coded English (ASL/MCE) for test directions | 59 | 1 |
| Color contrast | 30 | 1 |
| Color overlay | 20 | 0 |
| Designated Interface Assistant | 57 | 1 |
| Magnification | 289 | 6 |
| Masking | 203 | 5 |
| Medical supports | 14 | 0 |
| Mouse pointer | 222 | 5 |
| Noise buffer | 233 | 5 |
| Permissive Mode | 4 | 0 |
| Print on demand | 40 | 1 |
| Print Size | 72 | 2 |
| Separate Setting | 2,121 | 47 |
| Simplified test directions | 1,397 | 31 |
| Streamline | 64 | 1 |
| Translated test directions | 69 | 2 |
| Turn off any universal tool(s) | 6 | 0 |
| No designated supports used | 1,426 | 32 |
| Missing | 316 | 7 |
| **Total:** | **4,467** | **100** |

Table 10.A.68 Responses to Question 9 for Grade Span Six Through Eight

|  |  |  |
| --- | --- | --- |
| Which of the following Designated Supports, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| American Sign Language/Manually Coded English (ASL/MCE) for test directions | 61 | 2 |
| Color contrast | 33 | 1 |
| Color overlay | 6 | 0 |
| Designated Interface Assistant | 38 | 1 |
| Magnification | 200 | 6 |
| Masking | 131 | 4 |
| Medical supports | 14 | 0 |
| Mouse pointer | 218 | 6 |
| Noise buffer | 123 | 4 |
| Permissive Mode | 4 | 0 |
| Print on demand | 31 | 1 |
| Print Size | 71 | 2 |
| Separate Setting | 1,567 | 45 |
| Simplified test directions | 975 | 28 |
| Streamline | 40 | 1 |
| Translated test directions | 57 | 2 |
| Turn off any universal tool(s) | 4 | 0 |
| No designated supports used | 1,233 | 35 |
| Missing | 268 | 8 |
| **Total:** | **3,475** | **100** |

Table 10.A.69 Responses to Question 9 for Grade Span Nine and Ten

|  |  |  |
| --- | --- | --- |
| Which of the following Designated Supports, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| American Sign Language/Manually Coded English (ASL/MCE) for test directions | 22 | 1 |
| Color contrast | 16 | 1 |
| Color overlay | 11 | 1 |
| Designated Interface Assistant | 19 | 1 |
| Magnification | 87 | 5 |
| Masking | 60 | 4 |
| Medical supports | 5 | 0 |
| Mouse pointer | 92 | 5 |
| Noise buffer | 54 | 3 |
| Permissive Mode | 2 | 0 |
| Print on demand | 11 | 1 |
| Print Size | 31 | 2 |
| Separate Setting | 687 | 40 |
| Simplified test directions | 429 | 25 |
| Streamline | 13 | 1 |
| Translated test directions | 19 | 1 |
| Turn off any universal tool(s) | 2 | 0 |
| No designated supports used | 720 | 42 |
| Missing | 115 | 7 |
| **Total:** | **1,713** | **100** |

Table 10.A.70 Responses to Question 9 for Grade Span Eleven and Twelve

|  |  |  |
| --- | --- | --- |
| Which of the following Designated Supports, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| American Sign Language/Manually Coded English (ASL/MCE) for test directions | 54 | 2 |
| Color contrast | 18 | 1 |
| Color overlay | 10 | 0 |
| Designated Interface Assistant | 37 | 1 |
| Magnification | 185 | 6 |
| Masking | 80 | 3 |
| Medical supports | 9 | 0 |
| Mouse pointer | 155 | 5 |
| Noise buffer | 81 | 3 |
| Permissive Mode | 3 | 0 |
| Print on demand | 18 | 1 |
| Print Size | 56 | 2 |
| Separate Setting | 1,040 | 33 |
| Simplified test directions | 630 | 20 |
| Streamline | 20 | 1 |
| Translated test directions | 38 | 1 |
| Turn off any universal tool(s) | 4 | 0 |
| No designated supports used | 1,555 | 49 |
| Missing | 225 | 7 |
| **Total:** | **3,194** | **100** |

Table 10.A.71 Responses to Question 10 for Kindergarten

|  |  |  |
| --- | --- | --- |
| Which of the following Accommodations, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| Additional Instructional Supports and Resources for Alternate Assessments | 247 | 13 |
| Alternate response options | 663 | 36 |
| American Sign Language/Manually Coded English (ASL/MCE) for content and responses | 29 | 2 |
| Breaks | 907 | 49 |
| Scribe | 29 | 2 |
| Speech-to-text | 35 | 2 |
| No accommodations used | 509 | 28 |
| Missing | 63 | 3 |
| **Total:** | **1,841** | **100** |

Table 10.A.72 Responses to Question 10 for Grade One

|  |  |  |
| --- | --- | --- |
| Which of the following Accommodations, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| Additional Instructional Supports and Resources for Alternate Assessments | 202 | 13 |
| Alternate response options | 542 | 34 |
| American Sign Language/Manually Coded English (ASL/MCE) for content and responses | 30 | 2 |
| Breaks | 749 | 47 |
| Scribe | 35 | 2 |
| Speech-to-text | 41 | 3 |
| No accommodations used | 507 | 32 |
| Missing | 47 | 3 |
| **Total:** | **1,608** | **100** |

Table 10.A.73 Responses to Question 10 for Grade Two

|  |  |  |
| --- | --- | --- |
| Which of the following Accommodations, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| Additional Instructional Supports and Resources for Alternate Assessments | 192 | 13 |
| Alternate response options | 440 | 30 |
| American Sign Language/Manually Coded English (ASL/MCE) for content and responses | 37 | 2 |
| Breaks | 718 | 48 |
| Scribe | 29 | 2 |
| Speech-to-text | 48 | 3 |
| No accommodations used | 471 | 32 |
| Missing | 43 | 3 |
| **Total:** | **1,484** | **100** |

Table 10.A.74 Responses to Question 10 for Grade Span Three Through Five

|  |  |  |
| --- | --- | --- |
| Which of the following Accommodations, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| Additional Instructional Supports and Resources for Alternate Assessments | 544 | 12 |
| Alternate response options | 1,157 | 26 |
| American Sign Language/Manually Coded English (ASL/MCE) for content and responses | 74 | 2 |
| Breaks | 1,695 | 38 |
| Scribe | 95 | 2 |
| Speech-to-text | 141 | 3 |
| No accommodations used | 1,799 | 40 |
| Missing | 172 | 4 |
| **Total:** | **4,467** | **100** |

Table 10.A.75 Responses to Question 10 for Grade Span Six Through Eight

|  |  |  |
| --- | --- | --- |
| Which of the following Accommodations, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| Additional Instructional Supports and Resources for Alternate Assessments | 430 | 12 |
| Alternate response options | 766 | 22 |
| American Sign Language/Manually Coded English (ASL/MCE) for content and responses | 59 | 2 |
| Breaks | 1,071 | 31 |
| Scribe | 84 | 2 |
| Speech-to-text | 136 | 4 |
| No accommodations used | 1,574 | 45 |
| Missing | 185 | 5 |
| **Total:** | **3,475** | **100** |

Table 10.A.76 Responses to Question 10 for Grade Span Nine and Ten

|  |  |  |
| --- | --- | --- |
| Which of the following Accommodations, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| Additional Instructional Supports and Resources for Alternate Assessments | 146 | 9 |
| Alternate response options | 319 | 19 |
| American Sign Language/Manually Coded English (ASL/MCE) for content and responses | 18 | 1 |
| Breaks | 400 | 23 |
| Scribe | 40 | 2 |
| Speech-to-text | 66 | 4 |
| No accommodations used | 926 | 54 |
| Missing | 79 | 5 |
| **Total:** | **1,713** | **100** |

Table 10.A.77 Responses to Question 10 for Grade Span Eleven and Twelve

|  |  |  |
| --- | --- | --- |
| Which of the following Accommodations, if any, did the student use during the Alternate ELPAC administration? (Please choose as many as are applicable.) | N | Percent |
| Additional Instructional Supports and Resources for Alternate Assessments | 282 | 9 |
| Alternate response options | 663 | 21 |
| American Sign Language/Manually Coded English (ASL/MCE) for content and responses | 63 | 2 |
| Breaks | 635 | 20 |
| Scribe | 55 | 2 |
| Speech-to-text | 99 | 3 |
| No accommodations used | 1,761 | 55 |
| Missing | 136 | 4 |
| **Total:** | **3,194** | **100** |

## Continuous and Systematic Improvement

The first operational administration of the Summative Alternate English Language Proficiency Assessments for California (ELPAC) occurred in 2022–23. Continuous efforts have been made to improve the assessments. This chapter summarizes accomplishments and ongoing improvements for the Summative Alternate ELPAC as well as strategies to implement possible future improvements.

### 2022–23 Feedback for Continuous Improvement Survey

The ELPAC program annually solicits feedback from educators through the Feedback for Continuous Improvement Survey. Local educational agency (LEA) and test site staff, as well as test administrators and test examiners, were invited to participate in the 2022–23 Feedback for Continuous Improvement Survey. Its goal was to highlight successes and identify areas for improvement. A total of 3,869 survey respondents participated in this survey for the 2022–23 administration, compared to 4,834 respondents for the previous year. The California Department of Education (CDE) and ETS use key recommendations from educators to implement positive changes in the following administration year.

Educators provided valuable feedback for potential improvements to the future administration of the California Assessment of Student Performance and Progress (CAASPP) and the ELPAC by reporting some lessons they learned in 2022–23. Based on those lessons and suggestions for improvement, the *CAASPP and ELPAC Feedback for Continuous Improvement Survey and Focus Groups Report* (CDE, 2023) presents recommendations for the CDE, with the goal of enhancing the administrative support provided to LEAs and schools for future CAASPP and ELPAC test administrations. Refer also to subsection [*5.4.4 Feedback for Continuous Improvement Survey*](#_Feedback_for_Continuous_1) for assessment-specific results.

#### Recommendations for Improvement

In response to the LEA feedback, ETS and the CDE will continue to clarify and expand the use of universal tools, designated supports, and accommodations in daily instruction and on assessments to address respondents’ confusion regarding the assignment and use of embedded accessibility resources.

### Test Delivery

#### Changes to the Test Administrator Interface

The Test Administrator Interface will be updated to a cleaner, more user-friendly appearance. This will include a new functionality that allows the test examiner to pin information for specific students to the top of the screen for monitoring.

#### Changes to Ending the Assessment in the Test Delivery System

The process for ending the assessment will be streamlined. After the last question is presented, students will select [**Next**] (instead of [**End Test**]) to reach the review screen, which will include the [**Submit Test**] button.

### Student Score Reports Redesign

Redesigned Student Score Reports (SSRs) will be made available; changes will include the following:

* + - 1. SSR formats are PDF and HTML. For an HTML SSR, an LEA or parent or student portal vendor will provide a link to a parent/guardian.
      2. Three years of scoring history will now be reported for the Summative Alternate ELPAC.

Additionally, SSRs for the ELPAC will be available in Arabic.

### Accessibility Resources

Like all ELPAC assessments, the Summative Alternate ELPAC is administered using the test delivery system (TDS) created by Cambium Assessment, Inc. As such, implementation of new computer-based universal tools, designated supports, and accommodations are aligned with the TDS.

The following change will be implemented during the 2023–24 Summative Alternate ELPAC administration:

* The definition of the non-embedded medical supports designated support will be updated to mention “Bluetooth hearing aids.”

### Reference

California Department of Education. (2023). *2022–23 CAASPP and ELPAC feedback for continuous improvement survey and focus groups report* [Unpublished manuscript]. Sacramento, CA: California Department of Education.

1. Data for 2022–23 was retrieved from the *CalEdFacts* web page on the CDE website. [↑](#footnote-ref-2)
2. This definition was retrieved from the CDE California Longitudinal Pupil Achievement Data System (CALPADS) web page on the CDE website. [↑](#footnote-ref-3)
3. This technical report is based on the versions of the Accessibility Matrix that was available during the 2022–23 ELPAC administration. [↑](#footnote-ref-4)
4. The IDEA is the primary federal program that authorizes state and local aid for special education and related services for children with disabilities. [↑](#footnote-ref-5)